ROUSH CLEANTECH | Propane Transit Vehicles
Fact Sheet

Abundant and In-Demand

- Propane autogas[1] is one of the fastest-growing alternative fuels in the transit industry.
- There are more than 7,000 transit buses equipped with propane fuel systems in operation across North America.
- There are more than 2,500 propane autogas fueling stations in the U.S., with stations in every state.
- More than 28 million vehicles travel worldwide with propane autogas in their fuel tanks, including school buses, taxis, paratransit shuttles, delivery and construction trucks and more.

Improved Health and Environmental Outcomes

- Propane autogas is a nontoxic, non-carcinogenic and non-corrosive fuel classified as a non-containment by the Environmental Protection Agency.
- Vehicles that run on propane autogas emit fewer greenhouse gases, smog-producing hydrocarbons and particulate emissions than conventional fuels. In fact, propane autogas engine technology has progressed to the point where harmful emissions are reduced to near zero.
    - ROUSH CleanTech's propane transit vehicles can also fuel on renewable propane, a non-fossil fuel produced from 100% percent raw materials, cooking oils and wood waste. Renewable propane is the most carbon-negative fuel available, with carbon index totals that are much lower than even renewably produced electricity.
- Propane autogas is naturally lower in nitrogen oxides (NOx) than diesel and gasoline. Diesel emissions are **15 to 19 times** higher than with propane according to a West Virginia University study.
- The Ford 7.3L V8 engine equipped with a ROUSH CleanTech propane fuel system is 90% cleaner in nitrogen oxides than EPA's most stringent heavy-duty engine standard. This engine is used in Blue Bird Vision Type C activity buses, Micro Bird paratransit bus and Class 4-7 Ford commercial vehicles.

Economical Savings

- On average, propane autogas costs about 50% less than diesel and 40% less than gasoline. Fleets report an average savings of $0.25 - $0.45 per mile when using propane autogas.
- Maintenance service and costs are significantly reduced due to the fuel's clean operation. For example, compared to diesel vehicles, filter packages cost 60% less on propane vehicles and oil changes are performed at 50% less miles.
- Propane removes the complexity and cost of after-treatment measures since it doesn't require additional fluids or filters; exhaust after-treatment or diesel emissions fluids; particulate trap systems; turbochargers or intercoolers.
- Propane vehicles have no cold-start issues and warm up quickly, saving time and money on equipment and staff.

[1] Propane autogas (or LPG) is the internationally recognized term for propane when used in on-road engines.

- Propane autogas fueling infrastructure costs less than any other transportation energy source — conventional or alternative. Plus, most fleets lock in an annual per-gallon fuel cost for propane so price and supply remain consistent, allowing for better budgeting.

- Since propane is classified as an alternative fuel by the Environmental Protection Agency, there are incentive programs to encourage adoption.

- The 2024 State of Sustainable Fleets Market Brief reports that propane consistently provides a low total cost of ownership year after year for applications such as goods and logistics, refuse, passenger transport and medium-duty vocational service.

- The ROUSH CleanTech Ford E-450 cutaway chassis has completed the Federal Transit Administration's (FTA) New Model Bus Testing Program ("**Altoona Testing**"), which allows a transit fleet operator to access federal funds that cover 85% of entire alternative fuel vehicle cost with a 15% local match.

- The Blue Bird Vision bus equipped with the ROUSH CleanTech propane fuel system is purpose-built for the public transit market. This is the same propane bus base used by nearly 1,100 school districts for student transportation. It also has completed "Altoona Testing."

- Completion of "Altoona Testing" means all compatible paratransit body configurations are eligible for FTA funding, including Champion, ElDorado National, Elkhart Coach, Glaval Bus, Goshen Coach and Starcraft Bus.

- The ROUSH CleanTech Ford E-450 and the Blue Bird Vision activity bus meet all federal **Buy America** standards, making fleets that purchase these models eligible for federal purchasing programs.

- Cost savings for propane transit vehicles are substantial.
    - "Each year, our agency saves $12,500 for each propane paratransit vehicle in fuel costs compared with equivalent gasoline model." — Tim Geibel, transportation director, Crawford Area Transportation Authority (Ohio)
    - "The fuel savings from autogas pays for the capital reinvestment within the first year. We're receiving a direct savings to our operating budget." — John T. Sisson, CEO, DART (Delaware)
    - In the past eight months, our seven propane buses have traveled a combined 75,000 miles, saving our agency more than $150,000 in fuel costs. Propane is an EPA-certified clean fuel alternative, helping reduce emissions and improve air quality." — Whitney Ehresman, transportation director, Allegan County Transportation (Michigan)
    - "Over a five-year period, we saved over $4 million using propane. So for us it's been a win-win." — Edgar H. Benning, general manager, Flint Mass Transportation Authority (Michigan)
    - "By operating propane-fueled buses we're reducing our fuel expenses by 35% and saving on maintenance expenses." — Ben Capelle, CEO, Lake Tran (Ohio)

Safe and Reliable with Stand-Out Performance

- Propane autogas vehicle fuel tanks are 20 times more puncture-resistant than gasoline or diesel tanks. They are constructed from carbon steel in compliance with the American Society of Mechanical Engineers.

- Unlike with conventional fuels, propane autogas is part of a closed-looped system, meaning the fuel is never exposed to air and won't spill.

- Vehicles equipped with ROUSH CleanTech's liquid propane autogas fuel systems retain equivalent horsepower, torque, towing capacity and warranty coverage as gasoline-fueled counterparts. This modern technology offers improved performance, cold weather reliability and towing capacity.

- Propane transit vehicles can achieve a range of up to 350 miles on a single fueling.

- At 8 to 10 gallons per minute, fueling with propane is comparable to conventional fueling.

- 87% of fleet end users report equal or better performance of propane vehicles when compared to conventional fuels.

- To improve the safety of work environments, the American Federation of State, County and Municipal Employees (AFSCME) recommends replacing diesel-fueled engines with propane-fueled engines where possible.

Made in America
- Propane autogas is a leading alternative fuel in the United States.

- More than 90% of the United States propane autogas supply is produced domestically, with an additional 7% from Canada, making it stable and readily available.

- Almost 75% of propane used in the U.S. comes from natural gas refining, and the remaining comes from petroleum during the refining process. This is material that would otherwise be wasted if not transformed to be used as a clean alternative fuel.

- The use of propane gas by transit fleets pivots their energy source to be domestic.

Organizations Choose Propane Autogas
- Since 2010, ROUSH CleanTech has helped over 100 transit agencies transition to propane autogas buses, providing clean special transportation services for people with disabilities and senior citizens.

- ROUSH CleanTech has deployed more than 50,000 advanced clean vehicles to fleets across North America.

Model Options for Propane Transit and Paratransit Agencies
- Ford E-450
- Micro Bird D series bus
- Blue Bird Vision Type C activity bus
- Blue Bird propane powered commercial chassis

Learn More
- ROUSH CleanTech: ROUSHcleantech.com
- Propane Education & Research Council: propane.com
- Department of Energy's (DOE) Clean Cities: cleancities.energy.gov
- DOE Office of Energy Efficient and Renewable Energy: afdc.energy.gov
- World Liquid Gas Association: worldliquidgas.org

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