

A Technical Support Program for Accelerated Fleet Integration of Medium and Heavy Duty EV/HEV Technologies

Project Objective

The objective of this project was to launch an aggressive technical support program to accelerate the introduction of electric vehicle and hybrid electric vehicle (EV/HEV) technologies into fleets in Atlanta and surrounding regions. The program educated fleets in both private and public arenas in transit and airport markets.

This program was designed to help overcome market resistance of the technologies that have come out of the DARPA AVP program. Community needs were served by providing expertise in designing and implementing an advanced transportation system.

Team Members

- Center for Transportation and the Environment (CTE)
- Electric Transit Vehicle Institute (ETVI)
- Georgia Power Company
- Manuel Padron & Associates, Inc.



project overview

Designed to encourage the introduction of EV/HEV technologies into bus fleets in the southeast region, the program served as an educator and facilitator of information on related technologies. A team of experts from a variety of disciplines was assembled. Expertise on the team included operators of electric buses in regular use in cities such as Atlanta and Chattanooga. In addition, funding and transit planning expertise was a key part of the team education effort.

To introduce the concept of new technologies and products, the team developed marketing materials describing the challenges associated with introducing new technologies and systems. A brochure and a web site were used to understand the steps associated with implementing a system, including examining goals, locating funding, defining and establishing system specifics and feasibility options, planning for proper facilities, and understanding EV/HEV technologies and components needed.

A workbook and model implementation plan were developed to share with workshop attendees. The implementation model reviewed unique needs associated with the introduction of EV/HEV technologies, such as infrastructure needs, refueling and recharging requirements and the necessities of training.

Project Description

Workshops were held in Atlanta and Fort Lauderdale, Florida, two areas with congestion and air quality problems. Team members presented information about electric and hybrid electric buses and their operation. Some of the frequently asked questions (FAQs) regarding bus operations were answered, including costs, requirements, funding needs and personnel issues.

The workshops were held to educate transit managers, fleet operators, and community leaders about the DARPA-developed technologies in buses that are used in today's marketplace.

Attendees were drawn from transit agencies, transportation management associations (TMAs), universities and private transit operators in Georgia, Alabama, Tennessee, and Florida. Each attendee is currently responsible for planning, operation or management of transportation systems.

Overall, the groups discussed two central topics. First, groups were interested in learning about special needs associated with the operation of an electric or hybrid electric shuttle system. For example, charging needs for electric buses dictate space requirements, utility design, facilities and equipment needs and related equipment.

Second, the groups were interested in the startup costs and financing mechanisms that various transit agencies or community groups have used. The cost differential for electric and hybrid electric buses creates a purchasing challenge and a budgeting challenge. These organizations must develop creative partnerships and funding sources that will fund both the capital purchase of the equipment and the operational needs of the systems.



Next Steps

Significant progress was made by the team in educating and informing community leaders and transit managers of new and evolving EV/HEV technologies. The team continued to encounter resistance to the introduction of new technologies. Transit industry operations are frequently conducted in large volumes with adequate spare parts and consistent maintenance plans. Medium and heavy-duty EV/HEV products are frequently low volume and are currently not cost competitive with their traditional gasoline or diesel-powered counterparts. To further encourage acceptance and introduction of medium and heavy-duty EV/HEV technologies, government, industry and the public needs to

- Develop cost-competitive EV/HEV technologies that consistently outperform traditional vehicles;
- Provide case studies of successful EV/HEV systems around the country;
- Promote clean and affordable technologies.