**WASHINGTON COUNTY**
**BOARD OF EDUCATION**

**November 23, 2020**

**5:00 PM**

**Central Office**

I. **CALL TO ORDER**
II. **CTE POSITION**
III. **REVIEW AND CONSIDERATION OF CTE BIDS**
IV. **REVIEW AND CONSIDERATION OF PROPANE BUS BIDS**
    A. **Propane Bus Analysis**
V. **REVIEW AND CONSIDERATION OF SCHOOL OPERATING STATUS**
VI. **ADJOURNMENT**


# Propane Buses

How “Going Green” benefits our students and our tax paying families

# Cost Comparison

## Diesel Engine parts required to be added and/or replaced. These parts are not necessary for propane buses.

**Provided by Roush Clean Tech**

| Engine components: Diesel | | | | |
|---|---|---|---|---|
| Cummins ISB 6.7L | | | | |
| Part | Quantity | Price | Total | |
| Nox Sensor | 1 | $480 | $480 | |
| Nox Sensor | 1 | $560 | $560 | |
| Pressure Sens | $140 | $140 | $140 | |
| Doser Injector | 1 | $290 | $290 | |
| Catalyst Assembly w/DPF | 1 | $10,554.11 | $10,554.11 | |
| Temperature Sensor | 1 | $78.90 | $78.90 | |
| Temperature Sensor | 2 | $84.90 | $84.90 | |
| Turbo | 1 | $2,731.20 | $2,731.20 | |
| Injector | 6 | $755.56 | $755.56 | |
| EGR Valve | 1 | $590.15 | $590.15 | |
| EGR Cooler | 1 | $923.72 | $923.72 | |
| | (YOU WILL NOT FIND | | Total $21,051.24 | |
| | ANY OF THESE ITEMS IN OUR | | | |

# Cost Comparison Provided by Roush Clean Tech

Propane Bus Engine Components that may need to replaced.

A fraction of the cost of diesel emissions parts

(@ $18,000 less per bus)

| Propane Bus Engine Components | | | |
|---|---|---|---|
| Part | Quantity | Price | Total |
| PCV Hose (2) | 1 | $43.68 | $43.68 |
| Vapor Managemer | 1 | $65.00 | $65.00 |
| Gasket | 1 | $5.99 | $5.99 |
| Injector Assembly | 10 | $215.00 | $2,150.00 |
| Converter Assemb | 1 | $910.00 | $910.00 |
| Spark Plugs | 10 | $7.08 | $70.08 |
| O2 Sensors (all 3) | 1 | $102.57 | $102.57 |
| A fraction the cost of diesel emissions | | | Total = $3348.04 |

# Preventative Maintenance Comparison

## Our Propane Buses on average

| Propane average | QTY | Cost | Total |
|---|---|---|---|
| Element Air Cleaner | 1 | $15.75 | $15.75 |
| Oil Spin On Filter | 1 | $4.11 | $4.11 |
| Element, PSR, 510 Filter | 1 | $24.90 | $24.90 |
| Mobil Special 5W-20 | 7 | $3.74 | $26.18 |
| | | | Total = $70.94 |

## Our Diesel Buses on average

| Diesel average | | | |
|---|---|---|---|
| Oil Filter | 1 | $13.75 | $13.75 |
| Fuel Spin-On Filter | 1 | $37.90 | $37.90 |
| Power Steering Sprin Filter | 1 | $9.86 | $9.86 |
| Fuel Filter | 1 | $20.53 | $20.53 |
| Allison Control Filter | 1 | $8.49 | $8.49 |
| Mobil Fleet 15W-40 | 18 | $2.59 | $2.59 |
| Cleaner, Air Element | 1 | $140.00 | $140.00 |
| | | | Total = $277.15 |

# Cost Comparison of Fuel and Engine

## Provided by Roush Clean Tech

| Fuel | Propane | Diesel |
|---|---|---|
| Annual Miles | 12500 | 12500 |
| Fuel Economy (mpg) | 4.5 | 8 |
| Fuel Price/Gallon | $0.79 | $2.50 |
| Gallons used annually | 2777 | 1562 |
| Total fuel cost annually | $2,193.83 | $3,905 |

Full Engine replacement

| Part | Price | Core | Total |
|---|---|---|---|
| Ford 6.8L V10 Engine | $7,194.85 | $900.00 | $8,094.85 |
| Cummins ISB 6.7L | $18,521.98 | $400.00 | $18,921.98 |

# WCS Fuel log for the short time on Road

| Fuel Log for the short amount of time driving students to school, WCS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| NOTE: How a driver drives and idles gives variation of data. Drivers have to practice to drive Propane Bus like a Car NOT like a Diesel Bus | | | | | | | | | | |
| Vehicle Numb | Vehicle Mileage | Fuel Type | Gallons of Fu | MPG | price per mile | total price | | | | |
| 19 | 680.2 | propane | 162.4 | 4.18 | $0.30.5 | $207.87 | save $14.64 | | | |
| diesel | | diesel | 97.17 | 7 | $0.32.7 | $222.51 | | | | |
| 44 | 754.7 | propane | 176.6 | 4.27 | $0.29.9 | $226.04 | save $20.82 | | | |
| diesel | | diesel | 107.8 | 7 | $0.32.7 | $246.86 | | | | |
| 49 | 670.4 | propane | 137.2 | 4.88 | $0.26 | $175.61 | save $43.54 | | | |
| diesel | | diesel | 95.7 | 7 | $0.32.6 | $219.15 | | | | |
| 85 | 811.3 | propane | 199.3 | 4.07 | $0.31.4 | $255.10 | save $10.31 | | | |
| diesel | | diesel | 115.9 | 7 | $0.32.7 | $265.41 | | | | |
| 52 | 298.7 | propane | 83.5 | 3.57 | $0.35.7 | $106.88 | -$9.17 | | | |
| diesel | 42.67 | diesel | 42.67 | 7 | $0.32.7 | $97.71 | | | | |

# We can further reduce the cost by driving propane buses more efficiently

1. Meter to throttle: There is no need to use heavy throttle to accelerate. To optimize, only give the bus as much throttle as needed for a smooth and controlled acceleration.
2. Avoid Idling: Propane bus starts producing heat in about 15 minutes. Reduce idle time because you get 0 miles per gallon.
3. Maintain a steady speed when possible; fuel consumption can increase considerably with varying speed.
4. Anticipate your route and traffic; improve brake life by coasting to anticipated stops and maintaining a safe following distance from other vehicles.
5. Keep service up-to-date; notify department with maintenance concerns, don’t wait.

# More facts in cost comparison, WCS

Propane Bus Filters

Air $13.46

Oil $2.50

6 quarts oil $51.24

Fuel

10000 miles - 4 mpg - 2500 gal - $3200 - $0.32 per mile

Diesel Bus Filters

Air $39.72

Prim. Fuel $21.73

Sec. fuel $20.82

Oil filter $5.64

16 quarts $8.39 gal $134.24

Fuel

10000 miles- 7 mpg - 1428 gal - $3270.12 - $0.33 per mile

# Facts about Propane buses from other systems

1. Propane buses are simplified, in order to meet EPA and CARB emissions reductions standards.  Diesel engines require a DEF particulate filter, treatment devices, and DEF fluid.
2. Bibb County Schools save $3000 per service for its propane fleet. Techs state using 7 quarts of oil per change for propane versus 20 quarts for diesel buses.
3. Boulder Valley Schools considered their 10 propane buses versus their 10 diesel buses from the same manufacturer. Diesel operated $0.67 per mile versus $0.48 per mile with propane. Savings range from 20 to 50 percent on the cost-per-mile basis with propane buses. Propane bus costs are also lower due to no additional fuel additives and “less worries with the expensive exhaust (DPF) on the diesel buses which can exceed $8,000,” Samora.

# Clarksville-Montgomery Schools, TN

Cost per mile: 1. Propane is $0.25 per mile.  2. Diesel is $0.31 per mile.

NO DEF OR REGEN to maintenance

Have 58 propane bus drivers plus adding 20 more propane buses.

Drivers had a learning curve and now love the quick power, heat up and generally love them.

At 70,000 miles, need to change spark plugs for oldest bus

Oil change for labor and parts: propane $50 versus diesel $150

Fuel is cheaper with a larger fleet $1.17 versus $1.28 ppg

# A window of WCS cost of Diesel EGR parts

| Diesel Bus EGR Parts. Please NOTE: we did have a closure and virtual learning reducing the bus runs | | | | | | |
|---|---|---|---|---|---|---|
| 9-5-19 | bus 25 | Temp sensor | $52.40 | | | |
| 9-6-19 | 47 | Cooler | $740.00 | 5 gal antifreeze $5.82 per gallon | | |
| 9-9-19 | 68 | Cooler | $740.00 | 4 gal antifreeze $5.82 per gallon | | |
| 9-17-19 | 41 | Pressure Sensor | $116.08 | | | |
| 9-5-19 | | DEF Fuel | $1.99 gal 235 ga | $467.65 | | |
| 9-13-19 | 34 | turbo exhaust veins cleaned | | $95.00 | | |
| 9-24-19 | 34 | Turbo actuator | warranty | | | |
| 10-16-19 | 82 | Cooler water tube | $118.79 | 5 gal antifreeze $5.82 per gal | | |
| 10-24-19 | 18 | Turbo actuator | $1,138.90 | | | |
| 11-11-19 | 82 | 4 gal antifreeze $5.82 per gallon | cooler $784.56 | | | |
| 11-12-19 | 28 | Cooler | $784.56 | | | |
| 11-19-19 | 69 | Cooler | $784.56 | | | |
| 11-27-19 | | DEF Fuel | 1.99 per gal. 265 gal. $516.75 | | | |
| 1-3-20 | 92 | Cooler | $821.99 | gal antifreeze | | |
| 1-3-20 | 92 | water plumbing | $94.16 | oring seals $4.46 | | |
| 1-14-20 | 47 | Turbo Actuator | $1,446.44 | | | |
| 1-8-20 | 28 | Turbo Actuator | $1,446.44 | | | |
| 1-17-20 | | DEF Fuel | $1.95 per gal. 265 gal. $516.75 | | | |
| 10-23-20 | 14 | Cooler | $744.25 | water pump 4 gal antifreeze $5.82 per gal | | |
| | | | Total = $12,587.75 | | | |

# Bid for Mid-South

Body Brand, Model, and Year: Thomas Saf-T-Liner C2 2022

Chassis Brand, Model, and Year: Freightliner B2 106 2022

Propane Engine Brand, Size, and HP: Power Solutions International 8.8L 270hp

Tire Brand, Size, and Series: Hankook 11R22.5 16ply Att37

Warranties: Body: 3 yr, 50K Chassis: 3 yr,50K Engine: 5 yr, 100,000ml transmission 7 years unlimited miles

Anticipated Delivery: April 2021

Total Bid for each bus: $92,903.00 Total cost (6): $557,418.00

# Mid-South Continued exceptions

565 lbs. -ft torque @ 1600 rpm’s

100 gallon BTR tanks

Air compressor Bandix 13.2 cfm

Allison PTS 2500

Temp. in DIS digital

Batteries 2200 CCA, cut off switch

# Central States Bus Bid

Body Brand, Model, and Year: 2022 Blue Bird Type C Conventional

Chassis Brand, Model, and Year: 2022 Blue Bird Conventional

Propane Engine Brand, Size, and HP Ford V10 6.8L

Tire Brand, Size, and Series: Cooper 11R 22.5 16 Ply

Warranties: Body: 3yrs unlimited miles Chassis: 5 years Engine: 5 years

Anticipated Delivery: 120 days after receipt of PO

Total Bid for each bus $93,942.00 Total cost (6): $563,652.00

# Exceptions Central States

7.3L engine is available after 7-1-21, extra cost $1750.00 per bus

Fiberglass instulation 1.5” thick, R value = 5.7

AM/FM/CD/PA radio no weather band or J1939

6.8L with 7.3 option after July 1

All electrical body circuits to be controlled by ignition switch: except dome lights to work child check

Transmission Ford 6R140, 6 speed

Fuel 60 usable gallons but has stated they will increase body to do 100 gal no cost

# Cumberland Bid

Body Brand, Model, and Year: IC Bus PB 105 2022

Chassis Brand, Model, and Year: IC Bus PB 105 2022

Propane Engine Brand, Size, and HP: Power Solutions International, 8.8L 270 HP 565 torque

Tire Brand, Size, and Series: Hankook 11 R 22.5 Load Range H, AH37 Series

Warranties: Body: 3yrs, 50K  Chassis: 3yrs, 50K  Engine: 5 yrs, 100,000 miles

Anticipated Delivery: 05-01-21

Total Bid for each bus: $86,703.00  Total cost (6): $520,218.00

# Cumberland continued Exceptions

Bus Body 1.5” with an R Value of 5.7

No CD, no messaging, no weather band

Exhaust through the rear bumper

Bus Chassis 6 speed transmission

Gear Ratio 5.57

Two tank with 69.20 80% capacity but now 100 gallon tank 80% usable capacity at no cost

Holes in our bumper to view items for pre-trip inspection

1980 CCA batteries

# The Surprising Academic Impact of Reducing School-Bus Emissions (Georgia State University)

According to this study, it can help increase standardized test scores.

Please note a few more researched comments about propane buses and what I have experienced while doing a comparison ride. The noise level drops to 50% and the odor is not there like on a diesel bus.

Propane autogas school buses can improve your child's well-being, are better for the environment, and cost less for your school to operate:

- In a study conducted by West Virginia University, propane autogas buses were found to cut 96 percent more emissions compared with clean diesel buses.
- Propane buses cost 30 to 50 percent less to operate per mile than diesel buses. With those savings, schools can afford more teachers, extracurricular activities, or anything else that directly supports students.
- This fall, more than a million students in 48 states will ride a propane bus to and from school each day.

# Grant Opportunity

Depending on the NOx rating of the chosen bus, we can apply for 25% up to 35% rebate of the cost per bus.

25% = $21, 675.75 per bus for a total savings of $130,054.50

35% = $30,346.05 per bus for a total savings of $182,076.30

IF you have not had the privilege to ride a propane bus versus a diesel please take the time, then you will see the difference for yourself.

.


*Photo by Dennis Schroeder, NREL 31480*

# School Districts Move to the Head of the Class with Propane

*School districts across the country are under pressure to reduce their cost of operations and ensure their budgets are spent wisely. School bus fleets operate more than 675,000[1] buses in the United States, and many school districts have found the answer to their budget woes in the form of propane, or liquefied petroleum gas (LPG). Propane is a reliable, domestic fuel, and it's used in approximately 2% of school buses nationwide.*


Unlike diesel engines, propane engines do not require advanced emissions controls and their related maintenance. *Photo from MotorWeek/Maryland Public TV, NREL 17180*

Clean Cities
U.S. Department of Energy

## Propane's School Bus History

While propane has been used in buses for decades, recent technological advancements have made it more reliable than ever. Prior to 2007, all propane vehicles used vapor injection technology. In 2007, Blue Bird rolled out a propane school bus using direct liquid injection for the first time, and this was followed by Thomas Built Buses and Navistar. Liquid injection technology makes propane buses a more reliable option.

Since 2007, vehicle emissions standards have tightened for all vehicles. Propane vehicles meet these emissions standards without aftertreatment systems required for diesel vehicles. Because of this, and other reasons, many districts have found propane meets their criteria as an affordable, clean alternative.

## Economic and Environmental Impacts

Propane is a domestic fuel created as a byproduct from crude oil refining and natural gas processing. Propane engines have simpler emissions controls, which allow them to meet U.S. Environmental Protection Agency standards. In addition, some school districts are reporting cost savings from reduced preventive maintenance such as oil changes (an effect also attributed to the fuel's clean-burning nature). Most significantly, propane also typically costs less than diesel fuel, particularly for fleets that work with their local propane marketers and equipment providers to install private

1 *Federal Highway Administration – Highway Statistics 2012, Table MV -10,* fhwa.dot.gov/policyinformation/statistics/2012/pdf/mv10.pdf

fueling and get the most competitive pricing. Some states provide tax incentives, grant programs, and other incentives that reduce costs even further. For more information on such incentives, contact your Clean Cities coordinator or visit the Federal and State Laws and Incentives section of the Alternative Fuels Data Center (AFDC) at *afdc.energy.gov/laws*.

## Proven Cold-Weather Results

Reliability is paramount when students are waiting in the cold for their school bus. Propane engines operate the same as gasoline engines in cold weather and can warm up quickly.


Propane's typically lower fuel cost often helps fleets recover the initial incremental cost of vehicles more quickly. *Photo by Dennis Schroeder, NREL 31343*

**Case Study:**

## Mesa Unified School District

Mesa Unified School District in Mesa, Arizona is an example of a fleet taking advantage of both the economic and environmental benefits of propane. In 2011, rather than invest in diesel buses, Mesa turned to propane after finding that buses equipped with diesel technologies such as diesel particulate filters experienced more breakdowns and costly repairs than the district's older diesel buses. The district transports 19,000 students a collective 36,000 miles per day, so reliability is a must.

The decision to purchase 90 propane buses has paid off, saving Mesa $0.38 per mile with anticipated savings of $3.2 million over five years. These savings are a combination of low propane pricing and reduced maintenance costs thanks to fewer oil changes and engine failures. The district also realized emissions inspections savings, as new propane vehicles are exempt from initial emissions inspections in Arizona. While the district's fuel prices change weekly according to the commodity price, a market cap insures the cost to fill Mesa's two 18,000-gallon tanks and one 1,000-gallon tank will remain at least 30% less than the cost of diesel fuel (without additional incentives that may lower the price further).

Jeanne Vandemark, Mesa's Director of Transportation, hopes to transition the school bus fleet of more than 500 to propane. Other districts in the Phoenix area have taken notice of these savings as well; 13 neighboring districts are now testing or running propane buses.

As Vandemark notes, "When you look at propane and you look at the facts, it is surprising that more fleets do not use propane buses. It's up to us to know the facts and educate others."

"At the end of the day, everyone wants to keep their own child safe, but we're responsible for caring for all the students. This is one reason why we use propane."

Mesa Unified School District (Mesa, Arizona) purchased 90 propane buses and anticipates saving $3.2 million over five years. *Photo from Mesa Unified School District, NREL 34334*

> *"Propane is clean and runs well, and we would like more buses. We eventually hope to be switching to an entire propane fleet."*
>
> – Jeanne Vandemark,
> Director of Transportation,
> Mesa Unified School District


*Photo from Eastern Carver County Schools, NREL 34336*

**Case Study:**

## Eastern Carver County School District

With temperatures dipping below freezing half the year, cold-weather reliability was an important factor for Eastern Carver County (ECC) School District in Chaska, Minnesota, when looking for alternative fuel buses. John Thomas, the Transportation Coordinator for ECC, worked with school bus service provider Student Transportation of America (STA) to test different bus options. Propane proved to be the most cost-effective option. It had a low capital expenditure, was reported to be reliable in all conditions, and in ECC's case, required no alterations to maintenance facilities.

STA worked with the district to provide Blue Bird propane buses for no additional cost as part of its normal contract replacement schedule. Fuel cost savings supported the initial capital expenditure for the buses. Working with propane marketer Ferrellgas, ECC installed fueling infrastructure in its fleet yard, which guaranteed low and consistent fuel prices as well as fuel availability. Through a joint contract and price sharing model, STA is allocated a set portion of the annualized fuel cost savings to offset the increased cost of the buses. ECC benefits from any remaining cost savings.

With the first 18 buses, STA and Blue Bird helped train ECC drivers and mechanics. The district saw a reduction in maintenance costs and drivers found that the buses had more horsepower and warmed up quickly. Initially, drivers had to educate parents who questioned the new buses; however, propane's excellent reputation, quieter operation, and increased reliability quickly eliminated concerns. The district purchased 14 more propane buses in 2012 and hopes to operate entirely on propane by 2017. For the 2013–2014 school year, the savings from these buses was about $170,000. This funded wireless Internet throughout the fleet, which allows parents to track the bus locations and helps take the classroom "beyond-the-bricks." This is important for travel to and from school, as well as sporting events. Several other districts in Minnesota are now running on propane as well.

As Thomas has told them, "I can't say enough about how much we have benefited. It really pays off."


After initially purchasing 18 buses, Eastern Carver County School District added 14 more in 2012. Transportation Coordinator John Thomas hopes for the fleet to be operating entirely on propane by 2017. *Photo from Eastern Carver County Schools, NREL 34335*

## Learn More

**Technician Training and Facility Modifications:** For technicians trained in spark-ignition engine systems, training for propane buses can be minimal. Often, the school bus or engine manufacturer will offer training specific to propane-fueled vehicles. Fleets should consult their local Authority Having Jurisdiction regarding any necessary facility modifications.

**Fuel Pricing and Infrastructure:** Propane can be delivered on site, where pricing is typically based on the volume used. Local propane marketers can not only provide fuel but expertise and technical assistance in establishing private fueling infrastructure. By consulting with a number of local fuel providers, fleets can establish a fuel contract that secures fuel at a fixed cost, regardless of seasonal commodity price or supply fluctuations. To obtain the best fuel price at public fueling stations, fleets should negotiate competitive pricing in advance. Fleets considering installing their own infrastructure should refer to "Costs Associated With Propane Vehicle Fueling Infrastructure" (*afdc.energy.gov/uploads/publication/propane_costs.pdf*). In all cases, your local Clean Cities coalition can be a valuable resource when considering fueling infrastructure.

**Case Studies:** A case study released in 2014 by Argonne National Laboratory examined five fleets with a total of 110 buses and found that some of the school districts saved nearly 50% on fuel and maintenance and recouped the incremental costs of the vehicles and infrastructure within three to eight years (*afdc.energy.gov/uploads/publication/case-study-propane-school-bus-fleets.pdf*). Find more case studies from around the country on the AFDC Case Studies page (*afdc.energy.gov/case*) and the Propane Education & Research Council website (*propane.com/on-road-fleets*).

**About Propane:** To learn more about propane as a vehicle fuel, visit the AFDC Propane page (*afdc.energy.gov/fuels/propane.html*). ■


Top: For technicians trained in spark-ignition engine systems, training for propane buses can be minimal. *Photo from Propane Education & Research Council*
Middle: Propane can be delivered on site, where pricing is typically based on the volume used. Local propane marketers can provide technical assistance in establishing fueling infrastructure. *Photo by Dennis Schroeder, NREL 31349*
Bottom: Visit the Alternative Fuel Data Center's Case Studies page to see more examples of school districts successfully implementing propane. *Photo from Propane Education & Research Council*

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# Talkin' Tec d CNG Conversion Basics & Examples

Even though the propane autogas and natural gas alternative-fuel market in the United States has moved more towards purchasing new vehicles versus converting vehicles that fleets already own, there are still many vehicles getting converted and numerous companies that will convert newer gasoline-

powered vehicles to propane or CNG*. Examples of companies that do such include Alliance Autogas, ICOM North America, ROUSH CleanTech, Altech Eco, Landi Renzo, Parnell USA, Westport, Ensida Energy and American Alternative Fuel.

When a light- or medium-duty vehicle is converted to run on one of the gaseous fuels CNG (compressed natural gas) or propane, it is converted to either be bi-fuel or dedicated (aka, monofuel). If bi-fuel, after conversion the system will be able to run on either gasoline or propane (for example); bi-fuel vehicles have two fuel tanks and sets of fuel lines to the engine, but only run one of those fuels at a time. And while they may typically run on the alternative fuel by default, a button is provided in the vehicle to allow the driver to switch to either fuel as necessary. In converted dedicated vehicles, the fuel tank and lines for the gasoline might be removed because the vehicle will now only run on the alternative fuel.

CNG or propane conversions systems must meet strict EPA or CARB emissions certification requirements before they are able to be legally installed in a vehicle in the U.S.

Converting your fleet to propane or CNG will usually reduce your fuel and maintenance costs. One of the keys to the fuel cost savings part is determining what price you will pay for propane or CNG. Propane and CNG refueling infrastructure can be sited at your fleet domicile or maintenance area, although public CNG stations are a more common used refueling opportunity. As such, you can work with propane or CNG providers to see what price you would pay in advance. The cleaner burning properties of these fuels also reduce vehicle maintenance costs. Being a clean-burning fuel, the high octane and low carbon combination results in less contamination to your vehicles' engines. Using #propane and #CNG in vehicles results in a longer engine life and a reduction in issues associated with cold starts.

Propane autogas and CNG vehicles also reduce multiple pollutants including nitrogen oxides (NOx) and particulate matter (PM) emissions compared with diesel and gasoline.

## East Tennessee Fleet Conversions Examples



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### Upcoming Events

There are no upcoming events at this time.

### Recent Posts

- Fourteen States combine efforts to "DRIVE Electric USA"
- Hancock County Schools expands its Propane Bus Program, Shows Rural Leadership
- Alt Fuels Demonstration

The **Greeneville Police Department** (GPD) partnered with Alliance AutoGas via Alliance's Propane Fuel Program. This program was designed to help fleets save money, reduce emissions, and improve vehicle engine life. Since GPD's program launch on January 1, 2019, they have already converted three new patrol vehicles, all of which are Ford Interceptor SUVs (Explorers). They program is projected to save the Town of Greeneville an estimated $10,000 per year. The vehicles refuel at a newly opened public propane station that Alliance Autogas opened in downtown Greeneville in 2018.

Greeneville Police Department converted propane patrol car

**Clean Sweep** in Chattanooga replaced three diesel street sweepers with ICOM North America bi-fuel propane system sweepers in 2017. These vehicles work in about a 50-mile radius around the City of Chattanooga and help clean streets and parking lots in the tri-state area. Clean Sweep completed their own refueling infrastructure in early 2018, so these vehicles can now refuel at their domicile site.

Library launches just in time for National Drive Electric Week

› Alliance AutoGas ribbon cutting to highlight alternative fuel success in Tennessee

› Washington County Cuts Ribbon on Five New Propane School Buses, Alternative Fuels Program

Clean Sweep, Inc. converted bi-fuel propane sweeping truck.

**The City of Kingsport's Propane Autogas Program** is an ongoing project within the Kingsport fleet to convert vehicles in various departments within the City of Kingsport to propane autogas in partnership with Alliance AutoGas. The program began in 2008, is led by the city's Fleet Maintenance Director Steve Hightower, and has progressed significantly since then – the City of Kingsport is now the single largest propane fleet in the entire state with over 100 autogas vehicles that spans police cars to work trucks to zero-turn mowers. Kingsport has its own refueling equipment at the fleet maintenance facility, and increased the storage capacity at that site in 2016. The city's police department is a One-Star certified Tennessee Green Fleet.

City of Kingsport converted propane vehicles. L-R: a propane mower, a city sedan, a police interceptor, and a maintenance pick-up.

** "Ship-thru" vehicles are usually converted, new vehicles that get converted before they reach the owner, and thus are considered new vehicles to the owner and not "converted" vehicles.*

By tncleanfuels | February 22nd, 2019 | Uncategorized | 0 Comments

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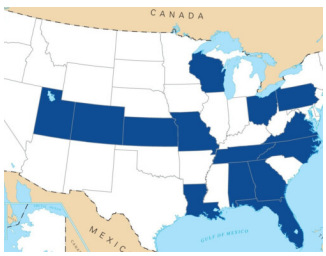
## About the Author: tncleanfuels

## Related Posts





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