

The HyRoad Fact Sheet

The HyRoad Program

For eight years, AC Transit has been building the most comprehensive fuel cell demonstration program in the world, showcasing:

Centralized Fueling

Primary Station (AC Transit Oakland Division): Built by Chevron Technology Ventures, this station features a fully integrated, on-site system for producing hydrogen from natural gas, then purifying, compressing, storing and dispensing it as a vehicle fuel.

- Production capacity: up to 150 kilograms of hydrogen daily — enough to fuel three to five 40-foot fuel cell buses and ten hydrogen-powered fuel cell vehicles
- Storage capacity: 366 kilograms of hydrogen at 6,250 pounds per square inch (psi)
- Two hydrogen dispensers allow two fuel cell buses to be fueled simultaneously at 5,000 psi.
- More than 13,000 kilograms of hydrogen have been produced and dispensed during the first two years of operation.

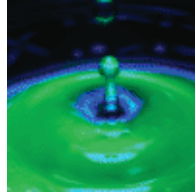
Secondary Station (AC Transit Richmond Division): hydrogen electrolyzer developed in partnership with the California Fuel Cell Partnership and Hydrogenics; in service since 2002; produces up to 24kg of hydrogen per day.

Fuel Cell Buses

AC Transit worked in partnership with bus manufacturer Van Hool, fuel cell system provider UTC Power, and drive system integrator ISE to design, build and operate three fuel cell buses in passenger service. Each 40' Van Hool bus is powered by a 120 kW UTC PureMotion™ fuel cell system. The ISE hybrid-electric integration uses three, nickel sodium chloride batteries to store regenerative braking energy and to provide 95kW of booster power. These buses offer:

- Zero emission transportation
- 250-300 mile range
- 18% sustained grade
- 70 mph maximum speed
- Quiet, all-electric drive
- **From 170% to double** the energy efficiency of diesel





Fuel Cell Cars

As part of the U.S. Department of Energy's Fleet and Infrastructure Demonstration and Validation Project, AC Transit is operating seven Hyundai Tucson and Kia Sportage hydrogen-powered fuel cell vehicles.

Hyundai's state-of-the-art fuel cell vehicles:

- Operate in any weather condition, and have been successfully tested at sub-zero temperatures
- Reach a top speed of 93 miles per hours
- Have a range in excess of 130 miles
- Obtain fuel efficiency of 57 miles per gallon (gasoline equivalent)

Maintenance Facilities

- Custom-designed to accommodate two fuel cell buses simultaneously
- Ventilated service bays
- On-going training

Evaluation

AC Transit's program is continually monitored and evaluated by the Department of Energy's National Renewable Energy Laboratory.

Educational Program

AC Transit has partnered with UC Berkeley's Lawrence Hall of Science and Schatz Energy Research Center at Humboldt State University, to develop a comprehensive science education curriculum on hydrogen and fuel cells for high school students in the East Bay. The program, called HyTec, has been funded with more than \$1 million in grants from the Department of Energy and AC Transit.

