



**Terress Farnham**  
 Business Operations Manager/Business Development  
 515.289.2121 • terress@zebgas.com  
 www.zebgas.com



# PROPANE AUTOGAS MAKES ‘GOING GREEN’ AFFORDABLE FOR PUBLIC TRANSIT SYSTEM

## A PROPANE CASE STUDY



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### UNIFIED GOVERNMENT OF WYANDOTTE COUNTY AND KANSAS CITY, KANSAS, SAVED TAXPAYERS MORE THAN \$80,000 IN FUEL COSTS WITH PROPANE AUTOGAS TRANSIT FLEET

The Wyandotte County transit system operated as a private entity until the governments of Wyandotte County and Kansas City were consolidated into one transportation unit in 1997, creating the Unified Government. Today, the Unified Government transportation department manages 1,159 vehicles — including everything from fire trucks to ambulances to public transit. Wyandotte County provides transit services for local routes while the Kansas City Area Transportation Authority provides routes into Kansas City, Missouri, and other connections across the region.

#### MAKING ‘GREEN’ AFFORDABLE

In 2012, the Unified Government first began researching ways to reduce its carbon footprint and save the community from a possible increase in fares and taxes due to rising fuel costs. After hiring an outside consulting firm to perform a cost analysis and weigh all of the alternative fuel options available, propane autogas quickly rose to the top.



“We initially looked into alternative fuels because we wanted to green our operations,” said Merle McCullough, the Unified Government fleet manager.

“Normally, it costs money to be green and that can be a huge issue for governments and municipalities. But after talking with our consulting firm, we discovered that could actually save money with propane autogas.”

Propane-autogas-powered vehicles emit fewer greenhouse gas emissions than vehicles running on gasoline and diesel, reducing short-term and long-term health effects in passengers. The Unified Government currently operates 13 new 20-passenger Ford E-450 transit buses and two Ford F-150 V6 pickups retrofitted with propane autogas bi-fuel systems.

McCullough reports that the Unified Government pays less than half the price of gasoline for propane autogas and displaced over 35,000 gallons of diesel last year, saving taxpayers more than \$80,000 in fuel expenses in 2013. In turn, this helps keep rider costs down and allows the transportation system to avoid an increase in fares.

#### COMPANY

Unified Government of Wyandotte County and Kansas City, Kansas

#### CHALLENGE & SOLUTION

In 2012, the Unified Government first began researching ways to reduce its carbon footprint and cut fuel costs without increasing public fares and taxes for the community. Propane autogas provided a perfect solution for its transit fleet due to its low fuel costs and affordable infrastructure.

#### RESULT

- The municipality installed propane autogas infrastructure for less than \$3,000 with the help of its local propane provider.
- The Unified Government displaced over 35,000 gallons of diesel and saved the taxpayers more than \$80,000 in fuel last year.
- Propane-autogas-powered vehicles perform well in cold weather due to newer, liquid-injection technology.

## EASE OF INSTALLATION

When determining the best alternative fuel for its fleet, the Unified Government found that the cost of installing on-site propane autogas infrastructure was much lower when compared with other alternative fuels, providing a low total cost-of-ownership and an even quicker ROI.

“Propane autogas was compact and easy to install,” McCullough reported. “Our propane provider covered some of the upfront costs, allowing us to install propane autogas infrastructure for less than \$3,000 in electrical and concrete. In comparison, we were looking at installing fast-fill CNG infrastructure for \$1.2 million.”

Since propane autogas has similar requirements to gasoline and diesel, facilities operating within these regulations can easily accommodate propane-autogas-powered vehicles without modifications for ventilation, gas detection, or electrical requirements.

“CNG required modifications to our existing facilities in order to be code-compliant and house the large equipment required for us to refuel,” said McCullough. “We didn’t have to worry about any of that with propane autogas. Its infrastructure only requires a large propane tank and no-spill low emission dispenser.”

The Unified Government currently operates a 1,000-gallon capacity propane tank and one-hose dispenser, but the district is looking to upgrade in order to accommodate its growing propane autogas shuttle fleet.

## CLEAN, POWERFUL PERFORMANCE

Wyandotte County and surrounding regions can experience extremely cold temperatures and substantial snowfall each winter. While weather — especially freezing temperatures — can impact fleet and fuel performance, the Unified Government’s propane autogas vehicles have performed all year round.

“Propane autogas is a stable fuel, and the liquid injection systems are powerful and run well in the winter,” said McCullough. “There was some hesitation from our drivers at first due to propane’s stereotype from old vapor injection systems. However, we’ve run propane autogas year round and have had no problems, even with the cold temperature. Performance with propane autogas has been as good if not better [than diesel].”

Drivers have also noticed a considerable difference in how much cleaner propane autogas runs compared with conventional fuels. “After switching from diesel to propane autogas, the most obvious benefit was the reduction of dirty diesel fumes and odor,” McCullough said. “The drivers have commented on how much better it smells, which is extremely nice to hear for a public transit system.”

## FUELING THE FUTURE

Although the Unified Government has realized numerous additional benefits from adopting propane autogas — fuel savings, quick ROI, and proven performance — its primary goal has always been to work toward a more

sustainable future. When McCullough was tasked to look into alternative fuels, he explained that the process was discouraging at first.

“We were — and still are — fighting budget issues from the recession in 2008,” says McCullough. “Municipalities’ budgets are still hurting, but after discovering propane autogas, it was kind of a no brainer. Propane autogas was the only option that allowed us to go green without breaking the bank.”

According to McCullough, propane autogas will remain part of the transportation department’s growth plan as long as he has the means to implement it. In fact, the Unified Government currently has 10 Ford F-250 Super Duty trucks on order for its public works department and four additional transit buses coming yet this year.

“It’s been such a seamless transition,” McCullough says. “It’s a good feeling to know our fleet is powered by a clean, domestic fuel and that we can do it at an affordable price with propane autogas. Anytime I have the option, I plan to choose propane autogas.”

## FOR MORE INFORMATION

To learn more about propane autogas and the Propane Education & Research Council, visit [propane.com](http://propane.com).

Propane Education & Research Council / 1140 Connecticut Ave. NW, Suite 1075 / Washington, DC 20036  
P 202-452-8975 / F 202-452-9054 / [propanecouncil.org](http://propanecouncil.org)

The Propane Education & Research Council was authorized by the U.S. Congress with the passage of Public Law 104-284, the Propane Education and Research Act (PERA), signed into law on October 11, 1996. The mission of the Propane Education & Research Council is to promote the safe, efficient use of odorized propane gas as a preferred energy source.