

## Cleaner Air Starts with Cleaner Buses.

Natural gas transit buses have a track record of clean, reliable, and cost-effective service in major metropolitan markets and dozens of smaller communities.

Natural gas provides communities across the U.S. with a clean, reliable, and cost-effective transportation option for municipal vehicles like transit buses.

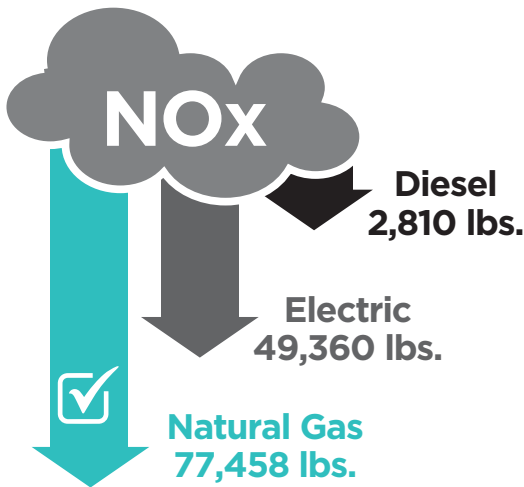


**12,000+**  
natural gas  
transit buses  
operate in  
the U.S.

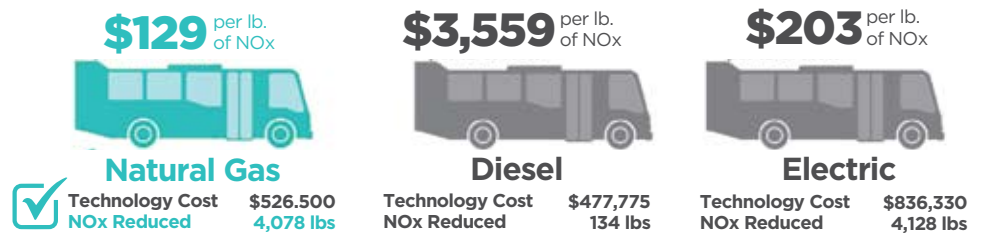
# Natural Gas Transit Buses are **Road-Tested & Ready to Deploy**

**35%**  
of new transit  
buses on order  
are NGVs.

## Lifetime Pounds of NOx Reduced



The VW Settlement's Environmental Mitigation Trust (EMT) Fund provides millions in funding for states to replace older diesel vehicles with new cleaner trucks and buses that reduce NOx emissions. For government fleets, state authorities may fund up to 100 percent of the cost of new transitbuses.



Figures above represent the lifetime emission reduction benefits of using \$10 million to replace older diesel buses with new, cleaner buses. For purposes of the calculations here, it is assumed that VW Settlement Funds are used to offset 100 percent of the cost of each new bus.

## Natural Gas Achieves the Most Cost-Effective NOx Emissions Reductions

When comparing the cost of NOx reduction, natural gas transit buses are **96 percent** more cost effective than diesel alternatives and **36 percent** more cost effective than limited and unproven electric options.

\*Emission comparisons are based on results using Argonne National Laboratory's HDVEC tool (<https://afleet-web.ex.anl.gov/hdv-emissions-calculator/>) and include modeling of new low-NOx natural gas engines and the diesel in-use emission option.



Find out more about championing reduced bus emissions for your municipality at [www.ngvamerica.org](http://www.ngvamerica.org).

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Natural Gas Vehicles for America

## Natural Gas Transit Fleet Success Stories



**VIA Metropolitan Transit (VIA) in San Antonio** began converting its entire bus fleet to natural gas in 2017. With over 310 CNG buses today, VIA plans to add 240 more by 2020. VIA's CNG buses average a 600-mile range on a single fill. Its new fast fill CNG station can refuel its entire fleet overnight, making it among the largest in North America. Upon entire fleet conversion, VIA should realize annual fuel savings of \$8.5 million and reduce its NOx emissions by 97 percent.



## Lower Fuel and Maintenance Costs

Natural gas buses are easier to maintain than diesel counterparts:

- No diesel particulate matter filter regeneration or waste
- No selective catalytic reduction
- No diesel emissions fluid

## Clearing the Air Doesn't Have to Break the Bank

Natural gas buses offer a fast return-on-investment (ROI) due to low fuel and maintenance costs.

With today's oil prices, natural gas prices can be \$.75 to \$1.50 or more lower than diesel at the pump. This price differential quickly translates into substantial fuel savings for transit buses, which typically consume around 2,300 diesel gallon equivalents (DGEs) per year, and have tough-duty cycles, low miles per gallon, and high engine hours.



*(for anticipated 15 year vehicle life)*



### The Los Angeles County Metropolitan Transit Authority

(LA Metro) operates the largest natural gas transit fleet in North America with more than 2,250 CNG buses. In the fall of 2016, LA Metro began deploying and testing near-zero-emission natural gas engines from Cummins Westport. In May 2017, LA Metro signed a multi-year contract with Clean Energy to purchase renewable natural gas (RNG), with plans to run on 100% RNG within five years.

## Calculate Natural Gas Emissions Benefits Yourself

Compare emissions of commercially-available alternative fuel medium- and heavy-duty vehicles with the Heavy-Duty Vehicle Emissions Calculator (HDVEC) tool.

resource aids school bus fleet managers and decision makers in comparing vehicle emission reduction options to assist in maximizing their new vehicle funding investment.

Developed by the U.S. Department of Energy's Argonne National Laboratory using its AFLEET Tool 2017, this online

Accessible online at:  
<http://afleet-web.es.anl.gov/hdv-emissions-calculator/>  
 or <http://www.ngvamerica.org/vwactioncenter/>.



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