



Case Study:

Georgia School District Sees \$1M+ Savings Annually with Propane Buses

District: Bibb County School District
Industry: Education
Location: Macon, Georgia
Vehicles: Blue Bird Vision Propane school buses (133)
Fueling: 18,000-gallon onsite propane autogas tank

Challenge

Continue to maximize transportation fleet savings and reduce carbon footprint for an urban school district that transports 8,000 students daily.

By the Numbers

- Operating propane buses since 2014.
- 50 cents combined fuel and maintenance savings per mile; over \$1 million annually.
- Over 65% of the school bus fleet runs on propane autogas.

Building on Success

When Anthony Jackson accepted the post of director of transportation for Bibb County School District in 2014, he inherited 31 Blue Bird Vision Type C propane buses. While he didn't have firsthand experience with propane autogas, his previous research pointed to the benefits of using the fuel. "I found that the return on investment for propane looked like a much more viable option than compressed natural gas," Jackson said.

Dealing with tightening standards on diesel emissions led the district into problems related to diesel emissions reduction equipment — diesel particulate filters (DPF), manual regeneration, diesel emission fluid (DEF), and more. Operating its fleet on propane autogas instead of diesel removed the complexity and cost of after-treatment measures, which can accelerate return on investment and cut operating costs.

With the propane buses performing so well, the district made the strategic decision to begin shifting their fleet away from diesel. Now, Bibb County School District has 133 propane buses making up over 65% of its total fleet and, with over a dozen years of experience, Jackson is well versed in propane school bus adoption.

Across the Board Appeal

Eliminating diesel emissions equipment hassles was just one benefit to propane autogas buses: Bibb County School District's drivers and maintenance staff also prefer the propane vehicles. The district's mechanics find the buses require little maintenance. Routine oil changes, which require significantly fewer quarts of oil per change, and filter replacements have shown the buses to be very mechanic-friendly.

The district's drivers discovered that the drivability of the buses was much better, and that the noise level decreased, compared to diesel. The Blue Bird Propane Vision's engine noise is 50% quieter than a conventional diesel vehicle. "The drivers absolutely love them and prefer to drive them," Jackson said. "The buses perform well, are quieter for the drivers so they can actually hear the children, don't smell because of the diesel exhaust, and handle well."

Each of the district's propane buses are equipped with a ROUSH CleanTech propane autogas fuel system, with the newer models featuring the Ford 7.3L engine.

Onsite Fueling

The district's buses are fueled at a station located on the grounds of its bus garage, which has an 18,000-gallon propane tank. Like Bibb County School District, many school districts choose private onsite fueling due to the convenience and low cost. Installing propane autogas fueling infrastructure costs less than any other fueling station option — including gasoline and diesel. Because of its EPA classification as a non-contaminant, propane infrastructure has fewer compliance requirements than conventional fuels, meaning there is no costly EPA monitoring involved.

District employees said they would much rather fuel the propane buses, because they can avoid the frequent spills that result from diesel fueling as well as the resulting diesel odor on their clothes and hands. Plus, fueling is quick; a propane school bus fuels at 8 to 10 gallons per minute, a similar rate to diesel.

Unlike gasoline or diesel, propane autogas is part of a closed-loop system, meaning the fuel is never exposed to air and won't spill. As an approved alternative fuel under the Clean Air Act, propane autogas is a nontoxic, non-carcinogenic and non-corrosive fuel.

The Bottom Line

On average, propane autogas costs about 50% less than diesel per gallon and reduces maintenance costs due to its clean-operating properties. Maintenance costs are lower, too. The district's propane autogas buses use 7 quarts of oil per oil change, and their diesel buses need almost three times that amount. For every two oil changes performed at 5,000-mile intervals, the filters for the propane buses still cost almost 40% less than those required for diesel engines, which are changed every 10,000 miles.

In total, Bibb County School District total cost savings is 27 cents per mile in fuel savings plus maintenance cost savings of 23 cents per mile equaling 50 cents per mile in total savings. Annually, Jackson calculated the savings to be over \$1 million in savings per year.

For the last decade, Jackson and Bibb County School District has proven its commitment to move away from diesel.

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About ROUSH CleanTech: ROUSH CleanTech, an industry leader of advanced clean transportation solutions, is a division of the global engineering company Roush Enterprises. ROUSH CleanTech develops propane autogas technology for medium-duty Ford commercial vehicles and school buses. With more than 50,000 vehicles on the road, the Livonia, Michigan-based company delivers economical, emissions-reducing options for fleets across North America. Learn more at ROUSHcleantech.com or by calling 800.59.ROUSH.

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