

Case Study: Propane Fueling Infrastructure Across America

Companies: Multiple

Industries: Education, transit and commercial

Locations: Nationwide

Fueling: Propane autogas

By the Numbers

2,500 public propane fueling stations in the U.S.

- Thousands of retailers across the country
- \$1.61 national average price of propane autogas (March 2025)
- Three scalable fueling options: onsite, mobile delivery or public stations
- More than 90% of the United States propane autogas supply is produced domestically

Propane Autogas Basics

Propane autogas, also known as LPG, is liquid petroleum gas used for on-road vehicles. It is a nontoxic, non-carcinogenic and non-corrosive fuel that's American-made. More than 90% of the nation's supply comes from the United States and an additional 7% from Canada.

Propane is the third most popular transportation fuel in the world and is gaining favor as an alternative to diesel for fleets of all sizes due to its clean operation and lower fuel and maintenance costs. According to the Propane Education & Research Council, there are more than 60,000 propane school buses, transit shuttles and commercial trucks on U.S. roads. The World Liquid Gas Association counts about 28 million propane vehicles worldwide.

One of the reasons propane is so popular is that it has a robust, reliable and flexible infrastructure with decades of research and development behind it. Additionally, propane poses no groundwater, surface water or soil, so infrastructure can be installed in areas where other traditional and alternative fuels cannot. Because there are fewer financial and geographical constraints with propane infrastructure, fleet managers can easily integrate propane affordably, reduce costs and eliminate range anxiety.

Propane Fueling Options

Propane offers the most flexible and affordable fueling options of any fuel type — alternative or conventional. It's less expensive to install a propane station than to install a CNG, diesel, gasoline or electric station.

There are three main options for propane fueling infrastructure. Propane suppliers specialize in helping fleets choose the right fueling option based on fleet size, routes, budget and facility space.

Option 1: Onsite Station

With an onsite station, fuel is delivered directly by a local propane supplier. Onsite fueling includes propane storage tanks equipped with a pump, meter and one or more dispensers. The cost to install an onsite propane station varies depending on size. With a propane fuel contract, out-of-pocket costs can be as low as zero because the propane supplier may absorb the initial infrastructure costs. Onsite stations can be owned by the fleet or leased from the propane supplier.

Onsite stations are a popular option for growing fleets because no adjustments or site upgrades need to be made as additional vehicles are added to the fleet.

Propane suppliers offer a suite of services to help customers determine how to install onsite infrastructure, including the management of permitting and legal requirements. "Permanent equipment is the most common application because there's flexibility and room for growth," said Bryan Raygor, national business manager for autogas at Ferrellgas, a nationwide propane supplier.

"The equipment can be expanded as needed depending on the size of the fleet," he said. "As a fleet begins operating with autogas, it can start small, and then grow the propane fueling station equipment by adding additional tanks and dispensers."

Option 2: Mobile Fueling

For fleets that don't yet have space or capital for infrastructure investment, but want to get started with propane, mobile fueling is an appropriate solution. With this arrangement, a local supplier comes onsite to fill up vehicles directly from their bobtail truck.

Option 3: Public Stations

Fleets that operate on limited space may choose to use public stations to fuel their propane vehicles. There are about 2,500 propane fueling stations across the country, with some in every state. Most stations offer 24/7 access and a variety of safe payment options. The U.S.

Energy Department's <u>Alternative Fuels Data Center</u> provides an updated map of public and private fueling stations so that fleet managers can easily plan routes.

Funding and Support

When fleets work closely with a propane supplier to lock in low per-gallon pricing, there are often additional benefits, including financial support for low- and no-cost infrastructure installation, equipment maintenance, training and more.

"We'll do the training, the maintenance, the fuel management and the tracking," said Raygor. "We want to be a part of that process."

There are also many state and federal incentives to help fleets save on the upfront purchase of propane autogas vehicles as well as offset infrastructure costs. More information about infrastructure incentives can be found on the Propane Education & Research Council website.

Infrastructure Across America

Propane vehicles support fleets of all sizes that transport students, community members, parcels and commercial goods. There are thousands of school districts, transit agencies, parcel delivery contractors and commercial delivery companies that rely on propane infrastructure to get the job done. Here are stories from ROUSH CleanTech customers.

School Transportation

Bonny Eagle School District installed one of the largest onsite propane tanks in the state of Maine. The 17,000-gallon tank can fill up its 30 propane buses for a month before needing a refill from its supplier, Crown Energy. Through Crown Energy, the district was able to try out renewable propane without making any changes to its onsite infrastructure. By switching to propane, Bonny Eagle has saved more than \$75,000 using propane compared to diesel.

Located in the Atlanta suburbs, Henry County Schools operates 23 propane buses to support its 300 daily routes. With a limited number of public stations nearby, the district opted to build a propane fueling station at its onsite transportation facility. Superior Energy Systems provided the district's fuel infrastructure which included two propane autogas dispensers and an 18,000-gallon skidded tank. Superior Energy Systems worked with the district to accommodate its 10-year growth plan and need for additional buses. Henry County Schools chose Blossman Gas as its propane provider and its school bus technicians were trained to fuel the buses safely.

Sutton Bus & Truck Company in Delaware loves the "reliability of onsite management, efficiency and purchasing power," said owner Dave Sutton. Sutton Bus worked with Sharp Energy to install two 19,000-gallon tanks at no cost, and develop an onsite maintenance

and delivery schedule that works for the company. Sutton Bus, which purchased its first round of 10 propane school buses in 2016, now operates about 40 propane buses with more scheduled for delivery.

Transit Agencies

Suburban Mobility Authority for Regional Transportation (SMART) in Michigan operates a 100% propane paratransit fleet that travels 9 million miles annually. After assessing the fleet's services and size, agency officials chose to install three onsite fueling stations, with two 19,000-gallon tanks located at each station. SMART took advantage of the low cost of building the fueling station infrastructure. The agency uses propane supplier Webster Gardner.

TransNet, a public transit agency in Pennsylvania, worked with two route partners — Bux-Mont Transportation and Tri County Transit — to install onsite propane stations. The decision to have each company install its own private fueling station was made so that the fuel is easily accessible and provides fueling opportunities throughout the day. For the agency, this was a "win-win" for everyone. Staff from ROUSH CleanTech traveled to each partner site to provide training to maintenance and fueling staff. The adoption of propane vehicles with an onsite fueling station supported TransNet in reaching its sustainability goals and reducing its carbon footprint.

Commercial Fleets

McAbee Trucking in Blacksburg, South Carolina, started investigating alternative fuels in 2014. One factor in choosing propane-powered trucks was the easy installation of a propane fueling station. The U.S. Postal Service contractor's initial six propane trucks were mobile-fueled by their propane supplier, Blossman Gas. After a couple years, the company added 18 more propane trucks and an onsite station with three 1,000-gallon propane tanks.

DDA Transport, a U.S. Postal Service contractor based in New Hampshire, added six propane trucks in 2023. Each truck travels 75,000 to 90,000 miles per year. Having an onsite station was critical to the company's daily operations because its trucks are on strict delivery schedules that run from early morning to late evening. While DDA did explore CNG, it ultimately determined that the infrastructure and maintenance shop modifications required for CNG would be too expensive and burdensome. Propane supplier Ferrellgas partnered with DDA on a long-term contract that includes low fuel pricing and the installation of an onsite propane station. The company's goal is to achieve a 50/50 mix of diesel and propane autogas vehicles within the next few years.

Important Information About Maintenance and Filtration

It's important to lean on a knowledgeable supplier when setting up propane infrastructure to create a long-term successful experience. One way is to ensure filtration is installed on the station itself to minimize downtime and maximize equipment life.

While ROUSH CleanTech vehicles fuel tanks already have filters on them, it is recommended that all propane fuel stations are equipped with effective filtration between the dispensing station tank and the propane vehicle fuel tank.

Want More Information?

The Energy Department's <u>Alternative Fuels Data Center</u> breaks down information about dispensers and nozzles, codes and safety, and costs.

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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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ROUSH CleanTech:

Chelsea Uphaus Chelsea.Uphaus@roush.com 734.466.6710 Media:

Gregg Voss
gvoss@tsncommunications.com
224.542.9530