CURRENT STATE OF BATTERY ELECTRIC BUS MARKET

Matt Horton
Chief Commercial Officer
Proterra

Zero-Emission Bus Market Showing Massive Growth

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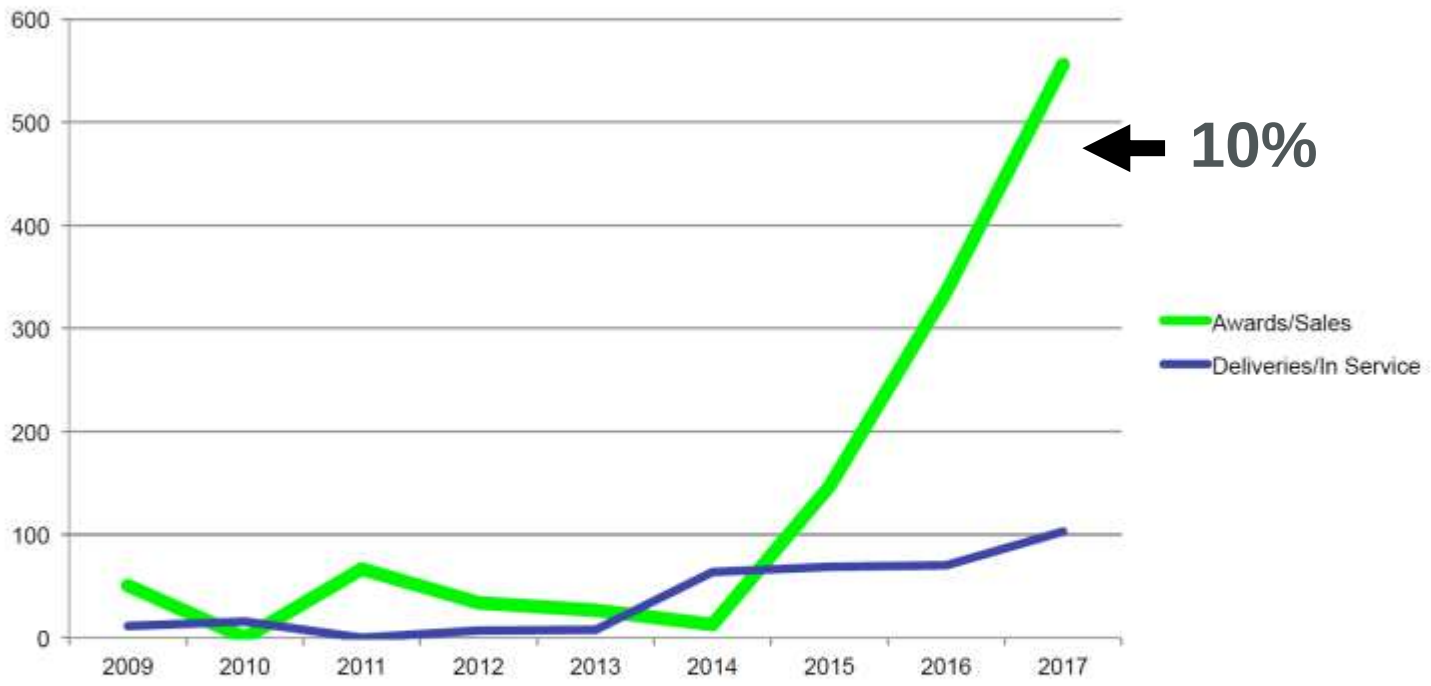
ZEB U.S. Annual Sales & Deliveries



- *> 140 Agencies*
- *> 1200 cumulative awards/sales*
- *> 340 cumulative deliveries/in service*

cte

Diversity of Customer Profiles Demonstrates Value Proposition

Note:
Map *excludes* 2017 FTA Low-No!

Proterra alone has deployments or orders representing over 60 U.S. transit fleets.

28 Successful 2017 Low-no Partnerships

Legend:
Dots on map represent Proterra partners

2017 Proterra Low-No Partners

LADOT, CA
Tallahassee, FL
Lexington, KY
Montgomery County, MD
Des Moines, IA
NJ Transit, NJ
Greenville, SC
Park City, UT
Connecticut DOT
Delaware Transit Authority, DE
Asheville, NC
Wilsonville, OR
Hampton Roads, VA
Fairfield, CA
Baton Rouge, LA
Lafayette, LA
Madison, WI
Flint, MI
Alabama A&M, AL
Bloomington, IL
Seneca, SC
Lubbock, TX
Juneau, AK
Redding, CA
Missoula, MT
Nashville, TN
Kitsap County, WA
Lake Tahoe, NV

FTA's Low-No Program continues to be over-subscribed with demand growing. 2017 Low-No program spread smaller amounts of funding over many agencies.

Falling Barriers to Adoption

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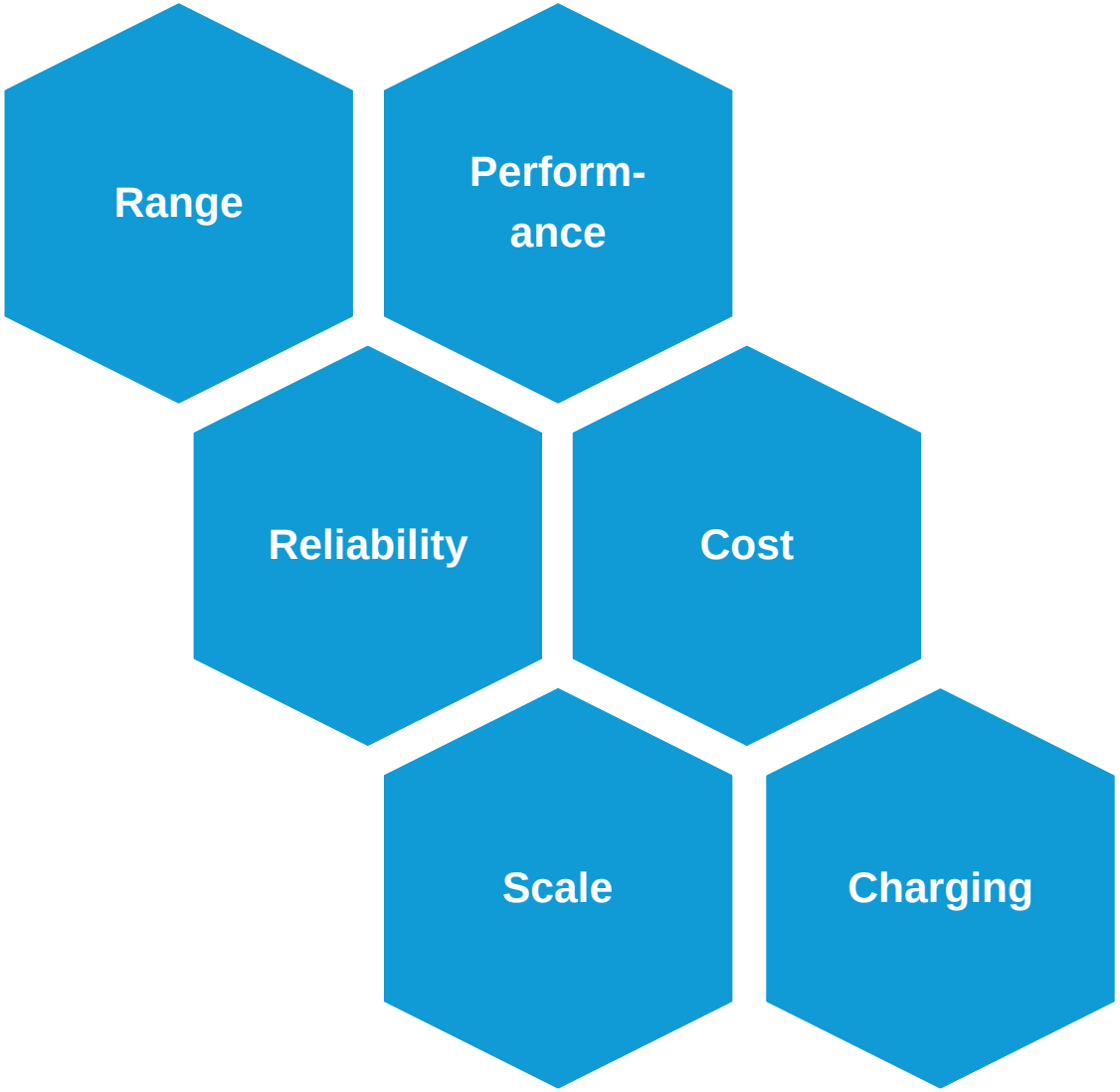
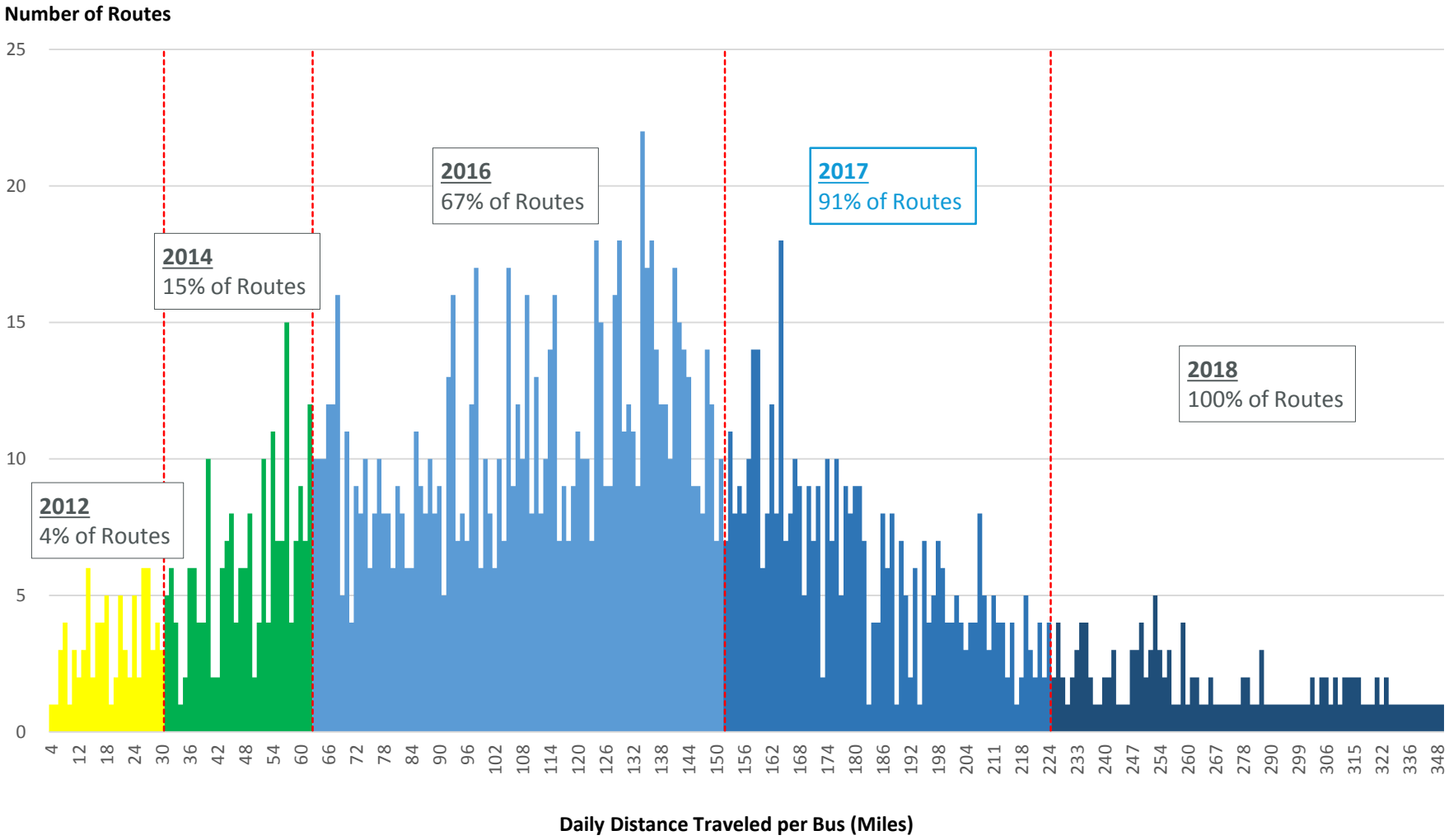


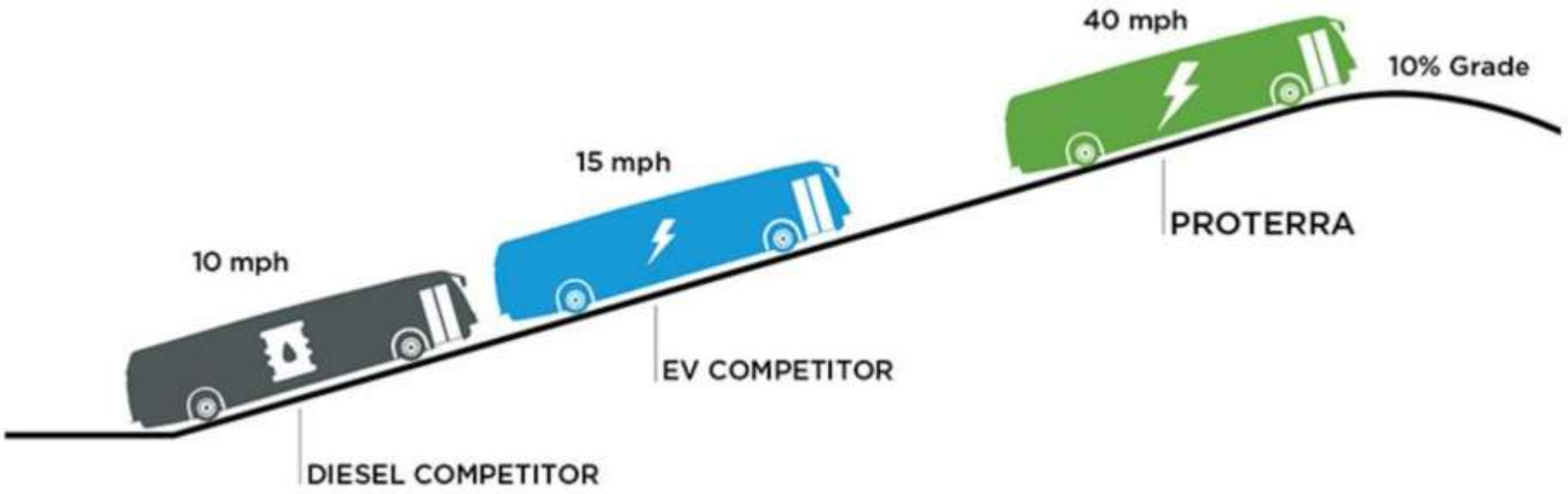
Vehicle Range has Tripled in Less than 5 Years



EV Performance Leading the Pack

HILL CLIMB

PERFORMANCE COMPARISON	Diesel Competitor	Electric Competitor	Proterra Catalyst® E2 with DuoPower™ Drivetrain
TOP SPEED ON HILLS			
5%	35 mph	33 mph	59 mph
10%	10 mph	15 mph	40 mph
15%	n/a	1 mph	27 mph
MAX HILL CLIMB	12.4%	15.1%	26.0%



Battery Technology Improvement is Primary Cost Driver

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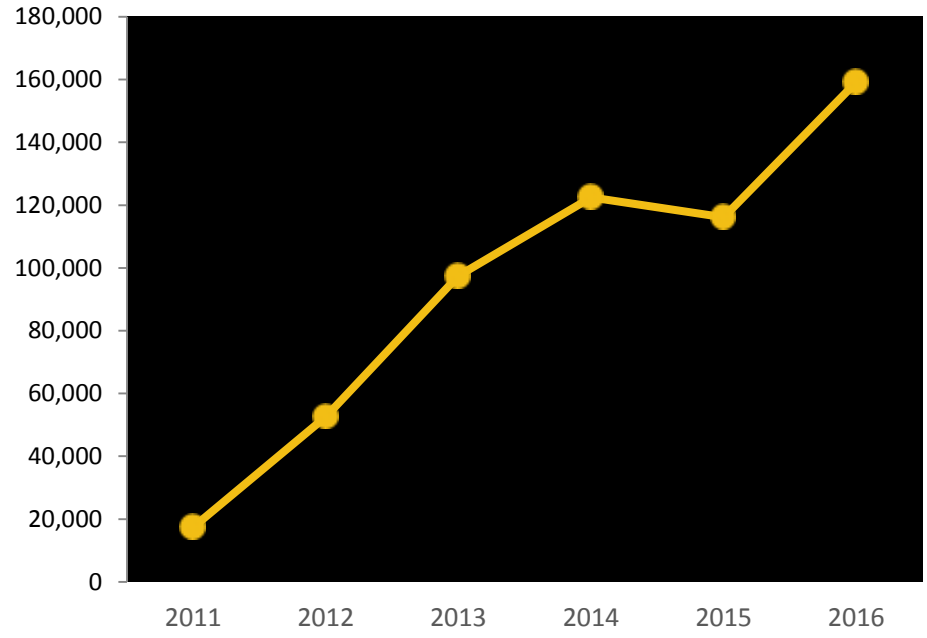
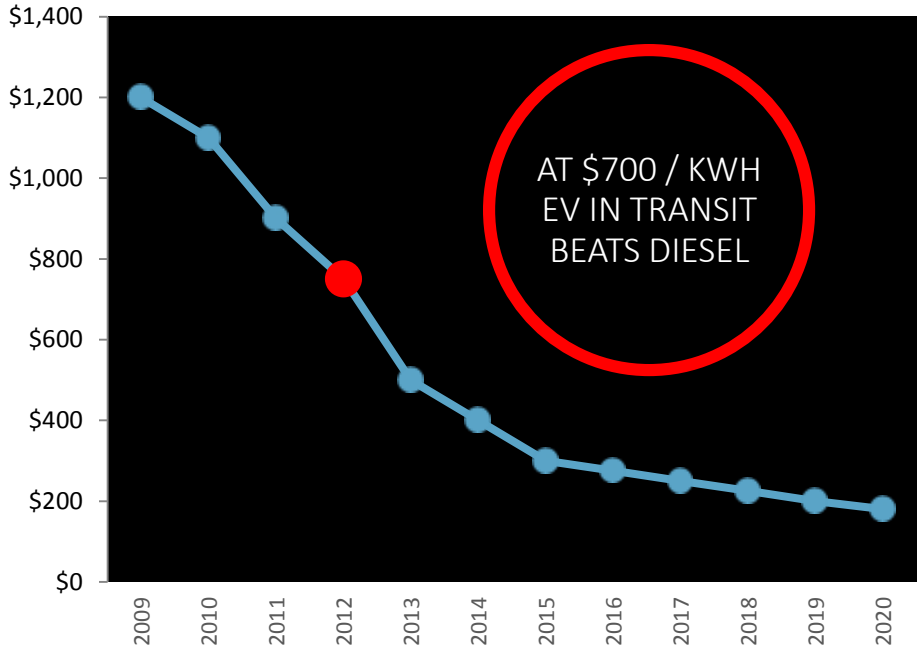
U.S. EV SALES



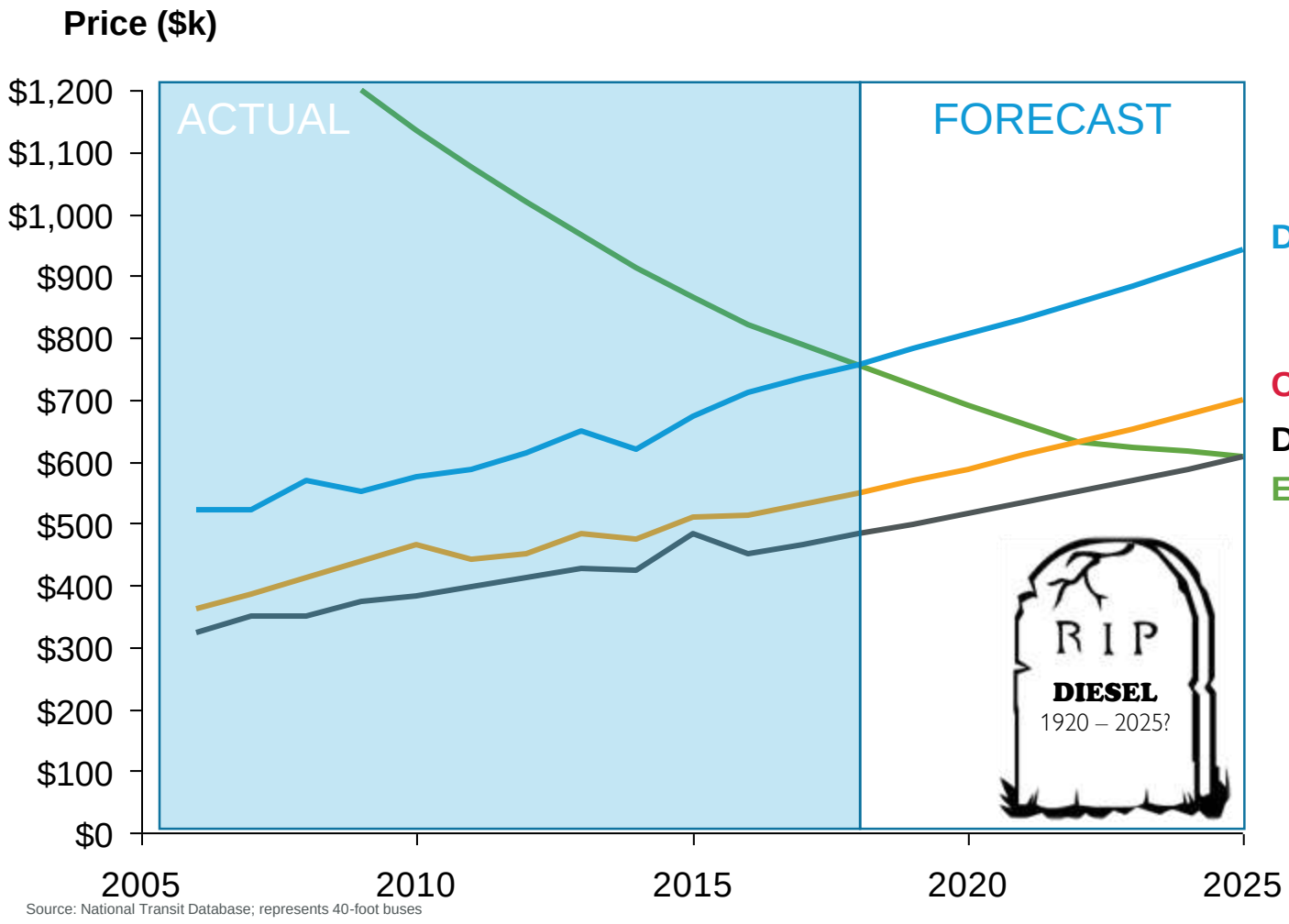
BATTERY COST ($/kWh)



With Batteries at $140/kWh, Diesel Would Have to be FREE to Compete with EV Based on Maintenance Savings Alone

Sources: Navigant Research, green.autoblog.com, Electric Drive Transportation Association. xEV = PHEV, HEV, EREV and BEV.

Current Trends Favor EV Technology



Source: National Transit Database; represents 40-foot buses

Diesel Hybrid: 3.2%

CNG: 3.5%

Diesel: 3.4%

EV: (4.2)%

Agencies are beginning to consider *Stranded Asset* risk…

EV Has *Decreased* In Price 4.2% Per Year Since 2010
Diesel Has *Increased* In Price > 3.4% SINCE 2005
By 2025, We See Little Transit Demand For New Diesel/CNG Buses

The Future of Charging Infrastructure

- Standards-based charging will become the norm in procurements
- Most North American transit OEMs are moving toward a DC standard compatible with medium/light duty vehicles: **SAE J1772-CCS**
- CCS Charging will offer low cost, high reliability; vendors already shipping 100KW systems, 300KW systems in development
- Emerging on-route charging standards under development: **SAE J3105**
- As vehicle range increases, the prevailing model will be ***"plug-in at night, drive all day, fast-charge if necessary"***

CHARGING AT SCALE

Proterra works closely with customers to recommend the appropriate charging solution for fleets and facilities planning for scale as the demand for charging increases.

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V2G Resiliency

Low Profile Chargers

Stationary Batteries

Fuel Cell Back-Up

Solar Generation


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