

Hybrid Fuel Cell Transit Bus



Hydrogen Fuel Cell Bus

Capital Metro along with the University of Texas Center for Electromechanics (CEM) and several other local and national partners have a unique opportunity to be a part of an important project by studying and further refining fuel cell technology.

During the yearlong demonstration, the bus will be fueled at CEM's state-of-the-art hydrogen fueling station located on the J.J. Pickle Research Campus. Thanks to support by Gas Technology Institute and the Texas Commission on Environmental Quality (TCEQ), this station allows for the generation, compression, storage and dispensing of hydrogen on-site.

The prototype bus, manufactured by Proterra, combines electric battery power and mobile hydrogen fuel cells. The bus is a zero emission vehicle; water is the only exhaust. It uses a large lithium battery pack along with an electric drive train and custom transmission. Two hydrogen fuel cells operate to keep the battery pack fully charged.

The bus is a result of an investment of the National Fuel Cell Bus Program, created by the Federal Transit Administration (FTA) and managed by the Center for Transportation and the Environment (CTE). During the demonstration, CEM researchers will study various aspects of the bus and the data will be sent to the FTA and the National Renewable Energy Laboratory (NREL) for further analysis.

According to the NREL, "transit buses are one of the best early transportation applications for fuel cell technology. By evaluating the experiences of these early adopters, researchers can determine the status of bus fuel cell systems and establish lessons learned to aid other fleets in implementing the next generation of these systems."

This effort would not be possible without the collaboration of many local and national partners, including: CEM, Capital Metro, First Transit, TCEQ, the State Energy Conservation Office, the FTA, CTE, Proterra, Signature Transportation, Gas Technology Institute and Hydrogenics.