



# Emergency Medical Services Alternative Fuel Vehicle Safety Training

**Instructor Manual**



National Alternative  
Fuels Training Consortium

A Program of

 West Virginia University



TULSA AREA  
CLEAN CITIES

The Emergency Medical Services Alternative Fuel Vehicle Safety Training curriculum is a product of a partnership between the National Alternative Fuels Training Consortium (NAFTC) and the Tulsa Area Clean Cities Coalition. The purpose of the partnership is to foster a strategic alignment and a collaboration of resources to provide a state-of-the-art training opportunity for emergency medical services personnel and supporting audiences.

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This document is subject to periodic review and/or revision. Users are strongly cautioned to obtain the latest version.

Comments and suggestions are invited from all users for consideration by the NAFTC in connection with such review. Please send all comments to the NAFTC, to the attention of the Executive Director.

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# Chapter 1

# About the NAFTC



West Virginia University



National Alternative  
Fuels Training  
Consortium

Headquarters and National  
Alternative Fuels Training  
Laboratory



National Alternative Fuels  
Training Consortium

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## The National Alternative Fuels Training Consortium

Welcome to the National Alternative Fuels Training Consortium (NAFTC), a pioneer and national leader in developing, managing, and promoting programs and activities that are designed to cure America's addiction to oil, lead to energy independence, and encourage the greater use of cleaner transportation. The NAFTC is the only nationwide alternative fuel vehicle and advanced technology vehicle training organization in the United States.

Our mission is to educate the nation about alternative fuel and advanced technology vehicles through curriculum development, training implementation, and outreach and education activities leading to the decrease of U.S. dependence on foreign oil and the improvement of air quality.

**Curriculum Development:** NAFTC curricula is developed based on the most up-to-date industry information. Before being released, each curriculum undergoes a rigorous examination by professional industry subject matter experts.

**Training Courses and Workshops:** Learn the basics or gain in-depth knowledge about alternative fuel and advanced technology vehicles by attending one of the NAFTC's more than 35 courses and workshops. The NAFTC has delivered more than 2000 courses and trained more than 38,000 pre- and in-service technicians, instructors, first responders, government officials, and business owners across the U.S. about alternative fuel and advanced technology vehicles.

**Education and Outreach:** The NAFTC conducts education and outreach activities such as our premier event—the National AFV Day Odyssey—dedicated to promoting cleaner choices in transportation.

**Program Management:** The NAFTC has managed more than \$35 million in U.S. Department of Energy, U.S. Environmental Protection Agency, Federal Emergency Management Agency funds, as well as other government and industry sources.



PPT 1 to 5





### Why are Alternative Fuels Important?

The need for secure, plentiful energy supplies and a healthy environment are important issues affecting our country and our world. Our dependence on imported oil threatens national security, and drives petroleum prices higher, creating tremendous safety concerns and higher financial hardship for Americans. In addition, air quality remains a concern in many areas of our country, and evidence suggests that global climate change will have dire consequences.

Using alternative fuel and advanced technology vehicles can significantly reduce the country's dependence on imported petroleum and will also contribute to a cleaner environment. These vehicles are becoming more readily available, and their widespread use is not only feasible but necessary. Our goal at the NAFTC is to provide education and awareness activities that will continue the use of these technologies as they fit in the national transportation network.

The NAFTC, along with its members and partners across the nation, fulfill a part of the infrastructure necessary for the success of alternative fuel and advanced technology vehicles by educating the general public, government officials, and business executives about the importance of these vehicles and by creating a corps of properly trained automotive technicians, first responders, and other technical personnel to service the vehicles, ensure our safety, and properly handle damaged or destroyed vehicles.

### History of the NAFTC

NAFTC was started in 1992, with funding from EPA, to address the urgent need for training and supporting alternative fuel vehicle (AFV) technicians in the field. Based at West Virginia University in Morgantown, West Virginia, NAFTC quickly expanded and by 1995 included six technical training centers. Growth continued and the consortium today operates through a network of National Training Centers and Associate Training Centers across the country. More than 10,000 technicians have been trained from industry, academic, and governmental organizations. The U.S. Postal Service, the U.S.





Air Force, U.S. DOE Clean Cities Programs, and private fleets are example users of training materials from the NAFTC.

To foster its mission, the NAFTC seeks the involvement of educational institutions; fuel providers; equipment and parts manufacturers; industry partners; federal and state agencies; and professional, educational, and training associations.

The NAFTC programs tap the capability, not only of its member National Training Centers, but also experts at WVU, including those in WVU's College of Education and Human Services, College of Engineering and Mineral Resources, the land-grant university Extension Service, and the National Research Center for Coal and Energy.

## Other NAFTC Courses and Workshops

NAFTC and its partners frequently use train-the-trainers courses, which include classroom time to learn fundamentals, videos, discussions, pre- and post-tests, and lab/shop activities. NAFTC courses span one to five days and are conducted in training facilities around the country. When in Morgantown at the consortium's headquarters, instructors use a multi-bay automotive lab during training for demonstration, skills training, diagnostics, emissions testing and maintenance issues.

### Current Courses

- *Clean Air and Energy Independence: An Overview of Alternative Fuel and Advanced Technology Vehicles*
- *Compressed Natural Gas Vehicle Fuel System Inspector*
- *Light Duty Natural Gas Vehicles*
- *Heavy Duty Natural Gas Vehicles*
- *Liquefied Natural Gas Vehicles*
- *Propane Autogas Vehicle Technician Training (2nd Ed.)*
- *A Basic Understanding of Battery Electric and Hybrid Electric Vehicles*
- *Electric Drive Vehicle Automotive Technician Training*
- *Electric Drive Vehicle Career and Technical Education Training*
- *Electric Drive Vehicle Infrastructure Training*



- *Firefighter Alternative Fuel Vehicle Safety Training*
- *Emergency Medical Services Alternative Fuel Vehicle Safety Training*
- *Law Enforcement Alternative Fuel Vehicle Safety Training*
- *First Responder Safety Training for Biofuels and Biofuel Vehicles*
- *First Responder Safety Training for Gaseous Fuels and Gaseous Fuel Vehicles*
- *First Responder Safety Training for Hydrogen and Hydrogen Powered Vehicles*
- *First Responder Safety Training for Electric Drive Vehicles*
- *Petroleum Reduction Technologies*
- *Petroleum Reduction Technologies: Fleet Applications*
- *Electric Drive Vehicle First Responder Safety Training: Online*

### Workshops

- *Petroleum Reduction Technologies: Biodiesel*
- *Petroleum Reduction Technologies: Ethanol*
- *Petroleum Reduction Technologies: Natural Gas*
- *Petroleum Reduction Technologies: Propane*
- *Petroleum Reduction Technologies: Hydrogen*
- *Petroleum Reduction Technologies: Electric Drive*
- *Petroleum Reduction Technologies: Fuel Economy*
- *Petroleum Reduction Technologies: Idle Reduction*
- *Petroleum Reduction Technologies: Biodiesel Fleet Applications*
- *Petroleum Reduction Technologies: Ethanol Fleet Applications*
- *Petroleum Reduction Technologies: Natural Gas Fleet Applications*
- *Petroleum Reduction Technologies: Propane Fleet Applications*
- *Petroleum Reduction Technologies: Hydrogen Fleet Applications*
- *Petroleum Reduction Technologies: Electric Drive Fleet Applications*
- *Petroleum Reduction Technologies: Fuel Economy Fleet Applications*



- *Petroleum Reduction Technologies: Idle Reduction Fleet Applications*
- *AFV/EV Safety Training: Towing and Roadside Assistance*
- *AFV/EV Safety Training: Automotive Recycling*

### Learn More

To learn more about the NAFTC, our curriculum, workshops, public education activities, or membership, please visit our web site at [www.naftc.wvu.edu](http://www.naftc.wvu.edu), call 304-293-7882, or e-mail [naftc@mail.wvu.edu](mailto:naftc@mail.wvu.edu) for additional information.

Remember, together, we **CAN** make a difference.









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