

# Emergency Incident Training on Alternative Fuel Vehicles Helps Keep First Responders Safe

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First responders need resources to help them safely address incidents involving alternative fuel vehicles (AFVs). AFVs often require different emergency response tactics, and the [National Fire Protection Agency](#) (NFPA) estimates only 10% of the approximately 4.6 million first responders in the United States have been trained to understand those tactics.

“Electric vehicles (EVs) are different, and they need to be addressed differently in an emergency. I would presume most first responders on the job today didn’t learn about alternative fuel vehicles as part of their standard training,” said Mark Finlay, program partner for [Middle-West Tennessee Clean Fuels](#) (MWTCF), a [Clean Cities and Communities](#) (CC&C) coalition.

CC&C coalitions like MWTCF are working to bridge this gap by collaborating with expert training organizations to host AFV incident training courses for first responders, specifically for vehicles powered by compressed natural gas (CNG), propane, hydrogen, and electricity. AFV incident training is nothing new to CC&C coalitions, and EV-specific training for first responders is becoming increasingly popular. Around the country, more than 75 CC&C coalitions work in partnership with the U.S. Department of Energy (DOE) to advance transportation energy choices nationwide through collaboration and innovation.

## Project at a Glance

**Project type:** Alternative fuel vehicle incident training for first responders

**Strategies:** Collaboration with a broad range of entities including alternative fuel vehicle training companies, first and second responder organizations, fire marshals, law enforcement, and other CC&C coalitions; education and outreach

## Coalition Leadership

CC&C coalitions are uniquely positioned to facilitate AFV safety trainings because of their relationships with public- and private-sector transportation stakeholders, including vehicle fleets, fuel providers, community organizations, state and local government agencies, and businesses. As partners with DOE's Vehicle Technologies Office, coalitions leverage their understanding of local needs and challenges to bring federal resources and expertise to the regions they serve.

"I've been working with Clean Cities and Communities for 15 years, and when I first started, we were providing first responders with training on ethanol, E85," said Tony Bandiero, executive director of [Eastern Pennsylvania Alliance for Clean Transportation](#) (EP-ACT). "We put these trainings on the radar for emergency response organizations when they really hadn't thought about or recognized the need for it."

Bandiero estimates EP-ACT has trained thousands of first responders since the coalition first began hosting AFV trainings 15 years ago, including courses on ethanol, CNG, propane and, most recently, EVs. "Participants usually tell us they never knew about the variety of different types of vehicles that run on alternative fuels," Bandiero said.

Alexa Voytek, executive director of MWTCF, estimates the coalition has hosted two to three first responder trainings per year since 2018, working with NFPA to offer [sessions on a variety of fuel types](#).

[Louisiana Clean Fuels](#) also offers training on a variety of fuel types. "Most of the fleets we serve use a mix of fuels," said Ann Vail, executive director of Louisiana Clean Fuels. "During trainings, we try to focus on the types of vehicles participants will see in the areas they serve."

First responders who take AFV incident classes typically want more, Vail said. "It gets them interested, and they realize they need more training," she said. "They take an hour-and-a-half required refresher course and then they want extrication classes, they want to know all the details about how these vehicles work."



*Figure 1. Firefighters receive hands-on training during a session hosted by Middle-West Tennessee Clean Fuels  
Photo courtesy of Middle-West Tennessee Clean Fuels*

Louisiana Clean Fuels also hosts safety training for vehicle technicians. It trained staff at Republic Services, a waste disposal and recycling business, about how to safely perform vehicle maintenance and tank inspections for the company's CNG vehicles. Republic Services then sponsored training at a local fire department to ensure firefighters knew how to respond to incidents with Republic's CNG vehicles.

## Related Links

- [Find first responder resources on the Alternative Fuels Data Center](#)
- [Visit the Middle-West Tennessee Clean Fuels website](#)
- [Visit the Eastern Pennsylvania Alliance for Clean Transportation website](#)
- [Visit the Louisiana Clean Fuels website](#)

## Partnering with AFV Safety Experts

Many CC&C coalitions turn to Massachusetts-based [NFPA](#) or Indiana-based [AFV Educate](#) as experts to teach AFV safety courses. MWTCF (along with Virginia Clean Cities and Central Florida Clean Cities) partnered with NFPA on the three-year [Ready For EVs program](#), funded by DOE. As part of the community-wide preparedness campaign, trainings educated first responders from fire departments, public works departments, and other organizations on how to correctly deal with emergency situations involving AFVs.

NFPA is a self-funded nonprofit organization that delivers research, professional training, public education, outreach, and advocacy on fire prevention, wildfire preparedness, electrical safety, hazardous materials, community risk reduction, and public safety.

“NFPA provided the technical expertise and a turnkey training course for a fee,” said Voytek. “Coalitions are responsible for securing a location to hold the class, promoting the class, providing travel and accommodations for the teacher, and offering vehicles for hands-on training.”

AFV Educate is also a nonprofit, founded by firefighter Chris Womack and Micheal Smyth, former director of West Virginia University's National Alternative Fuels Training Consortium. EP-ACT and Louisiana Clean Fuels have both utilized AFV Educate numerous times to lead trainings. Womack and Smyth have worked with CC&C coalitions so frequently that they launched a [program to support coalitions](#) as they seek funding to host AFV training sessions.

## Tips for Successful Training

Coalition directors said safety training sessions for first responders must be led by a current or former first responder. “If you're training firefighters, you need to have a firefighter training them, somebody with a similar background who understands their job, who can talk their language, who can crack the right jokes,” Vail said.

Real-world scenarios and hands-on opportunities are important for keeping participants engaged. “You need to lift the hood or have a cutaway, if possible, of the vehicles you're discussing,” Bandiero said. “Build in time for participants to look at the vehicles, stretch their legs, and ask questions. You can't put trainees in a dark room with a PowerPoint for four hours.”

Once the training is over, it helps to give participants take-home educational documents, according to coalitions. “Take-home materials help to reinforce the information covered in the training, which is useful because the training covers a lot of material in a short amount of time,” said Voytek, of MWTCF.

Vail also recommends leveraging existing networks to promote training opportunities. “Combine AFV training for first responders with a statewide safety training event,” Vail said. “We combined one of our trainings with a mutual aid event that included state police, municipal police, first responders, and firefighters.” Vail also established relationships with the state fire marshal's office and the Louisiana Fire and Emergency Training Academy, both of which helped Louisiana Clean Fuels promote future AFV trainings.

“Once first responders trust you, they'll come to you again when it's time to refresh a certification,” Vail said. “When working with small, local fire departments, you'll often get a better response by calling or visiting in person rather than sending an email,” she said.

Building relationships is a key to success as new technologies, and new first responders, enter the field. Schedule meetings, show up to events, and get to know the people who will benefit from this type of training.