

NGV U.P.-T.I.M.E. Analysis: Updated Performance Tracking Integrating Maintenance Expenses

Led by Clean Fuels Ohio, this project will provide fleets, natural gas vehicle (NGV) industry stakeholders, and other end-users relevant, real-world information through a proven, multi-data set analysis approach detailing NGV maintenance costs to improve total cost of ownership calculations and to determine the maintenance cost differences between NGV technology generations (current state-of-the-art) and current advanced clean diesel engines (post-2010 and post-2017) for relevant medium- and heavy-duty freight and good movement applications.

Project Background

The natural gas vehicle (NGV) industry lacks comprehensive analysis and metrics on maintenance costs because users are siloed by various use cases or competing in similar verticals. In addition, vehicle and engine manufacturers have been reticent to make this data widely available. Together this has led to a paucity of available information for current and prospective NGV users.

There is little publicly available data that clearly compares the relative maintenance costs of NGVs and current diesel trucks with modern exhaust after-treatment systems to capture recent NGV technology advancements, validate claims of NGVs' lower total cost of ownership, and NGVs' potential to lower operating costs, improve energy security, and cost-effectiveness nationwide.

What We Need from Fleet Data Partners

1. Natural Gas Vehicle (NGV) and Diesel Vehicle Maintenance Data

Type of Data	Vehicle Maintenance Data Specifics	
Vehicle Data	<ul style="list-style-type: none"> Number Year/Make/Model Vehicle Type 	<ul style="list-style-type: none"> Current Mileage Fueling Data Vehicle End-Use Application
Repair Data	<ul style="list-style-type: none"> Repair Order Number Open Date/Time Close Date/Time Days in Service 	<ul style="list-style-type: none"> Length of Repair Order System/subsystem/parts repaired
Repair Costs	<ul style="list-style-type: none"> Parts Labor 	<ul style="list-style-type: none"> Vendor Repair Total Warranty Costs

2. Historical data and data collected during project

What Fleet Data Partners Will Receive from this Project

1. Individual Fleet Maintenance Data Analysis Report

- Graphical assessment of major parameters by vehicle powertrain, year and model: repair cost per mile, repair frequency, and vehicle utilization
- Data to help fleets answer operational questions comparing natural gas and diesel vehicles and assess cost reduction strategies

2. Secured Fleet Partnership Agreement

- Data Provision Agreement guaranteeing the fleet will provide maintenance data to project team and US DOE
- Agreement will guarantee Fleet receives data protection, anonymity, and a fleet specific analysis report

3. Full Report with Key Recommendations on Best Practices & Technology Solutions to Reduce NGV Maintenance Costs

- Highlighting cost differences between CNG & clean diesel engines and impacts of different technology solutions, best practices used by project partner fleets capable of reducing maintenance costs



Project Objectives

- Gather data set on NGV & diesel vehicle maintenance & operations data in freight and goods movement fleets
- Quantify the difference in maintenance and operational cost between NGV's and diesel freight & goods movement vehicles
- Identify and quantify technology and process improvements between older and newer generation NGVs
- Assess individual NGV fleets to identify opportunities to enhance operations using legacy & newly generated NGV and diesel data

Join us and our committed fleet partners to work together to improve the NGV industry!

Project Prime



Project Data Analysis Lead



Project Technical Support



Project Implementation Partner



Committed Fleet Data Partners

