

SCGOVFACT SHEET

SCAT diesel-electric hybrid buses

The fleet

- Sarasota County Area Transit (SCAT) acquired its first 10 hybrid buses in 2006. All of them were the larger 35-foot-long vehicles.
- Four more hybrid buses were added to the fleet in June 2009. These are the first of the smaller 29-foot-long vehicles, which can be used on either neighborhood or regular routes. Like their larger counterparts, the smaller hybrids have the modern Bus Rapid Transit (BRT) body style and the distinctive bright green-blue-gold-white design.

How it works

- When the bus accelerates from a stop, the battery-powered electric motors assist the diesel engine during acceleration. As the bus slows down or brakes, the vehicle's regenerative braking system captures energy normally lost as brake heat, and returns it to the vehicle's energy storage. A nickel metal hydride 600-volt battery pack supplies electrical energy to the motors.

Environmental sustainability, fuel economy and cost savings

- The hybrid buses are part of Sarasota County's commitment to reducing fossil fuel use through an initiative called the 2030 Challenge, which was adopted by the Sarasota County Commission in 2006.
- Each of the larger (35-foot-long) diesel buses is about 27 percent more fuel-efficient than the standard diesel bus, with an average annual reduction of 5,500 gallons of diesel fuel a year. At an average cost of \$3 per gallon of diesel fuel, that translates into a savings of about \$16,500 a year per bus. The large hybrid bus has 32 passenger seats.
- Each of the smaller (29-foot-long) hybrid buses is projected to be 35-40 percent more efficient than the standard diesel bus. At an average cost of \$3 per gallon of diesel fuel, that is expected to result in a savings of about \$21,000 a year per bus. The small hybrid bus has 23 passenger seats.
- The medium-duty diesel engine used in the hybrids has a capacity of 8.9 liters, compared to the 11.0-liter standard diesel engine.
- In a hybrid bus, various environmentally harmful emissions are reduced by an average of 50 to 90 percent when compared to a conventional diesel-fueled engine.
- The noise level of a hybrid bus is about half of a standard diesel bus, or equivalent to that of a passenger car, which is approximately 79 decibels.

Vehicle cost and manufacturers

- Allison Transmission Inc. of Indianapolis, In., developed the transmission in the new hybrids. GILLIG of Hayward, Calif., designed and built the bus.
- The 29-foot-long, BRT-style hybrid bus costs approximately \$517,000. A standard diesel bus costs about \$317,000. The hybrids were purchased through Federal Transit Administration grants.

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