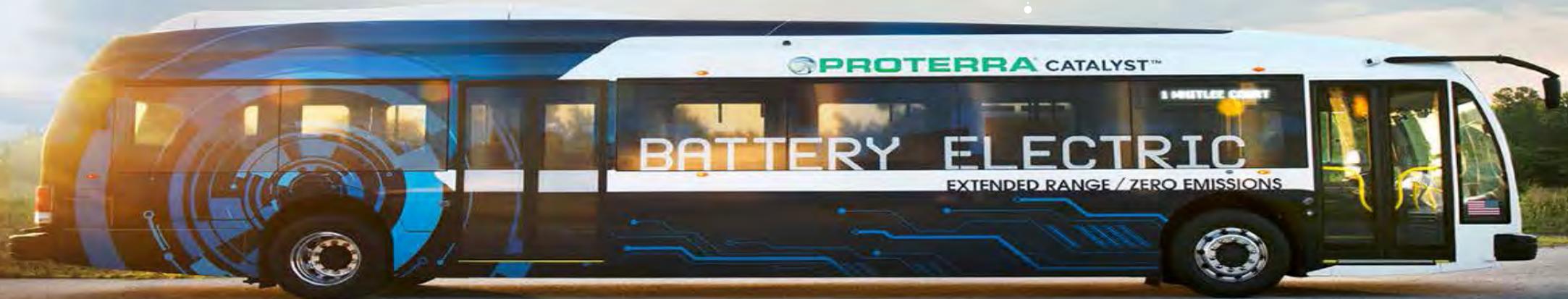
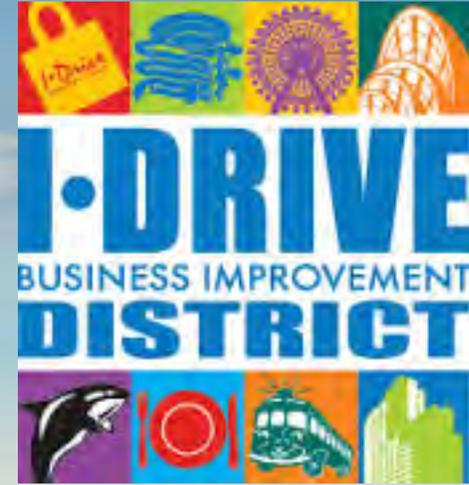


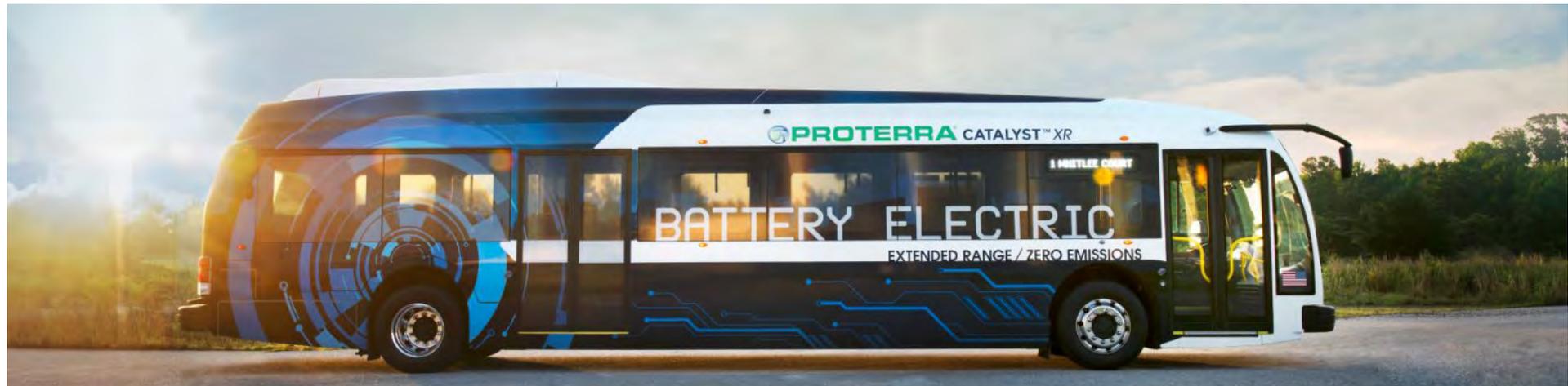
August 31, 2016

## PROTERRA CATALYST OVERVIEW



 **PROTERRA**

## REVOLUTIONIZING URBAN TRANSIT



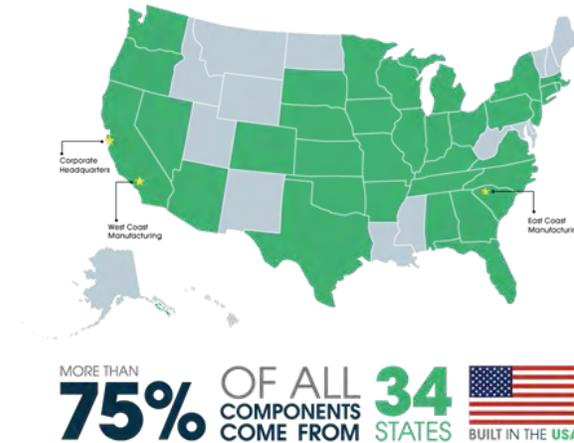
## OUR MISSION

**TO PROVIDE CLEAN, QUIET TRANSPORTATION FOR ALL, BY REPLACING HEAVY-DUTY FOSSIL FUEL TRANSIT BUSES WITH ZERO-EMISSION ELECTRIC VEHICLES**

## *Proterra's Mission:*

*Advancing electric vehicle technology to deliver the world's best-performing transit vehicles*

- Founded in 2004 with offices and manufacturing in CA and SC
- Longest range, fastest charging EV transit vehicles
- 200 employees
- 307 firm vehicle orders from 35 customers
- >73 vehicles delivered; >2,500,000 service miles
- >9,800,000 pounds of CO<sup>2</sup> emissions avoided



## Strong Executive Team



## Solid Financial Backing



## OUR CUSTOMERS



- .....> 188 announced orders from 22 customers
- .....> 73 buses delivered

## PARTNERING WITH PROTERRA ON LOW-NO GRANT APPLICATIONS



Transit agencies that partnered with Proterra won a majority of the Low-No grants for zero-emission vehicles.

### FY 2013/14 Low-No Application Round:

- Dallas Area Rapid Transit (DART)
- Duluth Transit Authority (DTA)
- Transit Authority of Lexington (LexTran)
- San Joaquin Regional Transit District (RTD)
- Transit Authority of River City (TARC) and
- Worcester Regional Transit Authority (WRTA)

### FY 2015 Low-No Application Round:

- King County Metro
- Southeastern Pennsylvania Transit Authority (SEPTA)
- Foothill Transit

### FY 2016 Low-No Application Round:

- Santa Clara Valley Transportation Authority
- Delaware Transit Corporation (DART)
- Everett Transit
- Transit Authority of Lexington (LexTran)
- Park City Transit
- Pierce Transit
- Port Arthur Transit
- SporTran City Transit Systems/Shreveport



## OUR MISSION – Clean, Quiet Transportation for All



**Economics** – Best TCO, lowest operating costs, least volatility

**Performance** – Highest MPGe, lowest weight, most torque

**Customer Preferences** – Clean, quiet, safe, modern

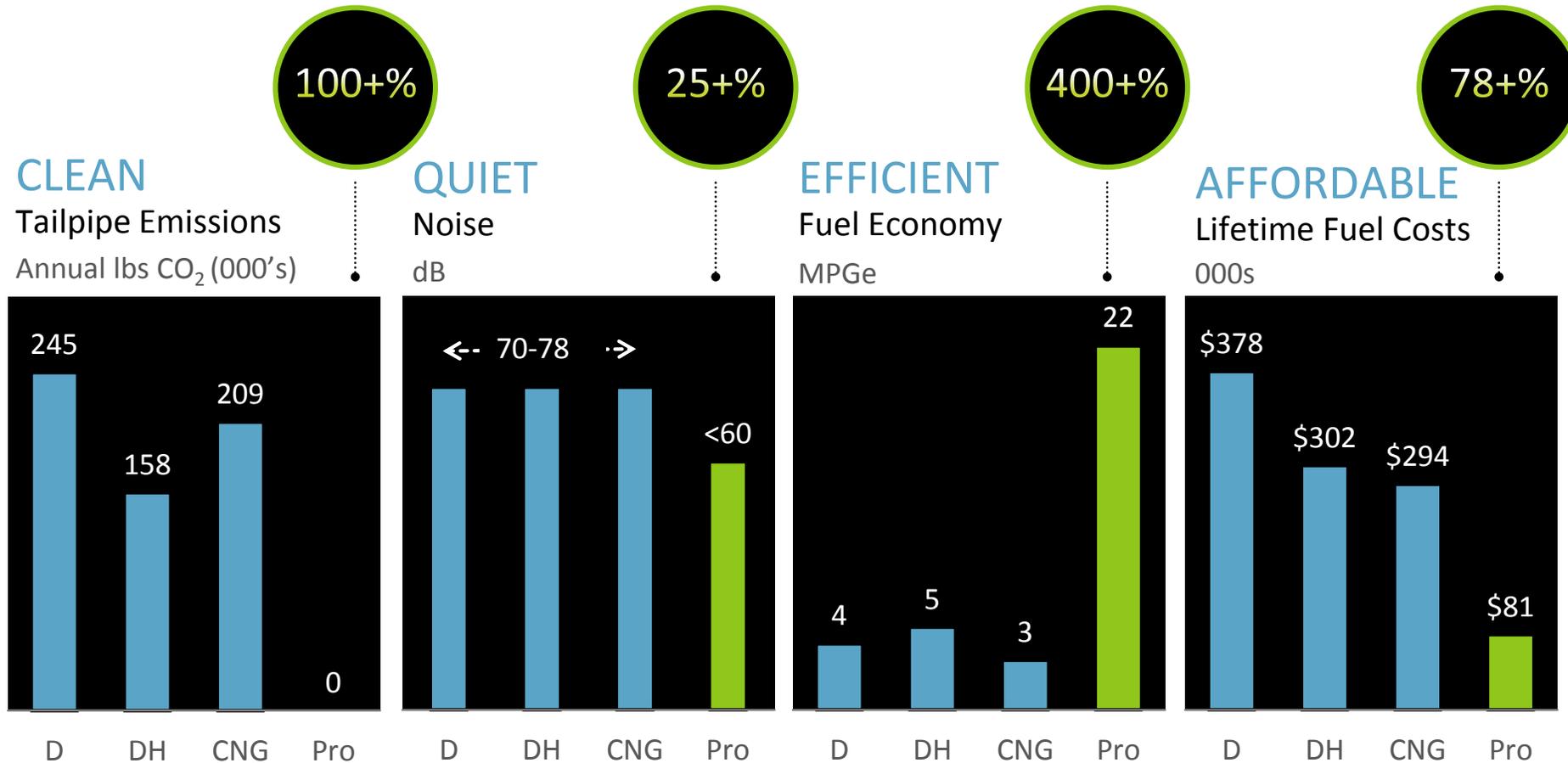
**Policy/Regulation** – Local health, air quality, climate change

At **Proterra**, we believe that zero-emission **electric vehicles** are the smart choice for heavy-duty transit operations.

We hope you'll agree.

Together, we can **eliminate** the need for fossil fuels in **urban transit**.

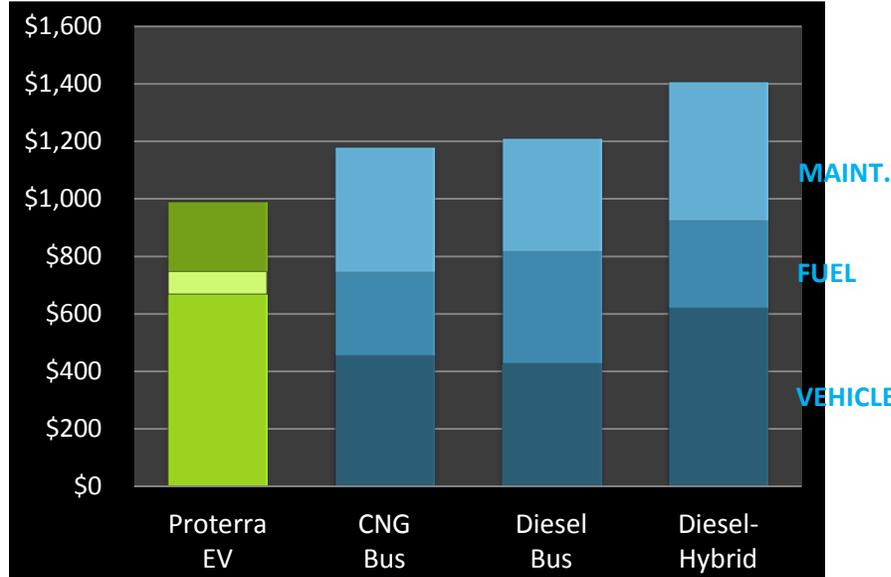
# Electric Transit Vehicles Outperform Fossil Fueled Vehicles



# CATALYST 35' TOTAL COST OF OWNERSHIP ADVANTAGE



	Proterra EV	CNG Bus	Diesel Bus	Diesel-Hybrid
VEHICLE	\$669	\$457	\$428	\$623
ENERGY/FUEL	\$81	\$294	\$378	\$302
MAINTENANCE	\$238	\$432	\$389	\$475
<b>TCO</b>	<b>\$987</b>	<b>\$1,183</b>	<b>\$1,195</b>	<b>\$1,401</b>
<b>TCO \$'s/mile</b>	<b>\$2.29</b>	<b>\$2.74</b>	<b>\$2.77</b>	<b>\$3.24</b>



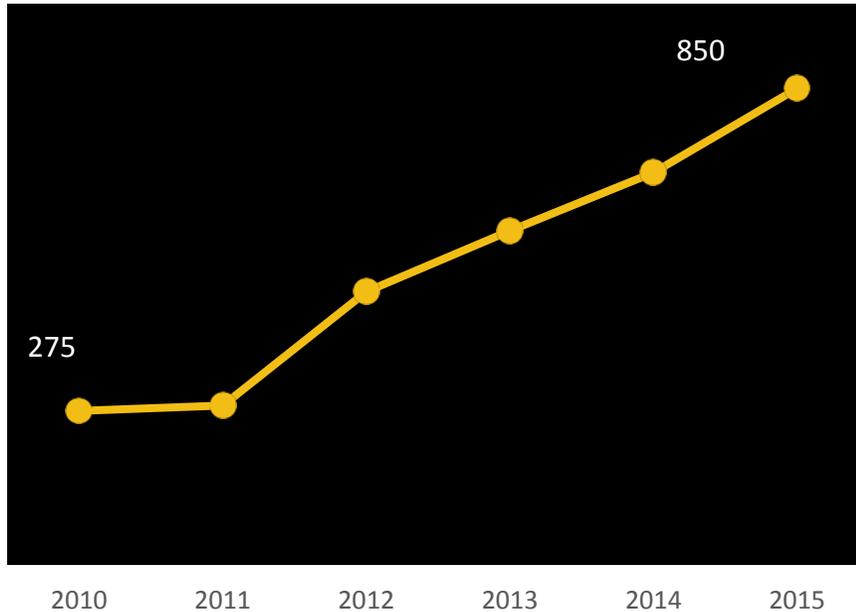
--- est. over 12 year lifetime / \$ in thousands, except TCO \$'s/mile ---

**Battery-electric vehicles** have the **lowest operational lifecycle cost:**

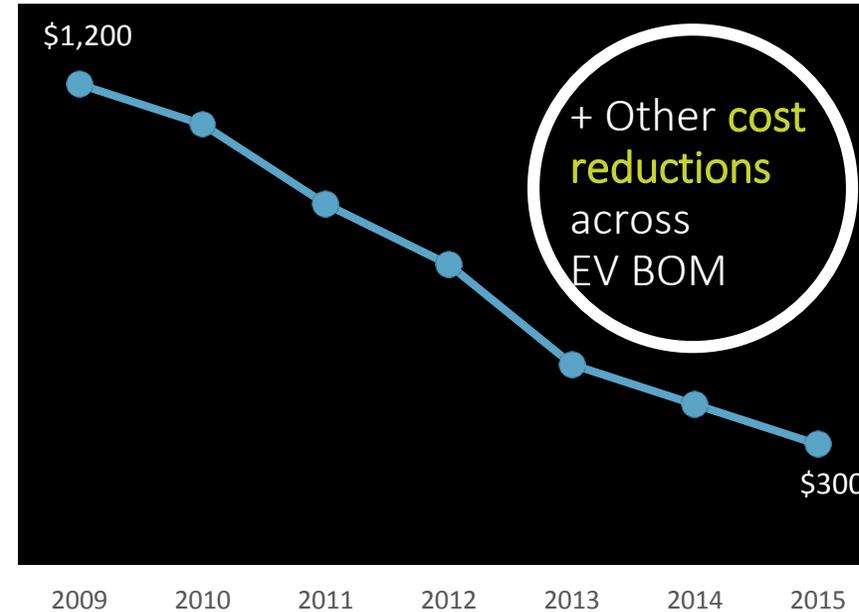
- High EV energy efficiency, low electricity rates, and high annual vehicle mileage combine to create significant fuel savings
- **30% fewer parts** dramatically reduce maintenance and operating costs
- Electricity prices far **more stable** and predictable than volatile fossil fuel prices

12-yr Operational Savings per Bus  
 \$448k vs. Diesel  
 \$459k vs. Hybrid  
 \$408k vs. CNG

### U.S. ELECTRIC VEHICLE SALES (000s Units)



### LITHIUM ION BATTERY COST (\$/kWh)



- Scale in EV is driving down battery and component costs
- Proterra leverages technology gains of entire EV industry

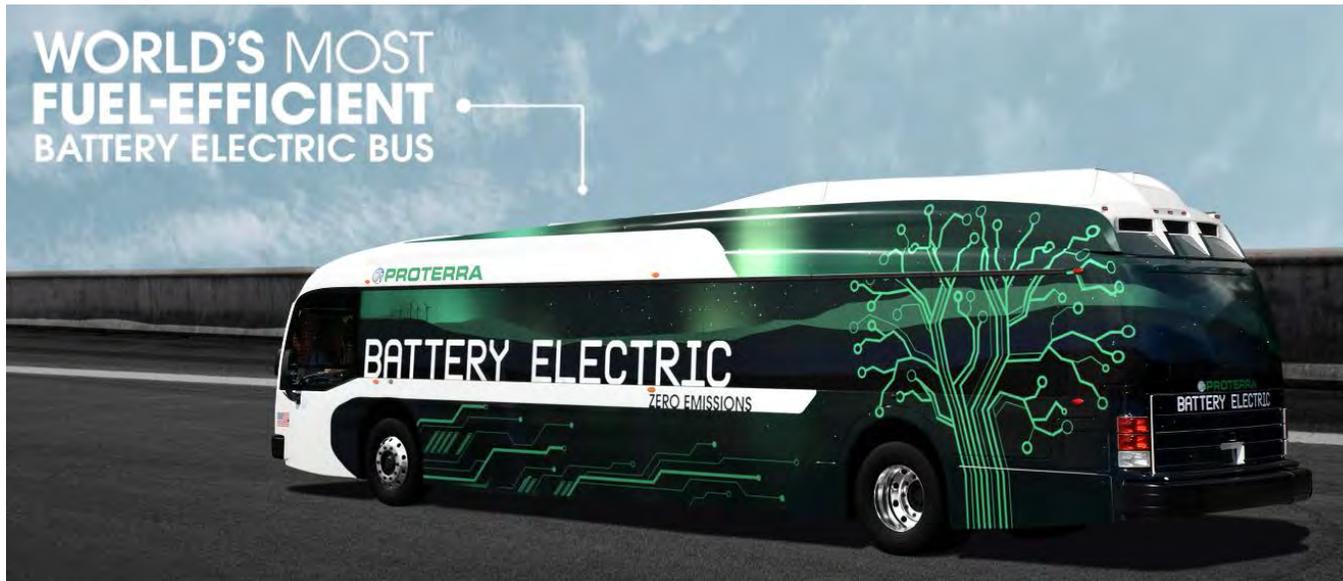
- **Objective:**
  - Build the world's cleanest, most efficient, most cost-effective urban transit vehicle
- **Approach:**
  - Selected **battery-electric** drivetrain for maximum performance in all areas
  - **Clean-sheet design** incorporating most advanced materials and technology
  - Developing **core innovations** in EV drivetrain and charging technologies
  - Partnering with **world's best** technology providers to leverage scale
- **Outcome:**
  - 3 generations of vehicle development integrated into the **Proterra Catalyst™**
  - Strongest **intellectual property** portfolio in the industry
  - **Record-breaking** performance in FTA-required Altoona testing
  - Demonstrated **>250 miles** between charges (XR); **>700 miles** per day (FC)

.....> **Purpose-built for EV performance**

# Proterra Catalyst™ - Different by Design



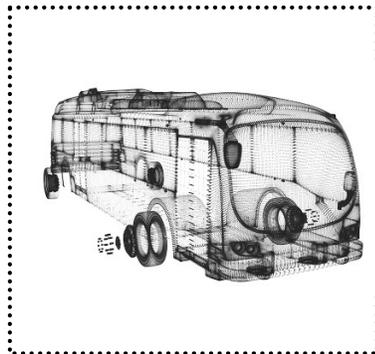
Introducing the Proterra Catalyst™ platform



WORLD'S MOST  
FUEL-EFFICIENT  
BATTERY ELECTRIC BUS

The Proterra 35 and 40-foot Catalyst™ platform is designed to deliver a turn-key electric vehicle system, fully customized to meet the needs of your most demanding routes.

## Proterra Catalyst™



Highest Performance

## TerraFlex™ Energy System



Ultimate Flexibility

## Multiple Charging Options



Meet Every Route  
Need

## Financing and Services



Ease of Ownership

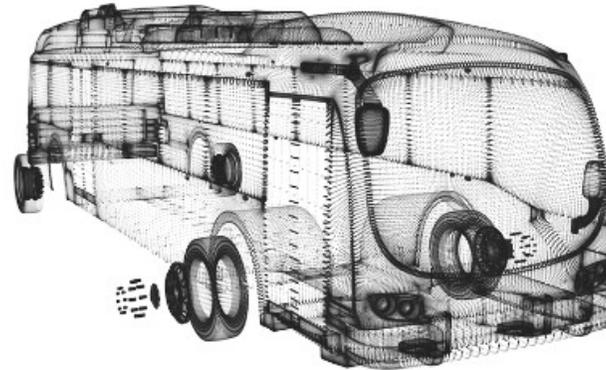
# The Proterra Catalyst Platform



Proterra's use of advanced composite materials makes the Proterra Catalyst™ not only the lightest, most efficient vehicle, but the most durable and safe as well.

## Lightest transit vehicles on the market

- Increased passenger capacity
  - 40' vehicle: 77 passengers
  - 35' vehicle: 60 passengers
- Lowest rear axle weight in industry
- Less damage to roadways



## Most efficient in its class

- Highest efficiency of any vehicle in its class
- Longest range per kWh of energy storage
- Lowest fuel cost per mile
- 1.7 kWh/mile

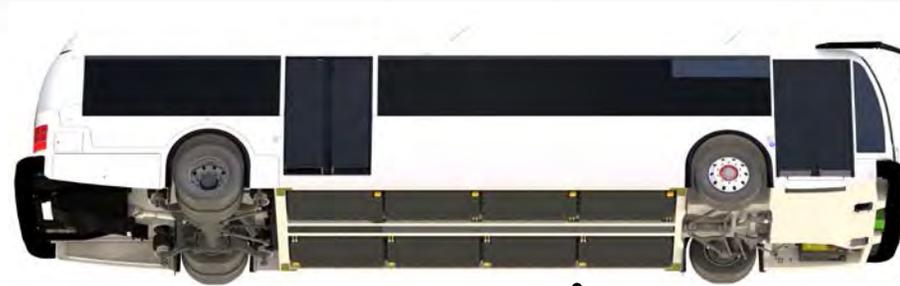
## Highly durable for greatest safety

- Advanced carbon fiber composite material: used in Formula 1 race cars with proven durability
- Super strong, lightweight and impact-resistant
- Non-conductive and rust-resistant

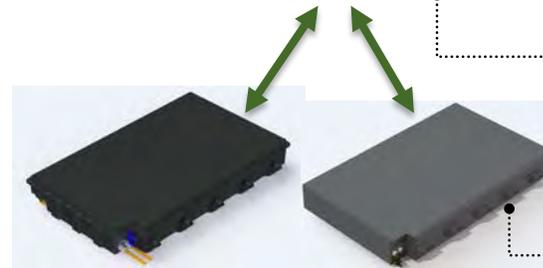
# TerraFlex™ Energy Storage System



Each Proterra Catalyst™ vehicle can be configured with the ideal type and number of battery packs to fit an existing route, and later reconfigured to serve different routes as needs change.



Under-Body Battery Location  
 Easy access  
 Safest placement  
 Better handling



TerraVolt FC

TerraVolt XR

Battery pack design  
 Interchangeable  
 Upgradable  
 Ruggedized  
 4-10 battery packs/ vehicle

## The Proterra TerraFlex™ Energy Storage System offers a choice of two battery packs

Battery Type	TerraVolt FC	TerraVolt XR
Battery Chemistry	LTO (Lithium Titanate Oxide)	NMC (Nickel Manganese Cobalt Oxide)
Charge Rate	up to 500 kW	up to 100 kW
Energy Density	13.1 kWh/pack	32.1 kWh/pack
Configuration Options	53-131 kWh	128-330 kWh

# Multiple Charging Technology Options



**On-route Overhead Charger**  
Variable-rate conductive charging  
Intelligent charging system adjusts to vehicle energy storage capabilities  
500kW maximum charge rate

**Fast-Charging Technology**  
Enables overhead charging  
Option on all configurations

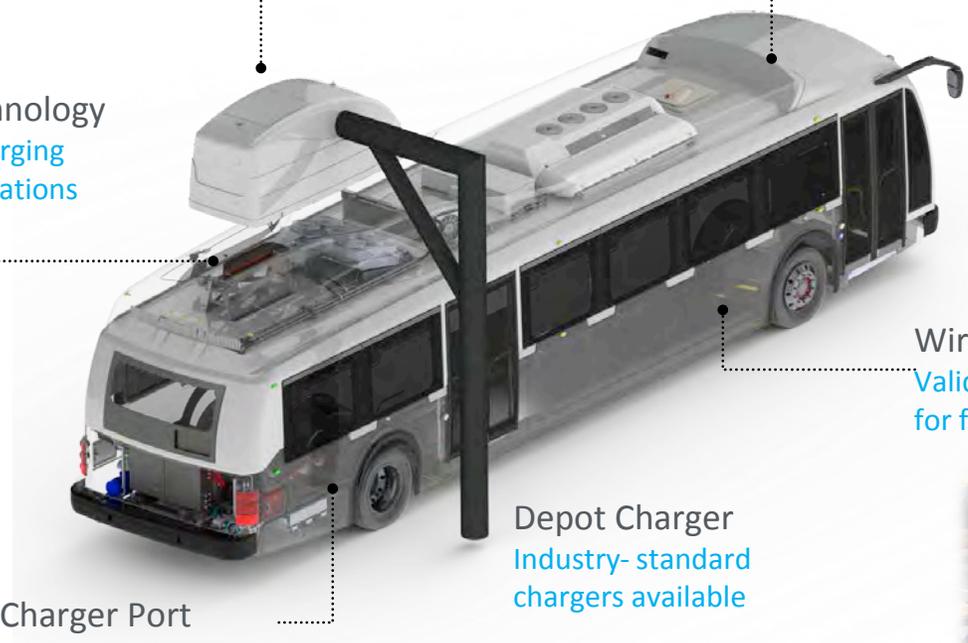
**Wireless Interface**  
Vehicle and charger automatically connect and communicate charging needs

All Proterra Catalyst™ vehicles can be configured for both on-route and depot charging at a variety of rates to maximize any available charging opportunities.

**Depot Charger Port**  
Compatible with industry-standard SAE J1772 combo connector

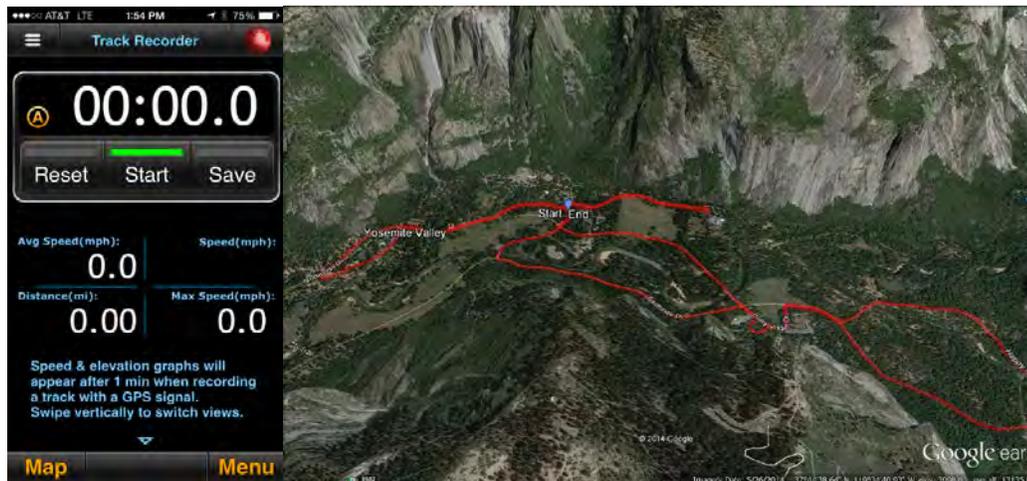
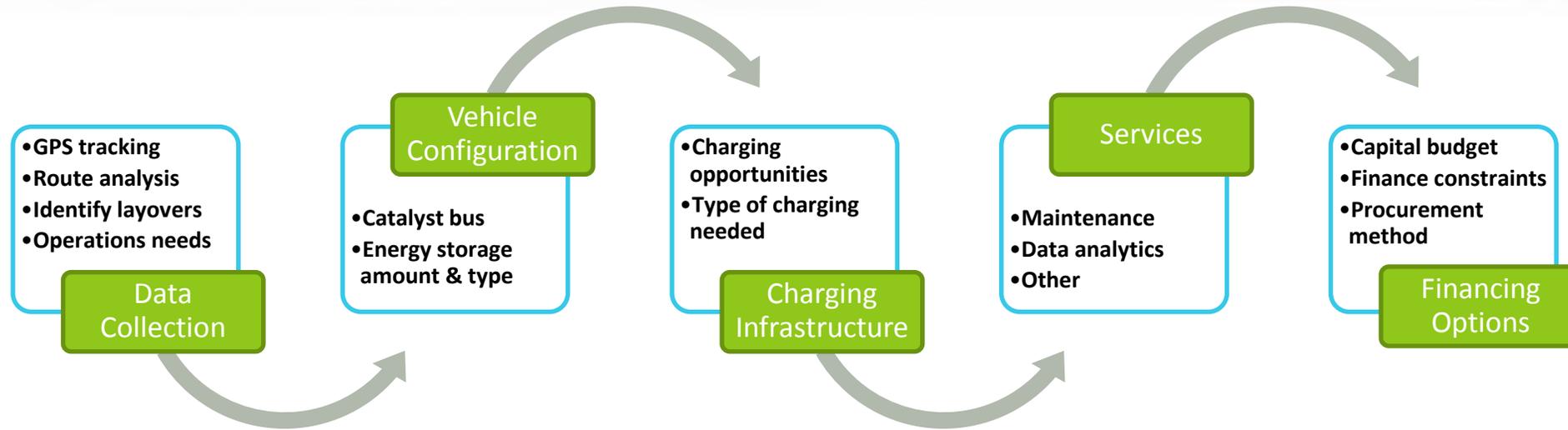
**Depot Charger**  
Industry-standard chargers available

**Wireless Charging**  
Validating technology for future deployment



.....> **Configuring for “Smart Range” – the Most Efficient Combination of Energy Storage and Charging Options**

# The Proterra Process of Engagement



**Proterra's** approach is to work with you to identify the most efficient, most cost-effective way to electrify your high-priority routes. From riding your routes to structuring a financing package, we take a consultative approach and support you throughout the entire process. **Let's get started!**

Thank you



 **PROTERRA**