

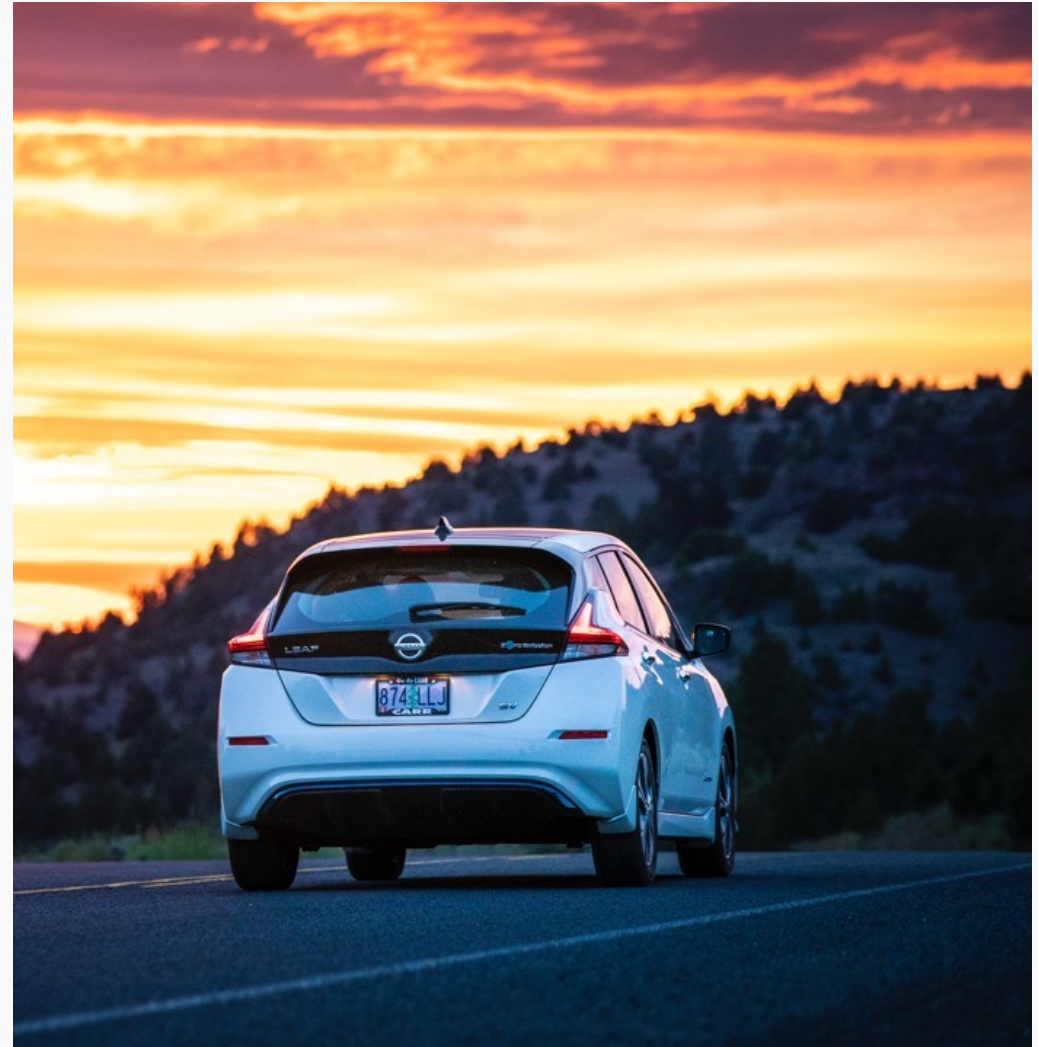
Affordable Mobility Platform (AMP)

Principal Investigator & Presenter:
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Organization: Forth

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Project ID: TI147



This presentation does not contain any proprietary, confidential, or otherwise restricted information. All information contained in this presentation is current as of April 1, 2023, unless otherwise noted.

Project Overview

Timeline

- Project Start Date: August 1, 2022
- Project End Date: July 31, 2025
- Percent Complete: ~15%

Barriers

- Commercially-focused carsharing services typically use internal combustion engine (ICE) vehicles and are deployed in high-density, middle- and high-income urban areas
- Charging infrastructure is slow to reach underserved, lower-income areas with a higher density of multi-family properties
- The overall EV adoption rate in historically underserved communities and communities of color is disproportionately low

Budget

- Total Project Funding: \$10,063,241
 - DOE Share: \$5,020,217
 - Cost Share: \$5,043,024
- Budget Period 1: 8/1/2022 – 7/31/2023
 - Expected: \$3,347,952
- Budget Period 2: 8/1/2023 – 7/31/2024
 - Expected: \$3,442,358
- Budget Period 3: 8/1/2024 – 7/31/2025
 - Expected: \$3,272,931

Primary Partners

- Forth (Project Lead)
- Mobility Development
- OpConnect
- Southern Alliance for Clean Energy
- Michigan Clean Cities Coalition
- ZEV Co-op
- Portland State University
- Argonne National Lab
- Dozens of Housing Developers

Project Objectives

Objectives

Increase access to clean, affordable transportation to residents of affordable housing developments

Demonstrate a replicable model for affordable housing providers to leverage shared vehicles and carsharing software to decrease staff transportation expenses and increase transportation services to residences.

Educate affordable housing fleet managers and employees on technical use and benefits of EVs as well as option of carsharing with residents

Demonstrate how dedicated carsharing and public chargers can also serve community members, effectively improving the regional charging network

Outcomes

Residents of at least 20 different affordable housing developments experience increased access to affordable, convenient electric transportation and charging with a goal of at least 1000 first-time EV drivers using the AMP platform.

At least 10 other affordable housing providers (beyond DOE AMP participants) adopt the model for their own residences

Improved skills and capacity of service agencies to manage their new EV fleets; optimize charger usage; reduce operating costs with at least one “EV Expert” at each site

Increased EV awareness and adoption in Portland, Seattle, Boise, Albuquerque, Las Vegas, St. Louis, Detroit, and Charlotte. Exact outcome measurement will be refined in Budget Period 1

VTO TI Goals

Improving fuel diversity
(electric fuel)

Increasing local resiliency
(transportation options; diverse fueling)

Reducing greenhouse gas emissions
(alternative fuel use)

Project Approach

Budget Period 1 (August 1, 2022 – July 31, 2023): *Project Initiation and Launch*

- Planning operations
- Executing subcontractor and vendor agreements
- Clarifying fleet requirements
- Carsharing app integration
- Establishing site locations
- Securing vehicles
- Sourcing and installing charging stations
- Preparing sites
- Surveying and education to staff and residents
- Evaluating and data management planning
- Implementing public chargers
- Launching targeted community carshare
- Introducing project at conferences and workshops
- Creating marketing and outreach materials

Budget Period 2 (August 1, 2023 – July 31, 2024): *Full Project Implementation and Refinement*

- Full carsharing and charging station operations
- Presenting initial project findings
- Hosting regional workshops
- Hosting educational sessions
- Refining marketing materials
- Identifying additional organizations to receive technical assistance for program expansion
- Collecting data and survey dissemination

Any proposed future work is subject to change based on funding levels

Project Approach

Budget Period 3 (August 1, 2024 – July 31, 2025): *Project Wrap-up and Results Dissemination*

- Continuing carsharing operations
- Sharing results nationally
- Hosting regional workshops
- Refining the project model
- Providing technical assistance to other organizations
- Finalizing pilot and data collection
- Producing final case study

Key Milestones

BP1 Go/No-Go Milestone: Project kick-off event/ribbon cutting in at least 5 of the participating project cities.

BP2 Go/No-Go Milestone: Identify \geq five (5) additional organizations, such as Clean Cities Coalitions, utilities, municipalities, and affordable housing providers, to receive technical assistance.

BP3: Produce a final analysis of outcomes that include the vehicle and charging infrastructure operations/costs and outreach plan for broadly disseminating the approach and learnings at the conclusion of the project.

Project Approach

AMP Outputs

Parameter	Total
Vehicles	
Number of Light Duty Plug-in Electric Vehicle (PEVs)	80
EVSE Infrastructure	
Number of New Level 2 Chargers	80
Number of Vehicle-Hours of Data Accumulated	≥8000
Number of New DC Fast Chargers	0
Number of Vehicle Charging Event for Data	≥8000
Number of Multi-Family Housing Chargers for Families with No Access to Street Parking	≥50
Number of Curbside Chargers for Families with No Access to Street Parking	≥5
Outreach	
Number of Education/Outreach/Workforce Training Events	17

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Project Approach

Selecting Host Sites

1. Regions/municipalities for project participation selected through consideration of several variables, including:
 - Proliferation of EVs and carsharing services
 - Population demographics
 - Local relationships (cities, utilities, nonprofit partners)
2. Specific Host Sites selected based upon several variables, including:
 - Units must be majority income-qualifying
 - Transportation Needs Assessment (qualitative survey assessment of staff and residents and assessment of higher-level items, such as access to transit, single-car ownership)
 - EV-infrastructure installation costs and considerations
 - Willingness of site to actively participate in the project

Project Approach

Technology Description – User Experience

1. Download the carshare app or login online
2. Register¹ and Phone Orientation
3. Reserve a time
4. Unlock vehicle using the app²
5. Unplug and take a drive (\$4-\$6hr, TBD)
6. Return vehicle and plug in
7. 24/7 Customer Support

¹A DMV background check will be run upon account creation

²There is an option to use RFID cards for folks that do not have smart phone access



Any proposed future work is subject to change based on funding levels

Project Accomplishments and Progress

Milestones: Budget Period 1

All Budget Periods					
Milestone #	Milestone Title	Milestone Description	Status	Estimated Start	Est. / Actual Completion
1	Project Kick-off Meeting	Kick-off meeting with project team and DOE complete	Complete	September 2022	September 2022
2	Project Management Plan	Project management plan version 1 accepted by Forth and DOE	Complete	September 2022	October 2022
3	Communications and Reporting Plan	Communications and reporting plan complete	Complete	September 2022	October 2022
Budget Period 1: October 1, 2020 - December 31, 2021					
Milestone #	Milestone Title	Milestone Description	Status	Estimated Start	Est. / Actual Completion
4	First team meeting	First meetings of project teams, regional, and community partners	Complete	September 2022	October 2022
5	Finalize subcontracts	Subrecipient contracts with project and community partners complete	In progress	September 2022	January 2023
6	Project Schedule	Project schedule complete	Complete	September 2022	January 2023
7	Assessment	Transportation Needs Assessment conducted and results analyzed	In progress	October 2022	February 2023
8	Local Confirmation	Confirmation of the regions/municipalities EV carsharing will take place	Complete	October 2022	March 2023
9	Site Locations	Host Site locations secured (includes subcontracts and scopes housing sites)	In progress	January 2023	June 2023
10	Secure Vehicles	80 EVs secured	In progress	May 2023	July 2023
11	Install EVSE	80 chargers stations installed	In progress	January 2023	July 2023
12	Onboarding	80 vehicles with installed telematics devices, 160 parking spaces, sites and on-site staff prepared for the project launch	Not started	May 2023	July 2023
13	App Launch	Launch of rebranded Carshare App	In progress	June 2023	July 2023
14	Data Analysis	Initial data collection complete and Research Partner Plans established	In progress	June 2023	July 2023
15	[G/NG1] Kick-off	Project kick-off event/ribbon cutting in at least 5 of the participating project cities	Not started	July 2023	July 2023

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Project Accomplishments and Progress

Milestones: Budget Period 2 and 3

Budget Period 2: January 1, 2022-December 31, 2022					
Milestone #	Milestone Title	Milestone Description	Status	Estimated Start	Est. / Actual Completion
16	Public Availability	EVSE public use available on project chargers	Not started	August 2023	December 2023
17	Roadmap Conference Presentation	Highlight project at 2023 Roadmap Conference	Not started	May 2023	May 2023
18	Resources Created	First three (3) resources posted in online toolkit	Not started	June 2024	July 2024
19	[G/NG2] Confirm Tech Assistance Partners	Identify five (5) additional organizations such as Clean Cities Coalitions, utilities, municipalities, and affordable housing providers' to receive technical assistance for expanding the program	Not started	January 2024	July 2024
Budget Period 3: January 1, 2023-December 31, 2023					
Milestone #	Milestone Title	Milestone Description	Status	Estimated Start	Est. / Actual Completion
20	Webinar Presentations	Present four (4) webinars, two to clean energy networks and two to affordable housing agency networks	Not started	August 2024	July 2025
21	Conference Presentations	Present at four (4) conferences to encourage and inform replication in other fleets.	Not started	August 2024	July 2025
22	Regional Workshops	Deliver two (2) regional workshops in each target city to encourage and inform replication by other affordable housing agencies	Not started	August 2024	July 2025
23	Technical Assistance Delivery	Provide technical assistance to five (5) additional partners such as Clean Cities Coalitions, utilities, municipalities, and affordable housing providers interested in their own project.	Not started	September 2024	July 2025
24	Pilot Wrap Up	Wrap-up pilot project and data collection, including long term plan for continuation and expansion of car sharing post pilot project; ≥50% of project sites following the DOE program's conclusion.	Not started	January 2025	July 2025
25	Final Case Study	Produce a final analysis of outcomes that include the vehicle and charging infrastructure operations/costs and outreach plan for broadly disseminating the approach and learnings at the conclusion of the project.	Not started	February 2025	July 2025

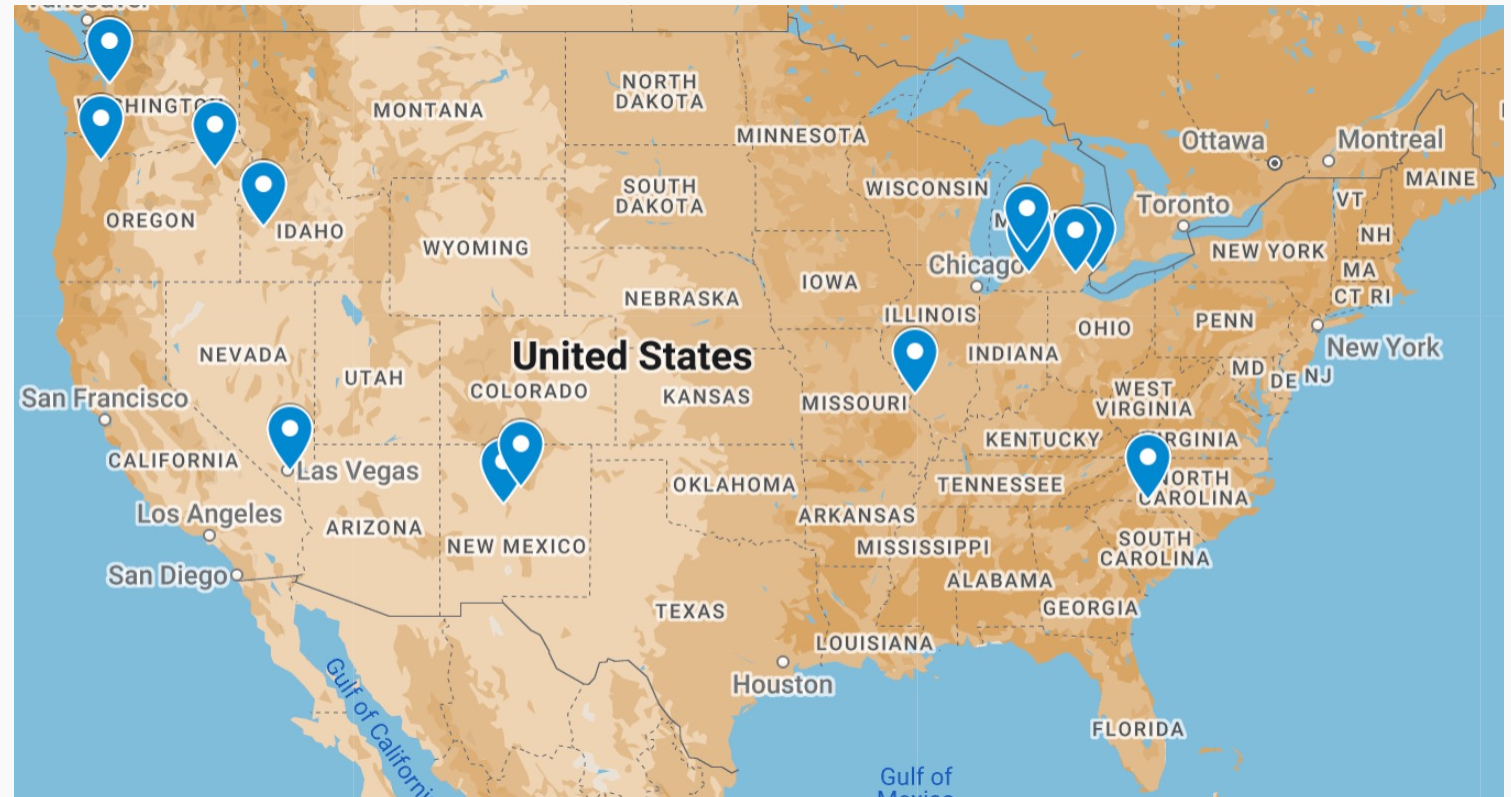
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Project Accomplishments and Progress

Milestone Highlight

Milestone 8: Local Confirmation of regions/municipalities EV Carsharing will take place

- Seattle, WA
- Portland, OR
- Boise, ID
- Las Vegas, NV
- Santa Fe, NM
- Albuquerque, NM
- Detroit, MI
- Ann Arbor, MI
- Kalamazoo, MI
- St. Louis, MO
- Charlotte, NC



Any proposed future work is subject to change based on funding levels

Collaboration and Coordination Among Project Team

Project Prime - Forth	Project management, partner management, community engagement, education/outreach, marketing, dissemination of findings, technical support
Technical Partners	Carsharing software providers, EVSE companies
Implementation Partners	Local market operator of carshare sites, identify local host sites, oversee EVSE installs, manage local vehicles, some member services, cost share
Research Partners	Research, data collection and analysis, report and case study production, quantifying project impact
Host Sites	<i>Predominantly affordable housing sites:</i> Provide parking space for carshare vehicle, allow EVSE installation at their site, promote program to residents, assist in program management and operation
Support Partners	Cost share, infrastructure support, site identification, marketing and promotion, miscellaneous support
Dissemination Partners	<i>Predominantly Clean Cities Coalitions:</i> Present program results and learnings to Clean Cities Coalitions and other regional organizations

Collaboration and Coordination Among Project Team

#	Organization Name	Partner Type	Role
0	U.S. Department of Energy	Project Sponsor	Fiscal sponsorship and award management
1	Forth	Project Prime	Project management, partner management, community engagement, education/outreach, marketing, dissemination of findings, technical support
2	OpConnect	Technical	EVSE hardware procurement, installation, network software
3	Mobility Development		Carsharing platform, general consulting support, vehicle insurance, call center support, other
4	Southern Alliance for Clean Energy	Implementation	Local market operator of carshare sites, identify local host sites, oversee EVSE installs, manage local vehicles, some member services, cost share
5	Michigan Clean Cities Coalition		
6	ZEV Coop		
7	Mobility Development	Research	Research, data collection and analysis, report and case study production, quantifying project impact
8	Argonne National Laboratory		
10	Portland State University	Host Sites	Provide parking space for carshare vehicle, allow EVSE installation at their site, promote program to residents, assist in program management and operations
11	Host Sites Across the country (~40)		
12	Primarily municipalities and electric utilities across the country (~10)	Support	Cost share, infrastructure support, site identification, marketing and promotion, miscellaneous support
13	Centralina	Dissemination	Present program results and learnings to Clean Cities Coalitions and other regional organizations
14	Land of Enchantment Clean Cities		
15	St. Louis Clean Cities Coalition		

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Collaboration and Coordination Among Project Team

Communication Type	Objective of Communication	Medium	Frequency	Audience	Owner
Kickoff Meeting	Introduce the project team and the project. Review project objectives and management approach.	•Zoom Video Call	Once	•Project Sponsor •Project Prime •Project Subs •Additional Project Stakeholders	Principal Investigator
City-Level Team Meetings	Facilitate updates and next steps between Forth and local partners.	•Zoom Video Call •Face to Face	2 or 4 times monthly, dependent on regional need	•Forth Regional Lead •Regional Project Team Members	Forth Regional Lead
Quarterly Project Status Meetings	Report on the status of the project to local partners; facilitate subrecipient reporting requirements.	•Zoom Video Call	Quarterly	•Project Prime •Project Subs	Principal Investigator
Stakeholder Meetings	Report on the status of the project including activities, progress, opportunities, and issues.	•Face to Face •Conference Call	Ad-hoc, but at least one stakeholder meeting per year	•Project Prime •Project Subs •Additional Project Stakeholders	Principal Investigator
Project Status Reports	Report the status of the project including activities, progress, expenses, cost share, and issues, to be used in Federal Reporting.	•Email •PDF •Word Doc	Quarterly	•Project Prime •Project Subs	Project Subrecipients
Presentations and Workshops	Disseminate information on the project or facilitate project tasks/milestones.	•Face to Face •Conference Call •Webinar •In-Person Panel	Ad-hoc, but at least 1 in year two and 8 in year 3	•General Public •Key Stakeholders •Current/Future Implementors	Project Team
Regular Budget Check-Ins	Facilitate an update on budget and expenses between Project Prime's accounting office and project management staff.	•Zoom Video Call	Monthly	•Principal Investigator •Regional Leads	Business Officer
Project Prime Task Management	Report the status including activities, progress, expenses, cost share, and issues.	•Zoom Video Call •Asana (Project Management Software)	Weekly	•Principal Investigator •Prime Regional Leads •Prime Support Team	Principal Investigator

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Contribution to Energy Equity and Environmental Justice

Beneficiary	Benefits
Low-Income Residents of Affordable Housing Developments	<p><i>Direct Benefits</i></p> <ul style="list-style-type: none">•Increased transportation options beyond mass transit and personal vehicle ownership.•Reduced transportation burden because EV carsharing is a low-cost form of transportation (only a couple dollars per hour) and EV fueling and maintenance costs are 40 and 60% lower for owners respectively.•Access to EV infrastructure•Low-risk options for testing and considering EVs for ownership; and education and resources to avoid predatory lending•Education about the benefits of EVs and about charging•Greater time capital (e.g. the time to use mass transit versus an on-demand vehicle)•More on-demand mobility to go to appointments, jobs, community events and other essential destinations for opportunity and wellbeing•Improved air quality at place of residence due to less ICE car use <p><i>Indirect Benefits</i></p> <ul style="list-style-type: none">•Limited income freed up to meet other basic needs
Affordable Housing Agencies	<p><i>Direct Benefits</i></p> <ul style="list-style-type: none">•Reduced fleet expenses•Lower fuel and maintenance costs•Free vehicle access•Carsharing as additional wraparound service for residents•Low-risk option for piloting an innovative new resident service•Professional development and training for Regional Managers and Housing Fleet Managers <p><i>Indirect Benefits</i></p> <ul style="list-style-type: none">•More desirable housing•Financial savings redirected to other social services
Community	<p><i>Direct Benefits</i></p> <ul style="list-style-type: none">•Increased mobility options•Increased EV drivers•Charging infrastructure in underserved areas (“charging deserts”)•Reduced transportation emissions of carbon dioxide and other air pollutants•Workforce development with jobs created for EVSE installation (measured by Argonne National Labs through the JOBS tool).•Increased general awareness of EVs as a clean, equitable transportation solution that can be made accessible to all <p><i>Indirect Benefits</i></p> <ul style="list-style-type: none">•Reduced transportation related time, stress and congestion•Improved population health

Overall Objectives

The overall goal of the Affordable Mobility Platform (AMP) Project is to reduce the barriers to mobility options and EV adoption facing underserved communities, particularly residents of affordable housing. The project will demonstrate that shared electric vehicles can become valuable, highly-utilized, and self-sustaining community transportation assets where the needs of employees and residents of affordable housing developments are served by the same shared vehicles.

Forth has established several *DEI SMART Milestones* to ensure the AMP Project is explicitly integrating DEI into its Project Management Plan.

DEI SMART Milestone 1: Report data on carsharing usage by low-income residents and residents who identify as persons of color.

DEI SMART Milestone 2: Recruit an EV Ambassador at each housing location to train other residents and promote the program.

DEI SMART Milestone 3: Hold workshops with residents at each housing site to co-design communications and educational materials, and solicit project feedback.

DEI SMART Milestone 4: At least 50% of EVSE installs are performed by BIPOC- or women-owned and operated contractors.

Summary

Objectives

- Increase access to clean, affordable transportation to residents of affordable housing developments
- Demonstrate a replicable model for affordable housing providers to leverage shared vehicles and carsharing software to decrease staff transportation expenses and increase transportation services to residences.
- Educate affordable housing fleet managers and employees on technical use and benefits of EVs as well as option of carsharing with residents
- Demonstrate how dedicated carsharing and public chargers can also serve community members, effectively improving the regional charging network

Collaborations

Forth (Project Lead); Mobility Development; OpConnect; Southern Alliance for Clean Energy; Michigan Clean Cities Coalition; ZEV Co-op; Portland State University; Argonne National Lab; dozens of housing developers, electric utilities, and municipalities

Project Accomplishments

Despite some timeline setbacks due to delays with VTO contracting timelines, progress has been made

- Project Management Plan and subcomponents (milestone chart, communication plan)
- Subcontracts totaling about 30% of projects costs have been signed
- More than 30 likely Host Sites have been identified and NEPA documentation has been submitted for more than 15 sites
- Transportation Needs Assessment with Portland State University has commenced