

CNG

USE EXPANDS AMONG GOVERNMENT AGENCIES

THE HIGH COST OF GASOLINE AND DIESEL, NOT TO MENTION A DESIRE TO REDUCE VEHICLE EMISSIONS, HAVE LED MANY GOVERNMENT AGENCIES TO PURCHASE VEHICLES THAT RUN ON COMPRESSED NATURAL GAS (CNG). FROM FLEETS JUST STARTING THEIR INVESTMENT IN THE ALTERNATIVE FUEL TO LONG-TIME USERS LOOKING TO EXPAND THEIR CNG FLEET, THESE AGENCIES EXPLAIN HOW AND WHY NATURAL GAS WORKS FOR THEM.

BY GREG BASICH & THI DAO

Riverside, Calif.: Lowering Costs for the City & Community

The City of Riverside, Calif., began its CNG investment in 1994, purchasing a small number of vehicles and fueling up using a nearby public-access station and with FuelMakers, natural gas fueling appliances. In 2004, the City opened its own public-access fueling facility consisting of two fast-fill dispensers and 25 time-fill dispensers, according to Martin Bowman, fleet operations manager.

The City of Riverside's commitment to CNG is clear — in the past 19 years, its CNG fleet has grown to approximately 248 vehicles. Its natural gas fueling station has expanded to 100 slow-fill dispensers, and Bowman said the City is looking to construct another 40 slow-fill dispensers. It is also constructing a 24/7 publicly accessible station near the sewer plant that will have two fast-fill dispensers. Located in the corner of a commercial area, Bowman said the site will not only be a convenient fueling location for City units, but it could also be an important fueling location for heavy trucking fleets. It will also have 10 slow-fill dispensers for City units.

Off-Peak Fueling Lowers Costs

Owned and operated by the City, Bowman said the fueling centers charge only enough to recoup operating costs. In April 2012, the City charged its customers \$1.33 per gasoline gallon equivalent (GGE) for natural gas. In comparison, it charged \$3.85 per gallon of diesel and \$3.77 per gallon of unleaded gasoline. This cost difference leads to significant fuel savings for the City as well as to the community fueling with CNG.

Bowman said one of the reasons he can keep fuel costs low is that the time-fill vehicles are timed to fuel at off-peak hours. "We fill them after midnight [during] off-peak utility hours, so the electricity is cheaper, and the cost to produce the CNG is cheaper. We pass that savings on to all our customers," Bowman said. Drivers come in around 5 p.m., after their shifts, and connect vehicles to dispensers. However, fueling is timed to start at 11:30 p.m. using stored CNG, and the compressors start up around midnight. It takes about four hours to fill the vehicles, and they're ready to go when drivers arrive in the morning.

Despite its heavy investment in CNG, the City has various other alternative-fuel vehicles, including electric, liquefied petroleum gas (LPG), and E-85-capable vehicles, as well as hybrids. Of its 1,705 vehicles, approximately 21% are "clean" vehicles.



The City's CNG fueling station has 100 time-fill dispensers and two fast-fill dispensers. Riverside plans to expand its CNG infrastructure.

PHOTOS COURTESY OF CITY OF RIVERSIDE

Columbus, Ohio: Creating Infrastructure for Public Fueling

For the City of Columbus, Ohio, a City-wide commitment to greening efforts has led to investment in a compressed natural gas (CNG) fleet and CNG fueling infrastructure. However, in addition to benefits to the City, it's also opening its fueling sites to the public in order to encourage CNG use by private fleets and individual drivers.

By March, the City will have placed 18 CNG-powered automated side loaders into service, and it expects to place an additional 44 dedicated CNG units into service by the end of 2013. According to Columbus' Fleet Administrator Kelly Reagan, the first 18 units are replacements for diesel vehicles.

Reagan said Columbus' Mayor Michael Coleman has been behind the effort to transition to alternative-fuel transportation and that this shift is already producing savings. In 2012, CNG use led to fuel savings of \$101,450 compared to the average cost of diesel. The City did not use grant funding to purchase the new CNG vehicles, and Reagan said Columbus expects the new units will break even cost-wise after five years of service.

"Because the City keeps these units for eight years on average, the ROI is an attractive 54%, netting the City savings of almost \$9,000 per vehicle in fuel savings," Reagan explained.

Reagan said the City plans to continue to increase the number of heavy-duty replacement vehicles in the fleet that are dedicated CNG units this year and in the years to come. Columbus' Division of Fleet anticipates that there will be a total of 64 units in service by year-end 2013, displacing more than 229,000 gallons of diesel and saving the City of Columbus approximately \$444,000 in fuel costs.

The City opened its first CNG fueling station in April 2012, is building a second CNG fueling site expected to be completed in 2014, and is considering constructing a third site. All these fueling sites would be open to the public.



While fueling infrastructure was constructed in order to fuel City vehicles, including this automated side loader, the stations are available for public access.

Tampa, Fla.: First Alt-Fuel Purchases

For its first alternative-fuel vehicle purchases, the City of Tampa, Fla., ordered five new compressed natural gas (CNG) solid waste vehicles, taking delivery in February. The City also plans to replace an additional five existing diesel refuse trucks with CNG models by 2014.

"The five CNG vehicles we recently purchased will save us \$150,000 a year in diesel fuel costs, and over the long run, it will save us time and money on engine maintenance," a City spokesperson said. "They're also cleaner for the environment."

The City used vehicle replacement funding to purchase the trucks. The incremental cost of each CNG truck is \$30,000, equal to one year's worth of savings in fuel costs. The cost per diesel gallon equivalent (DGE) for natural gas is roughly \$1.85 - \$2 less than diesel fuel prices.

City personnel will fuel the CNG vehicles at a Clean Energy-operated fueling station at Tampa International Airport.

The City of Tampa has a total of 3,100 vehicles in its fleet. Tampa intends to evaluate additional alternative-fuel vehicles as possible replacements for its aging fleet vehicles.



The City crew stands next to a new solid waste CNG vehicle with Tampa's Mayor Bob Buckhorn.

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