



# ELECTRIC VEHICLE COMMUNITY PREPAREDNESS



## NFPA Spurs the Safe Adoption of Electric Vehicles Through Education and Outreach

**Principal Investigator:** Andrew Klock

**Organization:** National Fire Protection Association

**Date:** June 14, 2023

**Project ID:** TI132

*This presentation does not contain any proprietary,  
confidential, or otherwise restricted information.*

### Timeline

Start Date: 10/1/2020

End Date: 6/30/2024

Percentage Complete: 68%

### Budget

Total project funding: \$1,356,176

- DOE share: \$678,087
- Contractor share: \$678,089

Funding for Budget Period 1: \$782,004

Budget Period 2: \$299,371

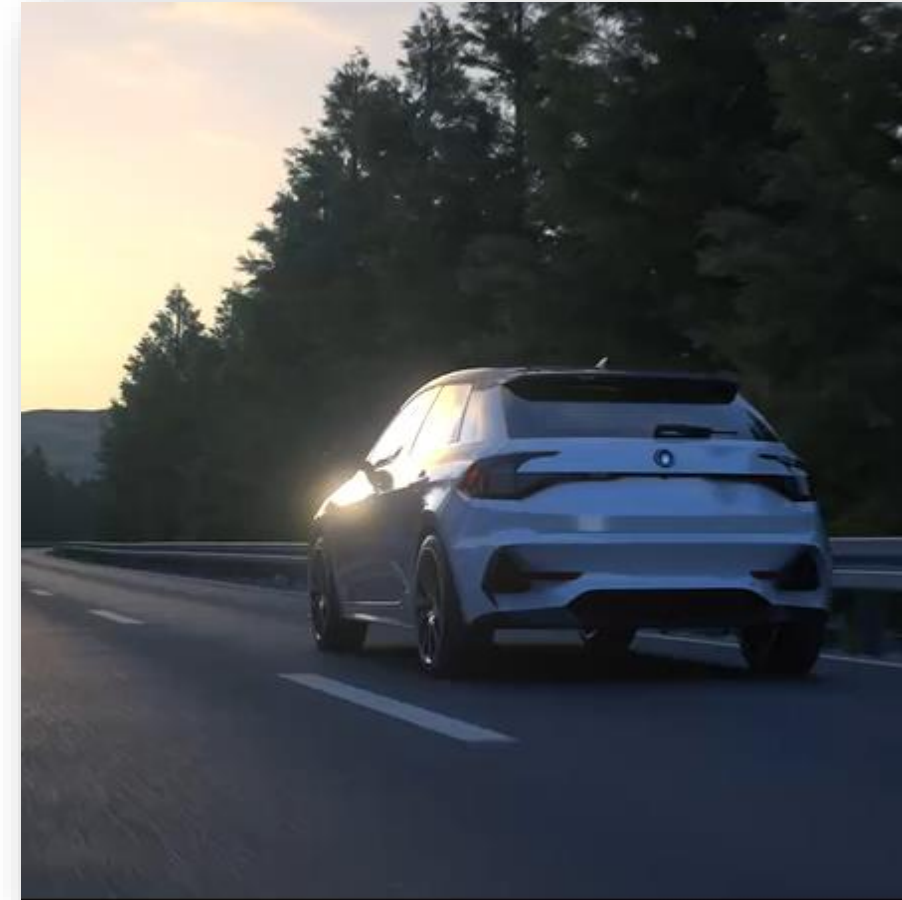
Budget Period 3: \$274,801

### Partners

- East Tennessee Clean Fuels
- Virginia Clean Cities
- Central Florida Clean Cities

### Barriers and Targets

- Lack of consistent EV knowledge amongst relevant stakeholder groups.  
Target: Create common training for each EV ecosystem sector.
- Myths and misconceptions about EVs.  
Target: Educate on reality & stats.
- Lack of EV community planning and preparedness that supports mass EV adoption.  
Target: Hold Community Workshops in selected cities to create EV action plans.







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## Overall Objectives

- 1) Develop EV web-based learning modules that address the needs of all stakeholders in the Electric Vehicle Ecosystem.
- 2) Build an EV Community Preparedness Assessment Workshop curriculum & toolkit for CCC implementation to prepare communities for mass EV adoption.
- 3) Deliver 30 virtual EV Community Preparedness Workshops nationwide in major cities to kickstart planning and preparedness for EV adoption.

## Impact

NFPA believes that increased community preparedness planning and collaboration among EV ecosystem stakeholders will result in greater understanding of electric vehicles and their benefits, more incentives for ownership, increased safety, and a more accommodating infrastructure.

## VTO Technology Integration Goals Addressed:

Increased fuel diversity, increased transportation infrastructure reliability, and reduced greenhouse gas emissions through the promotion of alternative fuel usage.

# Project Objectives

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

## 1 Budget Period 1: Project Initiation, Content & Curriculum Development and Workshop Planning

- ✓ Hired Allen Communications to develop online training programs
- ✓ Built 10 comprehensive EV training & video modules for EV Ecosystem stakeholders
- ✓ Constructed a CCC EV Community Preparedness Assessment Workshop curriculum and toolkit

## 2 Budget Period 2: Hold First 15 EV Community Preparedness Assessment Workshops (Current)

- ❑ Coordinate and host 15 EV Community Preparedness Assessment Workshops in pre-determined regions/locations.
  - ✓ Budget Period 2 Progress -- 10 Hosted, 5 Additional Scheduled
- ❑ Coordinate with event host coalitions before, during, and after EV Community Preparedness Assessment Workshops to ensure successful delivery of workshops.
- ❑ Participant and host feedback/evaluations collected from each coalition host and incorporated into final compilation report.

## 3

## Budget Period 3: Hold Remaining 15 EV Community Preparedness Assessment Workshop Dissemination



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# Project Approach

## **Task: Deliver First Group of 5 EV Workshops: Complete**

**Workshop Goal:** Enable communities nationwide to construct and implement a collaborative plan to significantly increase knowledge, safety, and incentives for EV ownerships and charging station installations. Using feedback, redesigned tools & re-released.

**Audience:** EV Ecosystem Members

**Length & Delivery Method:** 4 hours reduced to 2+ hours, Virtual

### **Structure:**

- Designed to be delivered by DOE Clean Cities Coalition staff with collaboration from NFPA's EV SMEs.
- Curriculum & toolkit incorporates content from the 10 online training modules. *\*Online training module completion is encouraged prior to attendance.*

### **Course Materials:**

- Facilitators Guide – 22 Pages
- Participant Journal – 23 Pages
- Trainer Guide – 12 Pages
- PowerPoint Presentation – 33 Slides

### **Workshop Outline:**

- Section 1: Welcome and EV Basics – 20 minutes
- Section 2: Your Community EV Adoption Strategy – 50 minutes
- Section 3: Action Steps in Your Community – 50 minutes

## **Milestone**

- ✓ EV Community Preparedness Assessment Workshop materials & tools refined & deployed to 5 Cities.



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# Project Accomplishments and Progress



## Milestone

- ✓ Identify Regions & Host ≥ 15 Electric Vehicle Community Preparedness Assessment Workshop Regions

### 30 Selected Potential Workshop Locations



### EV Workshop Impact Area

Population, Estimated Communities Reached

<10,000, 4 | 10k-50k, 12 | 50k-100k, 18 | 100k-250k, 20 | >250k, 21

### Workshops Hosted

1. East Tennessee Clean Fuels
2. Granite State Clean Cities
3. Clean Communities of Central New York
4. Northern Colorado Clean Cities
5. St. Louis Clean Cities
6. East Bay Clean Cities
7. Middle-West Tennessee Clean Fuels
8. Virginia Clean Cities (+Bonus Workshop)
9. Empire Clean Cities
10. North Dakota Clean Cities

### Workshops Scheduled

1. Clean Cities Georgia
2. Clean Communities of Western New York
3. Eastern Pennsylvania Alliance for Clean Transportation
4. Utah Clean Cities
5. Drive Clean Indiana
6. Central Florida Clean Cities



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# Project Accomplishments and Progress

## Project Sponsor

Department of Energy  
Vehicle Technology Office

### Team Collaboration

- East Tennessee Clean Fuels, Virginia Clean Cities, and Central Florida Clean Cities are all involved in spurring the adoption of EVs, paving the way for Community Preparedness Workshops with all participating coalitions throughout the U.S.
- Bi-weekly meetings are held with all partners and SMEs to secure the next workshop venues.
- ReadyForEVs.com Website developed and live as the repository for information about the program and the hub for workshop registration.

For More Info:

[www.ReadyForEVs.com](http://www.ReadyForEVs.com)

## Project Partners

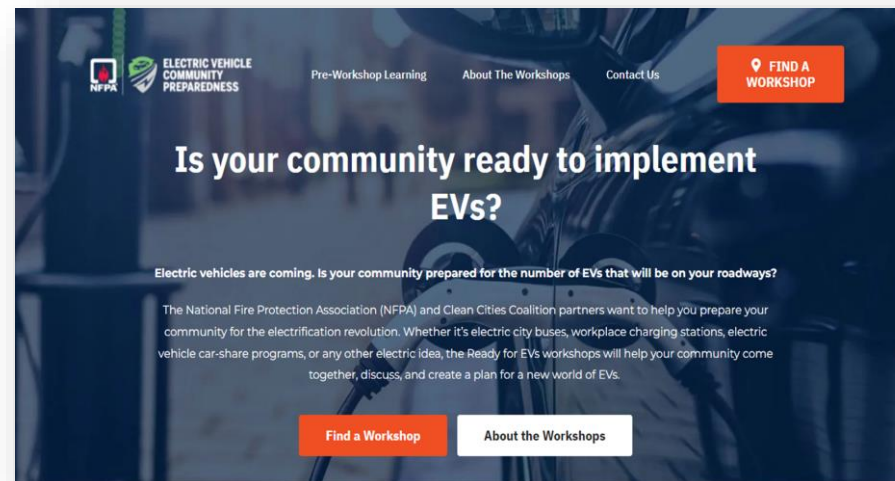


## Project Lead/Principal Investigator



## SME & Design/Development Team

- Jason Emery, Emergency Training Solutions
- Ron Butler, Energy Storage Safety Product International
- Paul Shoemaker, Next Level Extrication
- Allen Communications – Software Design & Development



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# Team Collaboration & Coordination



## NFPA believes that the future of electric vehicles is a part of everyone's future

Through this proposed project, NFPA is developing EV educational offerings that increase community preparedness planning and collaboration among EV ecosystem stakeholders regardless of the community's socio-economic status. To ensure these materials are accessible to all and do not create undue burden, NFPA has taken the following steps:

### ReadyForEVs.com

- The program website, ReadyForEVs.com will be hosted and maintained by ETCF beyond the grant period, providing a freely accessible portal for anyone interested in learning more about the benefits of EVs.

### Online EV Courses

- All EV Community Preparedness online course modules will be freely available via the program website well beyond this grant performance period.

### EV Community Preparedness Workshops

- The selected EV Community Preparedness Workshops, occurring in 30 regions, enable us to reach more than 75 communities across the US during performance period 2 & 3 ranging from small towns/cities in North Dakota, to large cities like Dallas, Texas.
- By hosting these EV Community Preparedness Workshops, the Clean Cities Coalition network will establish greater local stakeholder engagement and ties with the entire EV ecosystem in the communities they serve, thus increasing future opportunities for community collaboration and sustained coalition involvement.
- Beyond the grant period, we believe these workshops will begin a cascading effect, so that every Clean Cities Coalition around the U.S. will be able to implement such workshops in their own communities.



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# Energy Equity & Environmental Justice



# Summary

## Project Goal

Increased community preparedness planning and collaboration among EV ecosystem stakeholders will result in greater understanding of electric vehicles and their benefits, more incentives for ownership, increased safety, and a more accommodating infrastructure.

## Project Objectives

- ✓ Developed an EV **web-based learning** modules that address the needs of all stakeholders in the Electric Vehicle Ecosystem.
- ✓ Built an EV Community Preparedness Assessment **Workshop curriculum** & toolkit for CCC implementation to prepare communities for mass EV adoption.
- ❑ Delivering 30 virtual **EV Community Preparedness Workshops** nationwide to kickstart planning and preparedness for EV adoption.



## EV Web Based Learning

- ✓ 8 45-minute EV Community Preparedness self-paced online trainings launched
- ✓ 2 self-paced online EV safety trainings launched
- ✓ 10 video testimonials produced

## EV Workshop Curriculum

- ✓ Reworked 4-hour EV Community Preparedness Workshop curriculum to 2+ hours -- deliverables include new facilitators' guide, participant journal, trainer guide, & PowerPoint presentation



## EV Workshop Delivery

- ✓ Workshop Communication and Dissemination Plan complete
- ✓ 30+ Clean Cities Coalition hosts identified
- ✓ EV community preparedness website launched
- ✓ 10 Workshop Held & 5 Scheduled



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

# Technical Backup Slides



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## Participating EV Community Preparedness Workshop Host Clean Cities Coalitions

|                                       |  |                                |
|---------------------------------------|--|--------------------------------|
| Alabama Clean Fuels                   | East Bay Clean Cities                          | North Dakota Clean Cities      |
| Central Florida Clean Cities          | East Tennessee Clean Fuels                     | Northern Colorado Clean Cities |
| Central Kansas Clean Cities           | Eastern Pennsylvania Alliance for Clean Trans. | Pittsburgh Region Clean Cities |
| Central Oklahoma Clean Cities         | Empire Clean Cities                            | St. Louis Clean Cities         |
| Centralia Clean Fuels                 | Georgia Clean Cities                           | Triangle Clean Cities          |
| Chicago Area Clean Cities             | Granite State Clean Cities                     | Tulsa Area Clean Cities        |
| Clean Communities of Central New York | Kansas City Regional Clean Cities              | Utah Clean Cities              |
| Clean Fuels Ohio                      | Kentucky Clean Fuels Coalition                 | Virginia Clean Cities          |
| Dallas-Fort Worth Clean Cities        | Land of Sky Clean Cities                       | Western Riverside County (CA)  |
| Delaware Clean Cities Coalition       | Louisiana Clean Fuels                          | Wisconsin Clean Cities         |
| Drive Clean Colorado                  | Michigan Clean Cities                          | Yellowstone-Teton Clean Cities |
| Drive Clean Indiana                   | Middle-West Tennessee Clean Fuels              |                                |



| Budget Period 1<br>Milestones | Milestone   | Type      | Description   | Status   |
|-------------------------------|---|-----------|---|----------|
|                               | ✓ EV Workshop Toolkit Completed                         | Technical | Development of all EV Community Preparedness Assessment Workshop educational tools & resources completed  | Complete |
|                               | ✓ EV Training Video Outlines Approved                   | Technical | EV training video curriculum outlines approved for production   | Complete |
|                               | ✓ EV Training Video Modules Hosted on NFPA Landing Page | Technical | All final EV training video modules hosted and available online   | Complete |
|                               | ✓ EV Workshop Regions Identified                        | Technical | Regions/locations identified for ≥30 EV Community Preparedness Assessment Workshops   | Complete |
|                               | ✓ EV Workshop Communication & Delivery Plan Completed   | Go/No Go  | EV Workshop Communication & Delivery Plan completed, providing a decision point to move forward with workshop scheduling and coordination activities. | Complete |

| Budget Period 2<br>Milestones | Milestone                                  | Type      | Description                                       | Status    |
|-------------------------------|--|-----------|---|-----------|
|                               | ✓ First Group EV workshops scheduled       | Technical | First group (≥5) EV workshops scheduled in BP2.   | Complete  |
|                               | ❑ First Group of EV workshops completed    | Technical | First group (≥5) EV workshops delivered in BP2.   | On Target |
|                               | ❑ Second Group of workshops scheduled      | Technical | Second group (≥10) EV workshops scheduled in BP2. | On Target |
|                               | ❑ Second Group of EV workshops completed   | Technical | Second group (≥10) EV workshops delivered in BP2. | On Target |
|                               | ❑ At least 15 total EV workshops completed | Go/No Go  | ≥15 Total EV workshops delivered in BP2.          | On Target |

| Budget Period 3<br>Milestones | Milestone                                  | Type      | Description                                       | Status    |
|-------------------------------|--|-----------|---|-----------|
|                               | ❑ First Group EV workshops scheduled       | Technical | First group (≥5) EV workshops scheduled in BP3.   | On Target |
|                               | ❑ First Group of EV workshops completed    | Technical | First group (≥5) EV workshops delivered in BP3.   | On Target |
|                               | ❑ Second Group of workshops scheduled      | Technical | Second group (≥10) EV workshops scheduled in BP3. | On Target |
|                               | ❑ Second Group of EV workshops completed   | Technical | Second group (≥10) EV workshops delivered in BP3. | On Target |
|                               | ❑ At least 15 total EV workshops completed | Technical | ≥15 Total EV workshops delivered in BP3.          | On Target |



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# Technical Backup Slide

## Milestone

- ✓ First Group of 5 EV Workshops Completed

### Task: Deliver First Group of 5 EV Workshops: **Complete**

**Workshop Goal:** Enable communities nationwide to construct and implement a collaborative plan to significantly increase knowledge, safety, and incentives for EV ownerships and charging station installations.

**Audience:** EV Ecosystem Members

**Length & Delivery Method:** 2+ hours, virtually

#### Structure

- Designed to be delivered by DOE Clean Cities Coalition staff with collaboration from NFPA's EV SMEs.
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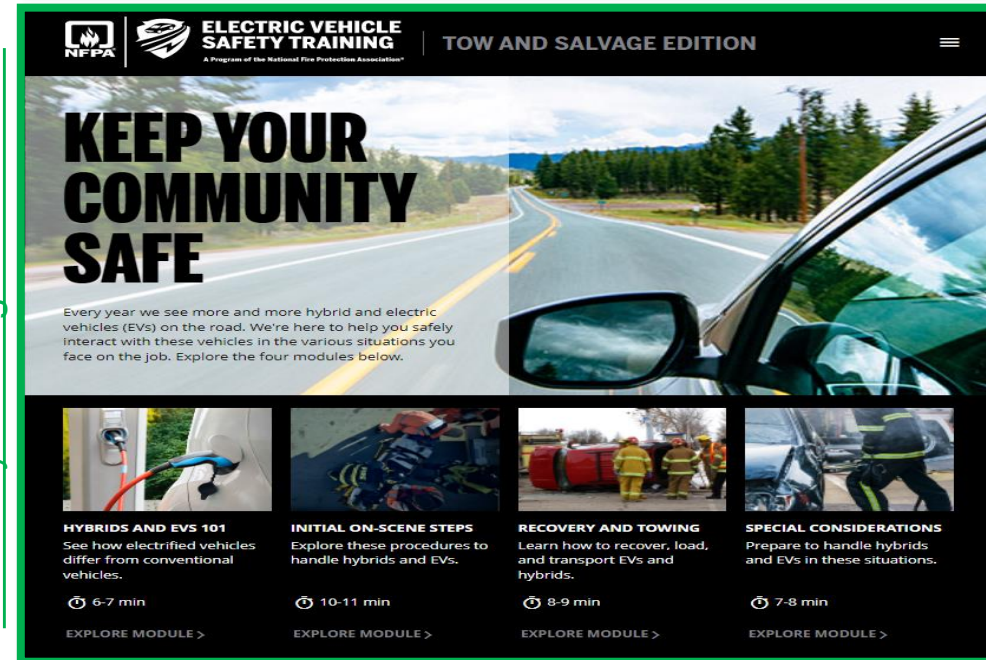


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EV Community Preparedness



EV Safety Training – Tow Edition



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