Helping America's Rural Counties Transition to Cleaner Fuels & Vehicles

Ken Brown,
Principal Investigator

Transportation Energy Partners

June 14, 2023

Project ID: TI129

Overview

TIMELINE

Start: October 1, 2020
End: June 20, 2024
66% Complete

BUDGET

Total project funding: $2,310,562

- DOE share: $1,078,580
- Cost share: $1,231,982

Budget Period 1 (Oct 1, 2020-Jun 30, 2022): $823,085. Expended: $766,022

Budget Period 2 (Jul 1, 2022-Jun 30, 2023: $760,300. Expected: $817,363

Budget Period 3: $727,177

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

PARTNERS

Leader: Transportation Energy Partners

Clean Cities Coalition Partners

- Alabama Clean Fuels Coalition
- Clean Fuels Ohio
- Columbia Willamette Clean Cities
- Drive Clean Indiana
- Utah Clean Cities
- Virginia Clean Cities
- Western Washington Clean Cities
- Wisconsin Clean Cities

Industry Partners

- Alliance AutoGas
- Altec
- Bowman
- Clean Fuels Alliance America
- Electric Drive Transportation Association
- Ingevity
- Landi Renzo
- NGVAmerica
- Propane Education Research Council
- REG
- Toyota

BARRIERS ADDRESSED

- Lack of staff capacity and expertise to explore and test out new technologies.
- Limited resources to provide the upfront financing often needed to purchase clean fuels and vehicles.

Project Objectives

OBJECTIVES

- Create models for effectively transferring advanced clean fuel and vehicle technologies to small and rural communities, which face unique challenges and are often underserved.
- Disseminate lessons learned and playbook for successful replicability to counties in the target states and across the country.

IMPACT

- New strategies and messages for rural communities to explore and test out cleaner fuels and vehicles.
- Increased understanding of local and regional assets that can be leveraged and enhanced by advancing clean transportation solutions.
- New models to enable county governments and rural communities to join together and conduct regional clean transportation planning for vehicles and infrastructure.

VTO TI GOALS

- Improving fuel diversity: Education and testing a full range of clean fuel solutions.
- Increasing local resiliency: Promotes diverse range of clean vehicle and infrastructure solutions.
- Reducing greenhouse gas emissions: Promotes wide adoption of emission-reducing fuels and vehicles in small and rural communities.

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

Project Approach

BUDGET PERIOD 1: OUTREACH AND EDUCATION

- Convene and operate national Project Advisory Committee.
- Conduct outreach to rural county leaders & educate on
  - benefits of clean fuel vehicles
  - opportunities to receive technical assistance through this project.
- Prioritize leaders in rural counties to receive in-depth technical assistance.

BUDGET PERIOD 2: TECHNICAL ASSISTANCE

- Deliver in-depth technical assistance to leaders in rural counties through fleet assessments and workshops.
- Connect small and rural community leaders and fleet managers with subject matter experts and demo vehicles.

BUDGET PERIOD 3: NATIONAL REPLICATION PLAYBOOK

- Complete remaining technical assistance and vehicle demonstration activities.
- Collect and analyze project results.
- Create replication playbook and resources.
- Disseminate playbook to rural communities across the country.

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

Milestones (1/2)

Budget Period 1 Milestones			
Milestone	Type	Description	Progress
PAC formed and operational	Technical	Membership includes ≥ 7 Clean Cities representatives, ≥ 5 industry representatives, and ≥ 3 association leaders with ≥ 2 quarterly meetings completed.	Accomplished
Key leaders list completed	Technical	≥ 15 key leaders identified and documented for each state.	Accomplished
National Outreach Webinars	Technical	Complete 3 national webinars with a goal of at least 6 participants from each target state on each webinar.	Accomplished
Outreach events completed in target states	Technical	Complete ≥ 24 total outreach events (e.g., state webinars, statewide or regional meetings, presentations at state or regional workshops) with at least 3 performed in each project state.	Accomplished
Demo vehicles available and used for outreach.	Technical	≥ 8 demonstration vehicles will be contracted for and made available for use in the target states.	Accomplished
Technical assistance needs identified	Go/No Go	In-depth technical assistance identified for ≥24 target counties with ≥ 3 in each project state.	Accomplished

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

Milestones (2/2)

Budget Period 2 Milestones			
Milestone	Type	Description	Progress
Clean vehicle workshops complete	Technical	≥ 24 total clean vehicle workshops completed with ≥3 performed in each project state.	In progress
Fleet Assessments Complete	Technical	In-depth technical assistance provided in ≥24 target counties with ≥3 performed in each project state.	In progress
Vehicle Demonstrations complete	Technical	≥40 total vehicle demonstrations with a goal of equal distribution among the target states.	In progress
Fleet assessments complete.	Go/No Go	At least 24 fleet assessments complete.	In progress

Budget Period 3 Milestones			
Milestone	Type	Description	Progress
Complete vehicle demonstrations.	Technical	≥ 8 total vehicle demonstrations with a goal of equal distribution among the target states.	Not started
Surveys (including interviews) complete.	Technical	≥ 24 total surveys and interviews completed with ≥ 3 completed in each project state.	Not started
Draft Playbook	Technical	Draft playbook complete.	Not started
Playbook complete	Technical	Playbook dissemination list completed.	Not started
Disseminate Playbook	Technical	≥ 2 national and ≥ 8 state webinars completed for dissemination of the playbook and results.	Not started
Playbook disseminated nationally	Final	Playbook disseminated to 100% of entities identified on dissemination list.	Not started

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

Accomplishments & Progress Examples: Virginia

Technical Assistance

Fleet assessments for small and rural communities:

- City of Fredericksburg fleets
  - 282 vehicles, multiple use cases
  - Recommendations/interest: EV sedans, light duty trucks, and transit vans; LPG transit vans and bi-fuel renewable propane heavy duty vehicles
- City of Fredericksburg Schools fleet
  - 55 school buses
  - Recommendation/interest: EV school buses
- University of Mary Washington
  - 68 vehicles, multiple use cases
  - Recommendation/interest: EV and hybrid trucks, SUVs, minivans, and cargo vans
- Pittsylvania County
  - 9 refuse trucks
  - Recommendation/interest: CNG
- State Parks of Virginia
  - 377 vehicles, multiple use cases
  - Recommendation/interest: EV sedans, compact trucks, SUVs and minivans, off-grid battery storage, EVSE infrastructure

Clean Vehicle Workshops, Meetings

- Fredericksburg Vehicle and Fuel Demonstration and Workshop
  - City of Fredericksburg
  - City of Fredericksburg Schools
  - University of Mary Washington
- USDA Community Facilities Grant Workshop (virtual)
  - Discussed grant funding for AFVs for rural areas
- Clean Fuels Service Law Enforcement (virtual)
  - Discussed AFVs for law enforcement

Demonstration Vehicles (as of 3/30/23; more planned)

- Propane School Bus (through project partner)
- Propane Pickup Truck
- 2 EV School Buses - used as ride and drive vehicles to transport attendees from the demo parking lot to the presentation space and back
- Starcraft Electric Paratransit Van
- Ford CMAX PHEV
- Chevy BOLT EV
- Toyota Mirai Hydrogen

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

Collaboration and Coordination among Project Team

- Monthly calls with Coalitions
- Quarterly all-team meetings
- Shared Google Drive

Project Sponsor:
US DOE

Prime Recipient/Project Manager:
Transportation Energy Partners

Subprime Recipient:
CLEAN FUELS OHIO
OHIO'S CLEAN TRANSPORTATION ADVOCATE

Industry Cost-Share Partners

Altec
Energy for Everyone propane
Clean Fuels Alliance America
Landirenzo
EDTA Electric Drive Transportation Association
ingevity
Toyota
REG Renewable Energy Group
Alliance AutoGas Powered by Propane
NGVAMERICA Natural Gas Vehicles for America
Bowman

Clean Cities Coalitions

Alabama Clean Fuels Coalition — Clean Fuels · Clean Air · Clean Cities
Virginia Clean Cities
Wisconsin Clean Cities
Drive Clean Indiana
Clean Fuels Ohio — Ohio's Clean Transportation Advocate
Western WA Clean Cities
Columbia-Willamette Clean Cities
Utah Clean Cities — Clean Fuels · Clean Strategies · Clean Air

Contribution to Energy Equity and Environmental Justice

- Focus on counties serving **rural communities**, which are often underserved and face unique challenges in acquiring the information and expertise, staff capacity, and funding needed to explore and utilize new technologies.
- Pilot projects in eight states will generate models for different paths that underserved rural communities can take to realize cost-saving, clean air, and economic development benefits of adopting a range of cleaner fuels and vehicles.
- Starting July 1, 2023, the project team has been working with identified target communities to provide technical assistance in the form of:
  - Fleet assessments
  - Clean vehicle workshops
  - Demo vehicles
- In Budget Period 3 (July 2023-June 2024) the project team will collect and analyze lessons learned and best practices.
- A Replication Playbook, disseminated nationally, will provide models for underserved rural communities across the country interested in transitioning to cleaner fuels and vehicles.

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

Summary

Objective

Create and share models for effectively transferring advanced clean fuel and vehicle technologies to underserved rural communities.

Approach

Outreach & Education: Select 24 counties in 8 states to receive technical assistance.

Technical Assistance: Conduct fleet assessments, host clean vehicle workshops, provide demo vehicles in target counties.

Dissemination of Results: Draft and disseminate a National Replication Playbook so rural communities across the nation can learn from project successes and challenges.

Accomplishments

Providing technical assistance, fleet analyses in 24 small/rural communities across 8 project states.

Holding clean vehicle workshops & meetings to educate fleets and local officials on range of clean fuel and vehicles.

Getting demo vehicles into communities.

Next

Complete technical assistance, workshops, and vehicle demos in 24 target communities.

Creation & Dissemination of Replication Playbook in BP3 (July 2023 – June 2024).

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