

Many businesses and governmental agencies are discovering the advantages of adding natural gas vehicles (NGVs) to their fleets. Such vehicles have a positive impact on air quality, public health and transportation economics since natural gas burns more cleanly than other fossil fuels and typically costs less at the pump than gasoline and diesel. Offering you the following case study* of real-world NGV experience is part of Southern California Gas Company's commitment to providing exceptional customer service.

School district goes the extra mile for clean air

The Visalia Unified School District spans 214 square miles in California's San Joaquin Valley and serves 25,000 kindergarten through 12th-grade students in 34 schools. Every year, thousands of these students need transportation to and from school and activities. That's the job of the district's Transportation Department. Its fleet includes 80 buses that logged 820,000 miles – equal to 33 trips around the Earth's equator – conveying students during the 2004-2005 school year alone.

As the gasoline- and diesel-powered buses aged, the district sought economical, reliable replacements that would go the extra mile for clean air. Buses that run on compressed natural gas (CNG) provided the solution.



Photos by Cherie Hernandez, courtesy of Visalia Unified School District

The Visalia Unified School District has a fleet of 80 buses. Soon almost half of them will be powered by compressed natural gas (CNG).

Fleet of 80 buses to include 38 CNG buses

"We have 28 CNG buses in service as of 2005. We're also receiving 10 heavy-duty transit-style, CNG buses (in the 2005-2006 school year) to replace eight conventional, gasoline-powered buses, and two heavy-duty transit-style, diesel buses," says Terry White, director of transportation for the Visalia Unified School District. "We're replacing them because of their age – 20 to 25 years old, which is past their life expectancy – and their fuel economy, which isn't cost efficient. We're going to natural gas because it's cleaner for the environment."

He acknowledges that there are both pros and cons to consider with CNG buses. On the plus side, White cites cleaner air for the community, engines that outlast diesel and gasoline engines, a better repair record for the new CNG buses compared with diesel- and gasoline-powered buses when they were new, and fuel safety. Fuel cost comparisons have long favored CNG over gasoline and diesel, too, although price fluctuations for all three fuels in 2005 resulted in less sharp distinctions. Drivers "like the new CNG buses and the mechanics don't have a problem either way," White says.

Grants help cover purchase price

"CNG vehicles have a proven track record in our industry," adds Katie Avila, a supervisor in the school district's Transportation Department. She also points out that grants from the



Photos by Cherie Hernandez, courtesy of Visalia Unified School District

Terry White, director of transportation for the Visalia Unified School District, shows how easy it is to refuel a CNG bus at the district's on-site station.

federal Congestion Mitigation and Air Quality Improvement Program, the California Energy Commission and the San Joaquin Valley Air Pollution Control District have helped pay for the CNG replacement buses.

On the downside, according to White: Grants for CNG buses no longer cover the cost difference completely, so the school district has a cost gap of about \$25,000 per bus to bridge; the CNG buses have a range of about 300 miles versus about 450 miles for diesel; there aren't as many fueling facilities; and bigger fuel tanks result in less storage capacity. Avila notes that there are increased costs for certain CNG bus parts, maintenance and inspections.

On-site, "time-fill" station saves time and labor

A favorable factor in the cost calculation for Visalia Unified School District was the opening of a CNG fueling station adjacent to its existing transportation facility in September 2005. Previously, White explains, refueling at an off-site station would take at least 30 minutes and sometimes an hour per CNG bus and driver per day – "five to eight minutes for driving, 22 to 25 minutes for refueling, plus wait time. That's costly when you're buying fuel and labor. In our case, having an on-site fueling facility is much cheaper and more efficient."

Grants covered 80% of the \$1 million cost of the infrastructure of the CNG fueling facility. It opened with two "fast-fill" pumps that, together, can refuel a total of four CNG buses at a time in only 10 minutes, thus reducing but not eliminating the drivers' waiting time. With the opening of 30 "time-fill" posts in January 2006, each driver simply pulls up to a post, hooks a nozzle onto the bus, and leaves. The compressor automatically comes on, refuels all the buses overnight and shuts itself off.

"Fueling is pretty much labor-free with the time-fill operation going," says White. He praises his Southern California Gas Company Account Executive for working with the school district to extend a high-pressure gas supply line to the compressors at no charge to the school district and to obtain an operating permit from the California Air Resources Board.

New CNG tax credit of 50 cents per gallon

CNG will soon have another price advantage: a new excise tax credit of 50 cents per gasoline-gallon-equivalent for CNG fuel from Oct. 1, 2006, through Sept. 30, 2009, per the federal Highway Bill (H.R. 3, Sec. 11113). As the owner of a CNG fueling facility, Visalia Unified School District may receive the credit, depending on how the Internal Revenue Service eventually clarifies the new law.

If he had to make the choice over again, White states unhesitatingly, "I'd still do it, just because natural gas is cleaner burning and better for the environment, and because we haven't found any issues that we couldn't get around."

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For more information about NGVs, please contact your Southern California Gas Company Account Executive in the Natural Gas Vehicle Group at 213-244-5681.

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