

2021 DOE Vehicle Technologies Office Annual Merit Review Presentation

Supporting Electric Vehicle Infrastructure Deployment Along
Rural Corridors in the Intermountain West



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Project ID #: ti122

Overview

Timeline

- Start Date: October 2019
- Completion Date: December 2022
- Percent complete: ~50%

Budget

- Total project funding
 - DOE share: \$670,000.00
 - Contractor share: \$670,000.00
- Funding for FY 2020: \$640,217.00
- Funding for FY 2021: \$475,026.00
- Funding for FY 2022: \$224,757.00

Barriers and Technical Target

- **Education Development**
 - AFDC tools encourage stakeholder awareness with Electric Vehicle adoption, expansion, conversion
- **Stakeholder Engagement**
 - Remove barriers investment to enable private & public station development in rural gateway communities
- **Rural Infrastructure**
 - Develop EV infrastructure planning and solutions to nominate and complete state and regional alternative fuel corridors

Partners

- National Association State Energy Officials
- Utah Department of Transportation
- Nevada Governor's Office of Energy
- Wyoming Department of Transportation
- Utah Clean Cities Coalition

Relevance

Objective

- *The entire Intermountain West Region benefits from the CORWest project, which aims to support consumer education, stakeholder engagement, and rural infrastructure development of electric vehicle charging from the expansion of alternative fuel corridors.*
- **Connecting Regional Electric Corridors**
- **Support REV West Partnership with Clean Cities Coalitions & FHWA**
- **Best Practice Modeling** for Corridor Collaborative
- **Connecting EV Corridor** with existing, pending and nominated stations

Project Impact

- Education Development
 - AFDC tools encourage stakeholder awareness with Electric Vehicle adoption, expansion, conversion
- Stakeholder Engagement
 - Remove barriers investment to enable private & public station development in rural gateway communities
- Rural Infrastructure
 - Develop EV infrastructure planning and solutions to nominate and complete state and regional alternative fuel corridors

Milestones

Milestone - Budget Period 1 - 2020	Type	Description
Launch Advisory Committee	Completed	Advisory Committee kickoff meeting complete.
Questionnaire to local stakeholders	Completed	Questionnaire results are compiled and shared with project partners.
Tools and resources aggregation compiled	Completed	Tools and resource collection and review to assist in EVSE station planning, corridor designations, deployment support compiled.
Go/No Go Decision Title: Needs and Barriers Assessment Complete	Completed	Assessment of needs and barriers verifying EVSE infrastructure deployment gaps and recommendations completed and all sites required for the project have received government approval in accordance with the National Energy Policy Act for Environmental Compliance.
Milestone - Budget Period 2 - 2021	Type	Description
Assessment of signage rules and guidelines for region & in compliance with FHWA & state DOT's delivered	Technical	Assessment delivered to project partners for review
Summary and recommendations for off-grid charging distributed for review	Technical	Recommendations delivered to project partners for review
Completion of EV and EVSE educational materials	Technical	Materials released publicly and made available to project partners
Menu of EV events and EVSE station openings options for project partners	Technical	Menu released publicly and made available to project partners
Go/No Go: Educational and promotional materials, EV affordability and accessibility, and signage guidelines completed and distributed	Go/No Go	The developed information will provide educational and promotional materials for Clean Cities Coalitions and Tourism Agencies; EV affordability and accessibility, and signage guidelines for State Energy Offices and Departments of Transportation, DOT.
Milestone - Budget Period 3 - 2022	Type	Description
Toolkit of strategies to enhance affordability and accessibility of EVs	Technical	Toolkit posted on repository and presented to project partners
EV awareness events paired with EVSE infrastructure	Technical	At least three awareness events completed related to the EV Corridor, Community Engagement and/or Tourism
EV awareness events in underserved areas of intermountain west	Technical	At least three awareness events completed

Approach

Budget Period 1

- **Advisory Committee Launch**
- **Needs and Barriers Assessment**
 - Collection of input from stakeholders as identified from the Needs and Barrier Assessment
 - Identification of key EV infrastructure development and consumer adoptions
- **Tools & Resources Aggregation**
 - Existing EV tools, resources, and educational materials developed by the AFDC
 - Map, routing and corridor development of existing, planned and emerging EV fast charging stations throughout the western region
- **Best Strategies Plan Compiled**
 - Key issues identified and addressed by the *Needs and Barrier Assessment*

Budget Period 2

- **Signage, Way-finding & Branding Assessment**
 - Review of signage rules and guidelines for region & in compliance with FHWA & state DOT's
- **Off-Grid Charging Recommendations & Assessment**
 - Capacity enhancement through renewable energy related to utility grid systems, on-site stored energy & other capacity and infrastructure considerations
 - Further explore options for transmission and distribution charges with power providers
- **EV & EVSE Educational Materials**
 - EV & EVSE educational programming that can be used by project partners at awareness campaigns throughout the region
- **EV Toolkit Portal Published on CORWest Website**

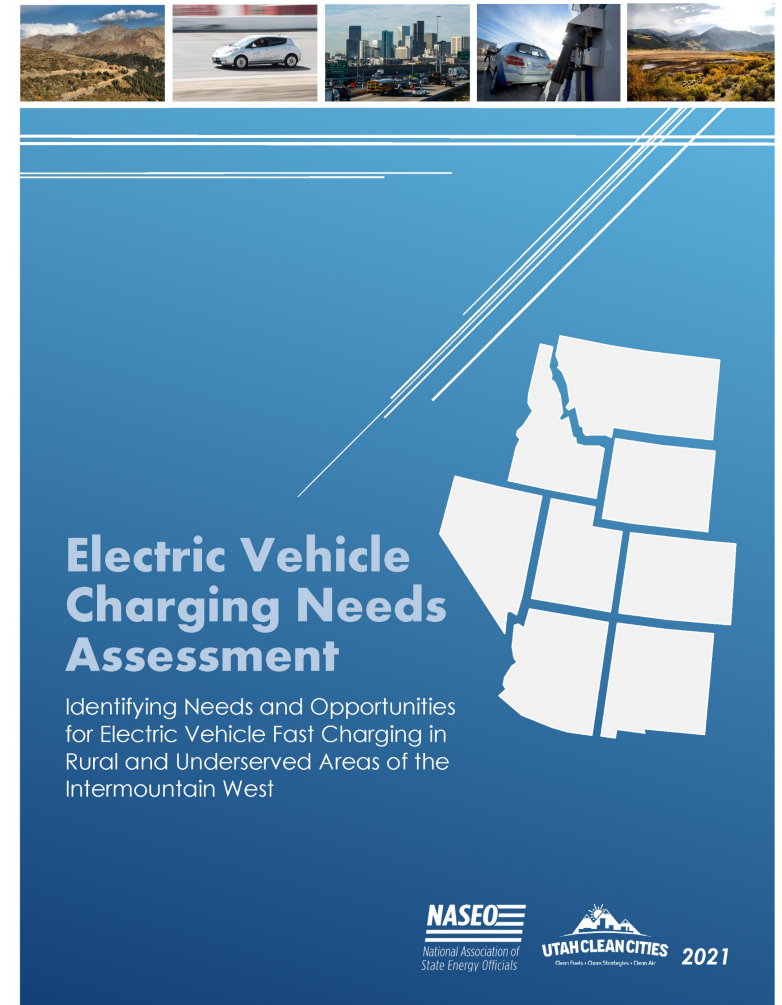
Budget Period 3

- **EV Infrastructure Development and Deployment**
 - Verified with the AFDC and FHWA
- **EV Awareness Events Paired with EV Infrastructure**
 - Events such as ribbon-cuttings, awareness campaigns supporting local ride-and-drives, or corridor caravans to raise awareness on individual stations and community electrification projects
- **Full Project Aggregation**
 - Project deliverable review and report
- **Final CORWest Webinar and Case Study**

Technical Accomplishments and Progress

The recipient engaged the project advisory committee to identify key barriers inhibiting EV market development and specific infrastructure needs for the region. The recipient aggregated existing AFDC tools to ensure past investments and project planning are utilized to the greatest extent possible, thus allowing our team to focus on novel solutions.

- *Utah Clean Cities Coalition and National Association of State Energy Officials (NASEO) released the “[Electric Vehicle Charging Needs Assessment](#),” a report that identifies needs and opportunities for electric vehicle (EV) fast charging in rural and underserved areas of the intermountain west.*






Responses to Previous Year Reviewers' Comments

This is the first year that the project has been reviewed

Project Collaborations

 <p>Utah Clean Cities Project Prime, Clean Cities Coalition</p>	 <p>National Association of State Energy Officials Sub Recipient, National Association</p>	 <p>Nevada Governor's Office of Energy Development Cash Match Partner, Government</p>
 <p>Denver Metro Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Arizona Department of Administration Sub Recipient, Government</p>	 <p>New Mexico Department of Transportation Government</p>
 <p>Northern Colorado Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Colorado Energy Office Government</p>	 <p>New Mexico Energy, Minerals, and Natural Resources Government</p>
 <p>Land of Enchantment Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Idaho Transportation Department Government</p>	 <p>Utah Department of Transportation Cash Match Partner, Government</p>
 <p>Treasure Valley Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Idaho Governor's Office of Energy and Mineral Resources Government</p>	 <p>Utah Governor's Office of Energy Development Government</p>
 <p>Valley of the Sun Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Montana Department of Environmental Quality Sub Recipient, Government</p>	 <p>Wyoming Energy Authority Government</p>
 <p>Yellowstone-Teton Clean Cities Coalition Sub Recipient, Clean Cities Coalition</p>	 <p>Nevada Department of Transportation Sub Recipient, Government</p>	 <p>Wyoming Department of Transportation Cash Match Partner, Government</p>

Remaining Challenges and Barriers

Infrastructure Installation & Operation Costs

- Rural electric vehicle infrastructure installation and operation continues to be a challenge with high demand charge fees, as well as operation costs. Off-grid or alternative charging opportunities are being pursued.

Intermountain West Collaboration

- On-going large-scale collaboration with over seventy-five entities including State Agencies, Department of Transportations, Energy Offices, Department of Tourisms, Clean Cities Coalitions, and Western State Associations.

Proposed Future Work

Education Development

- CORWest Website – On target 2021

Stakeholder Engagement

- Webinars & Workshops – On-going

Rural Infrastructure

- Utah EVSE installations – Completed 2020
- Nevada EVSE installation – Completed 2021
- Wyoming EVSE – Pending

Corridor Branding

- Branding initiative – On target 2022

Publish Assessments

- Demand Charge Assessment – On target 2021
- Off-Grid Charging Assessment – On target 2022

Grow Collaborations

- Continue to work with CORWest project partners, American Association of State Highway and Transportation Officials, AASHTO, National Association of State Energy Officials, NASEO, and Western Governors Association, WGA.

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

Summary Slide

- Collaboration with project partners and regional contacts is key.
- By working with Clean Cities Coalitions, regional states can work consistently across state lines.
- Due to the large quantity and quality of the Needs Assessment Questionnaire, each Intermountain state has information to further future EVSE work, and further the adoption of electric vehicles.
 - Infrastructure gaps for DCFC installations
 - Entities interested in education and outreach