

CURRENT STATE OF PUBLIC TRANSIT FUNDING OPTIONS FOR ELECTRIC VEHICLES AND CHARGING SYSTEMS



APTA 2017 - Zero-Emission Buses: Lessons Learned and Where to Get the Funding Needed to Put Them in Service

October 10, 2017

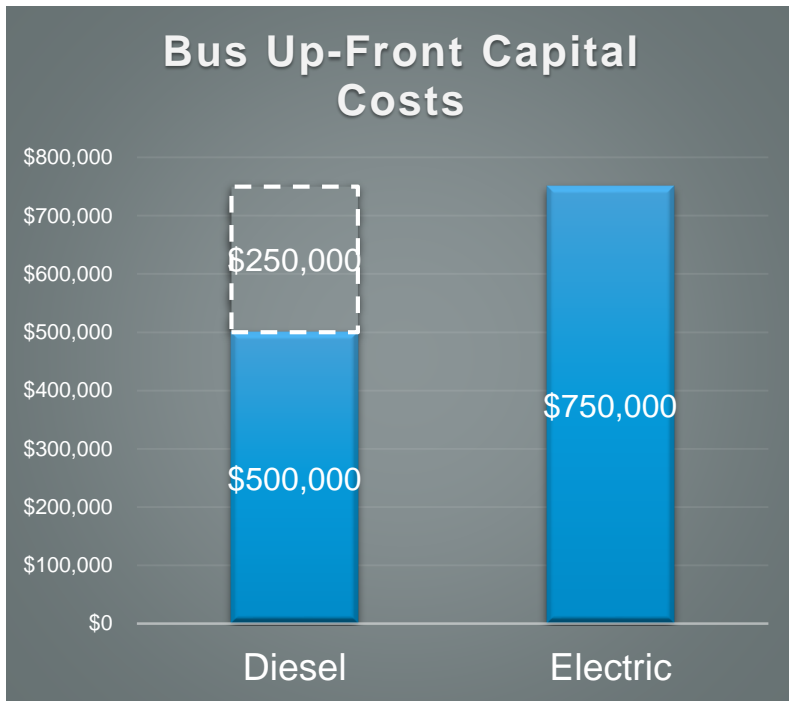


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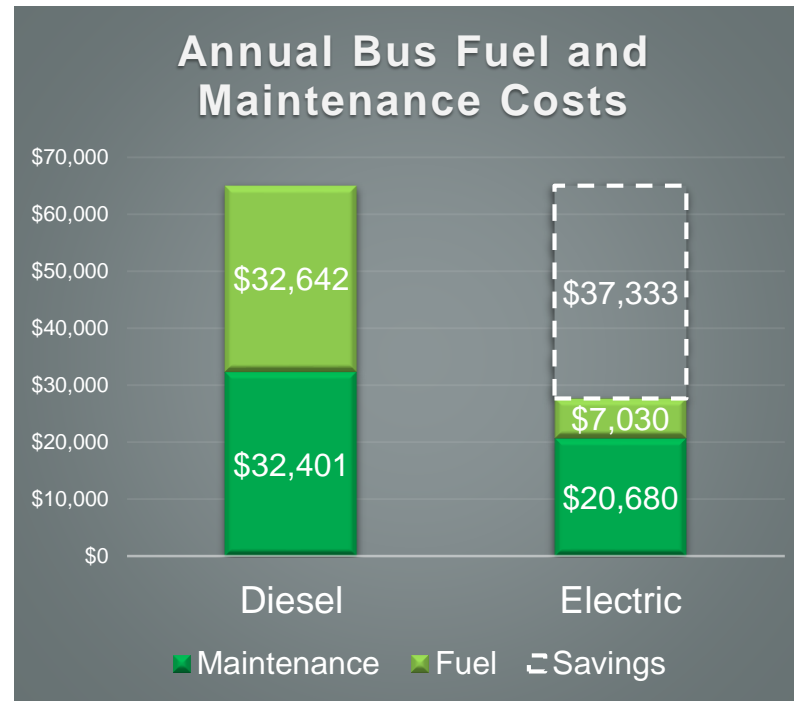
1. Battery Electric Bus Costs
2. 5307/5311 Urbanized/Non-Urbanized Area Formula Funds
3. Volkswagen Settlement Funds
4. Low-No 5339 (c) Discretionary Grant Funds
5. Capital Leasing for Buses
6. Battery Leasing/Service Agreements
7. Other Grants, Vouchers and Funding Sources
8. Combination Fund Sources

1. BATTERY ELECTRIC BUS COSTS

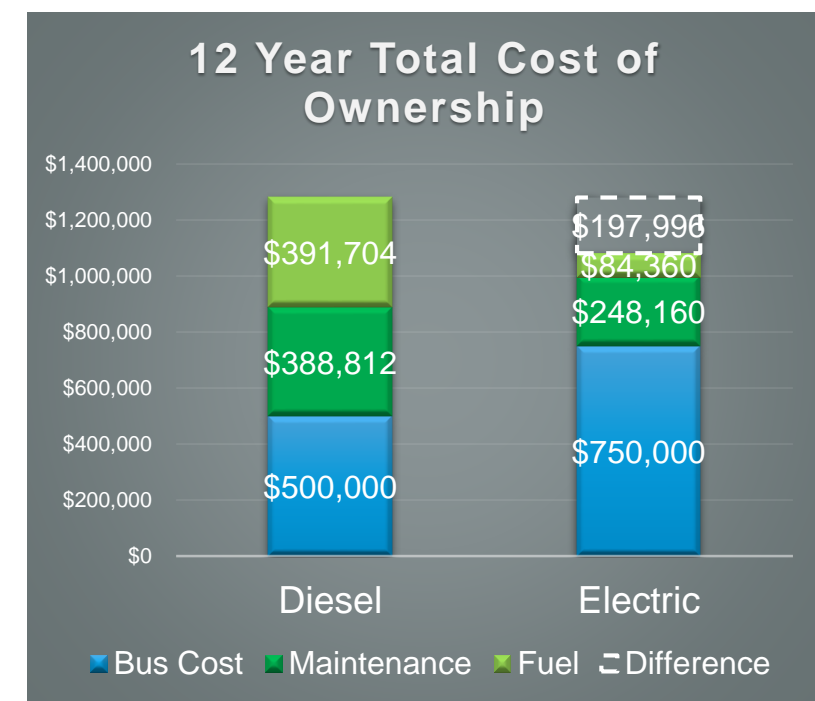
- Battery electric buses cost less than diesel buses



- Electric buses have higher upfront cost vs. Diesel buses



- Lower annual fuel and maintenance costs

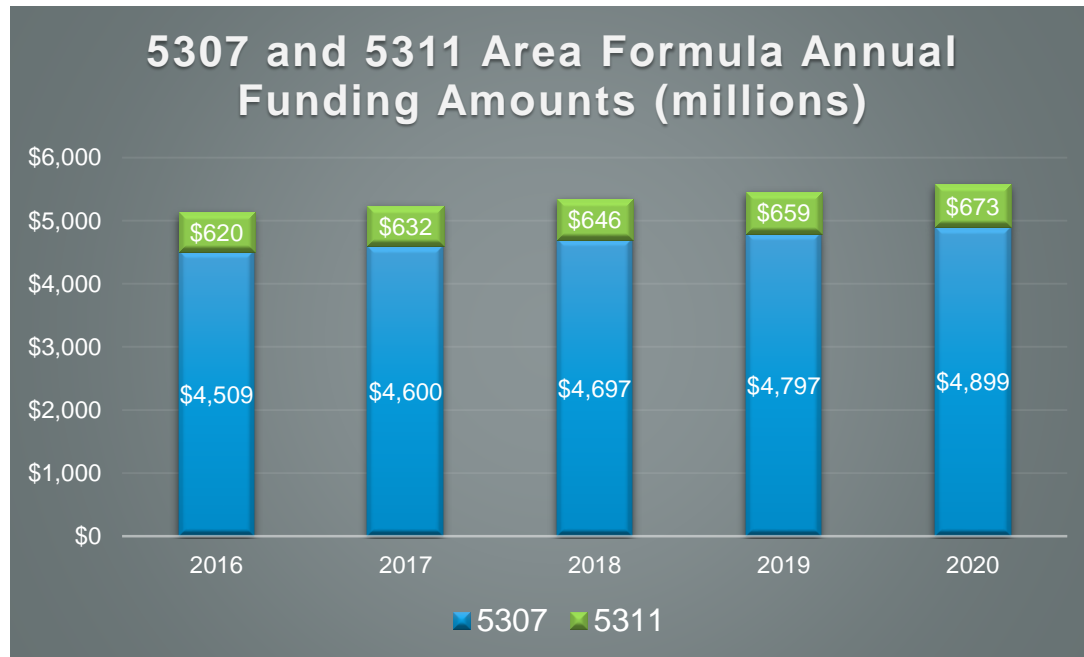


- 12 year combined Total Cost of Ownership is lower

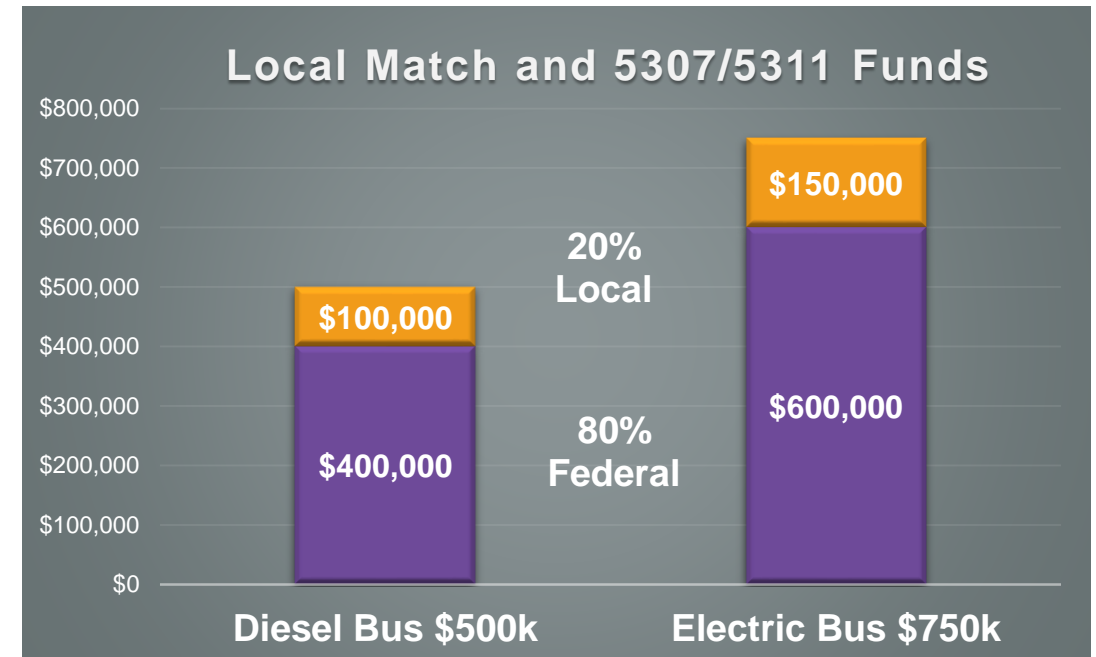
2. 5307 AND 5311 FORMULA FUNDING

- FAST Act kept **5307** Urbanized Area formula funding and **5311** Non-Urbanized Area formula funding programs with very few changes and **2% annual funding growth**

Authorized through 2020



Federal Share up to 80% for Capital Projects



Source: FTA 5307 and 5311 Fact Sheets

3. VOLKSWAGEN SETTLEMENT OVERVIEW

- \$2.9 billion nationwide in Trust to invest in technologies that reduce harmful emissions
- September 19, 2017 – Trust Effective Date Declared
- Beneficiary Mitigation Plans (BMP) prepared by each state
- Funds could be available in 2018

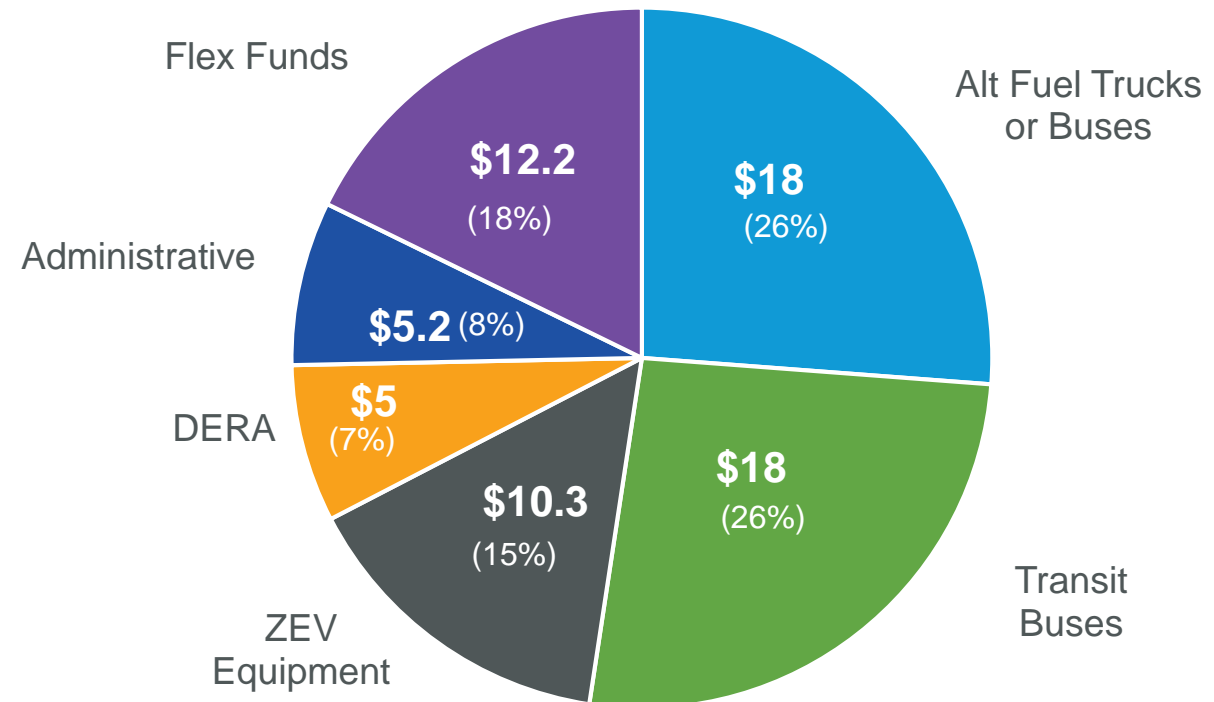


**Volkswagen
Settlement**

BMP Example:



**Colorado \$68.7 M Proposed Spending Plan
(\$ millions)**

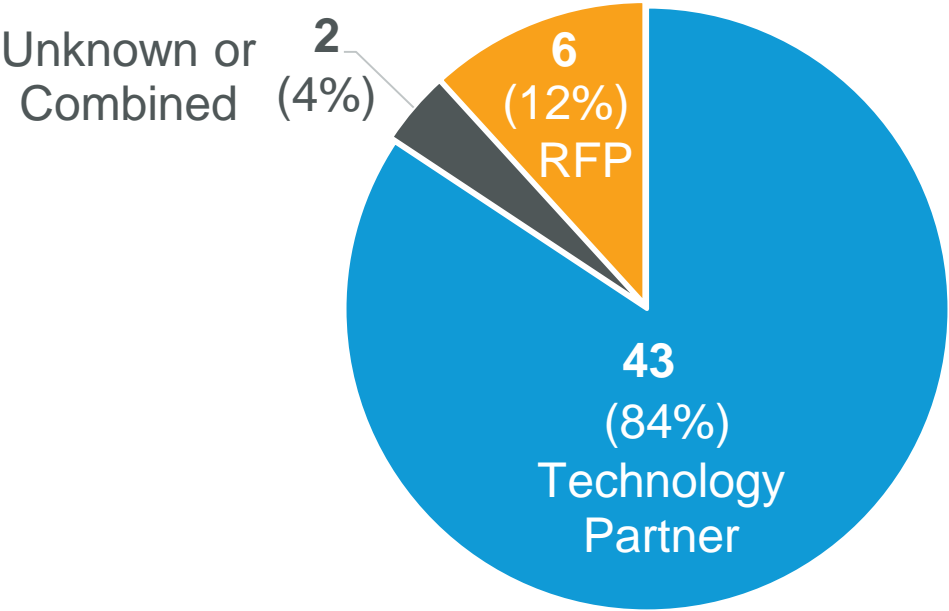


4. LOW OR NO EMISSION (LOW-NO) 5339 (c) DISCRETIONARY GRANT



- FTA Announced \$55 Million of [2017 Low-No Awards](#) on September 15, 2017

2017 Low-No Projects Awarded by Procurement Method: Technology Partner vs. RFP



Low-No Funding Trends

2017	Projects	Dollars (\$)	Average Request
Applied	128	\$515,000,000	\$4,023,438
Awarded	51	\$54,992,016	\$1,078,275
% Awarded	40%	11%	27%

2.5 x's more projects awarded

Funds awarded/project ↓

2016	Projects	Dollars (\$)	Average Request
Applied	101	\$446,000,000	\$4,415,842
Awarded	20	\$55,000,000	\$2,750,000
% Awarded	20%	12%	62%

- Low-No's competitive selection process satisfies the requirement for a competitive procurement

5. FEDERAL GOVERNMENT CAPITAL LEASING CHANGES

FTA Guidance on Leasing Has Changed

OLD

NEW

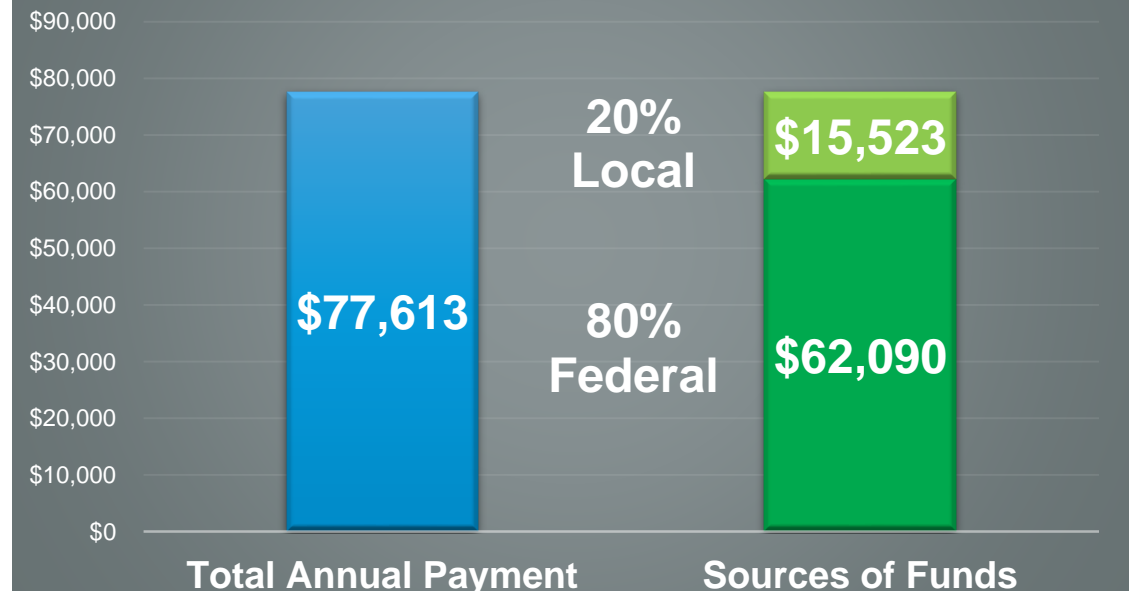
TEA-21 49 CFR 639 Capital Leases	FAST Act 3019 (c) Leasing Arrangements
Limiting the leasing arrangements to those that are more cost-effective than purchase or construction	Remove the limitation of leases to those that are more cost effective than purchase or construction

- FTA Eligible Lease Costs Include:
 - Equipment
 - Interest
 - Maintenance
- Historically, only 7%, or 12,234 of 174,422 vehicles have been leased

Capital Lease - 100% Financed

	Assumptions
Bus Cost	\$750,000
Amount Financed	\$750,000
Assumed Interest Rate	3.50%
Term (Years)	12
Annual Payment	\$77,613

Capital Lease Annual Payment - 100% Financed



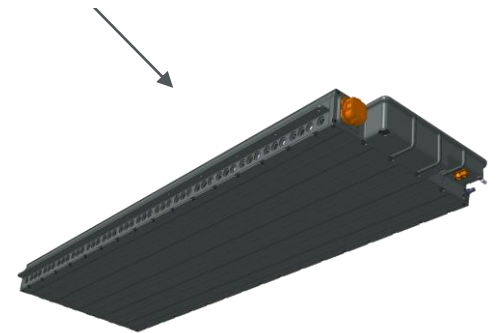
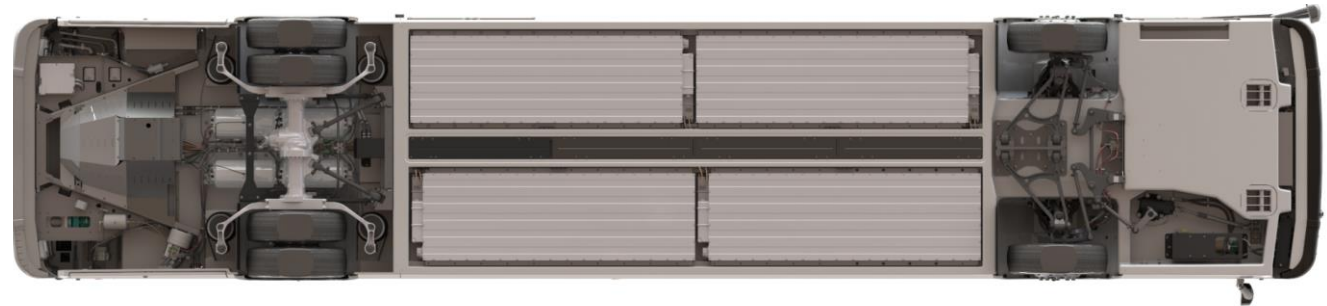
6. BATTERY LEASE OVERVIEW

Fast Act authorized leasing *“a power source that is separately installed in, and removable from, a zero-emission vehicle; . . . may include a battery”*

Low-No eligible projects include *“acquiring low- or no-emission buses with a leased power source.”*

WHY LEASE BATTERIES?

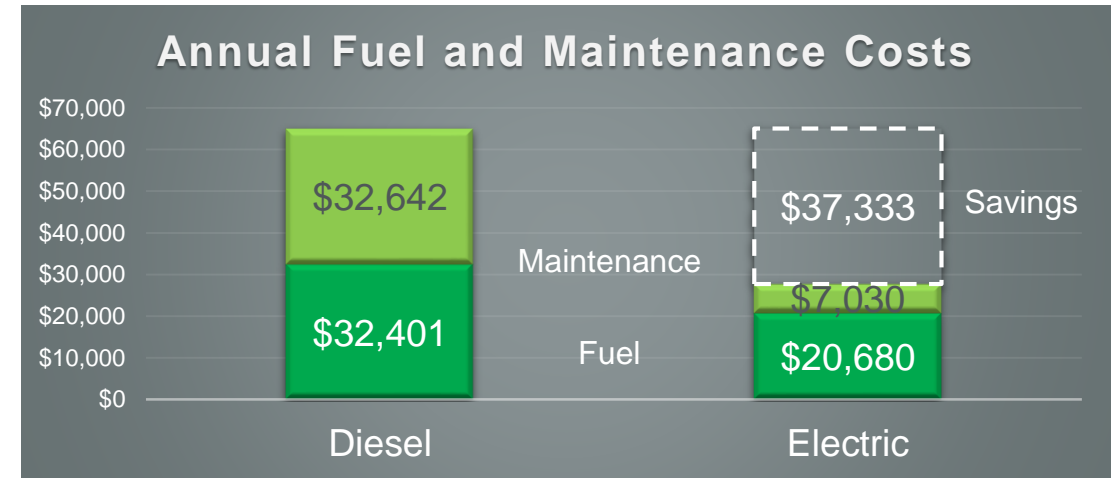
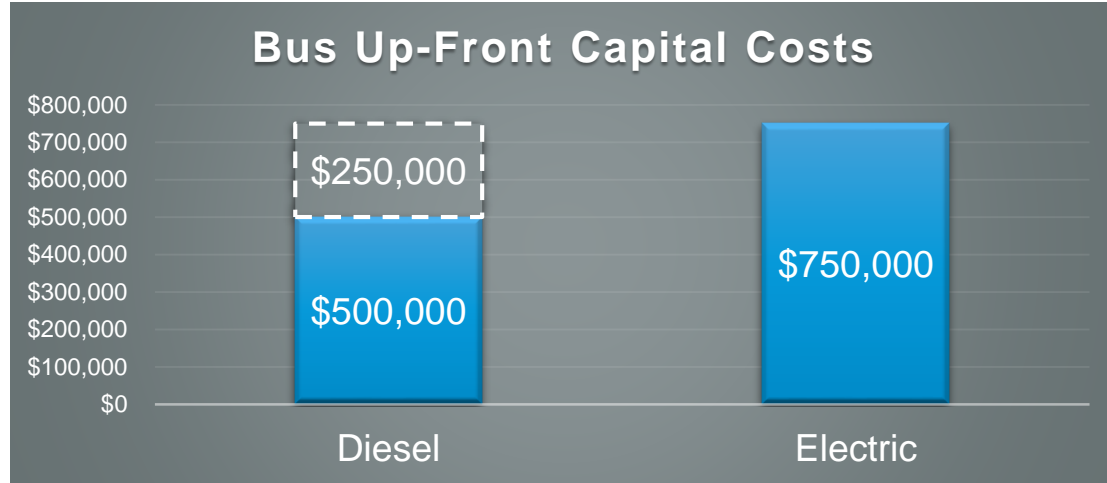
1. Purchase electric bus WITHOUT battery
2. Pricing parity with fossil fuel bus
3. Manage midlife battery replacement cost
4. Eliminate risk of owning, fixing and replacing batteries
5. Savings from lower fuel and operating costs offsets battery lease payments
6. Faster full conversion to electric bus fleet



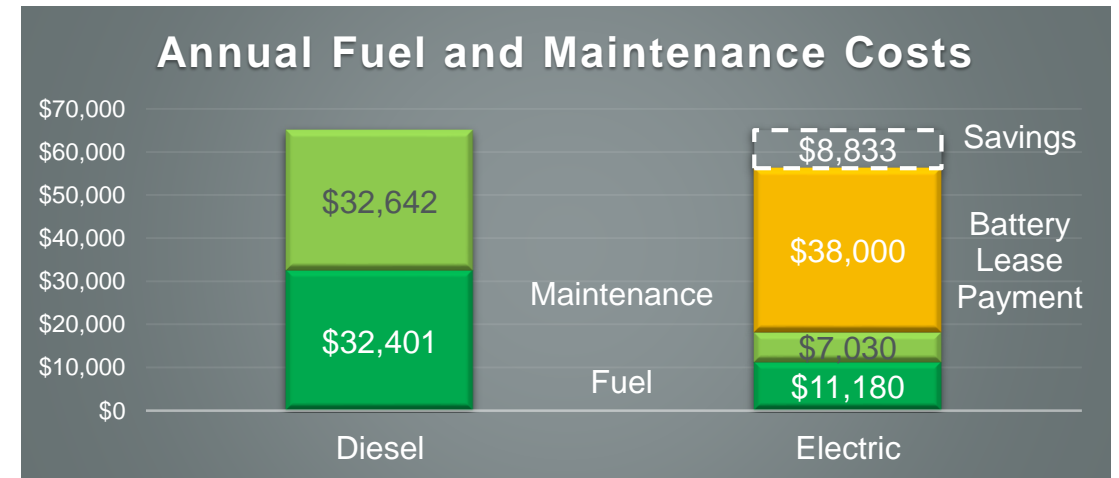
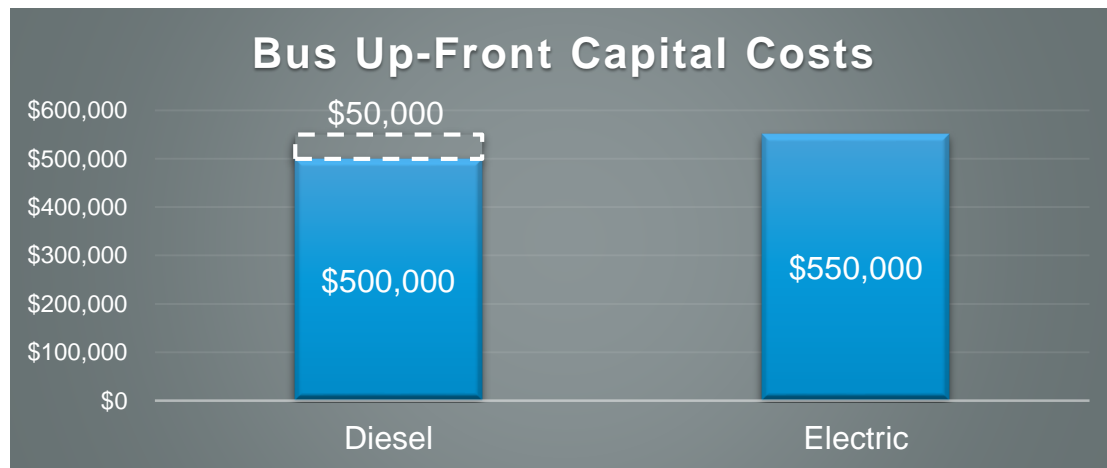
BATTERY LEASING EXAMPLE

Reduced BEB Operating Costs Offset Battery Lease Payment

Cash



Battery Lease



7. OTHER FUNDING SOURCES

- Vouchers

STATE/CITY	VOUCHER AMOUNT
California	\$95,000 to \$150,000
New York	\$150,000
Chicago	\$150,000
Colorado	\$35,000
Maryland	\$20,000

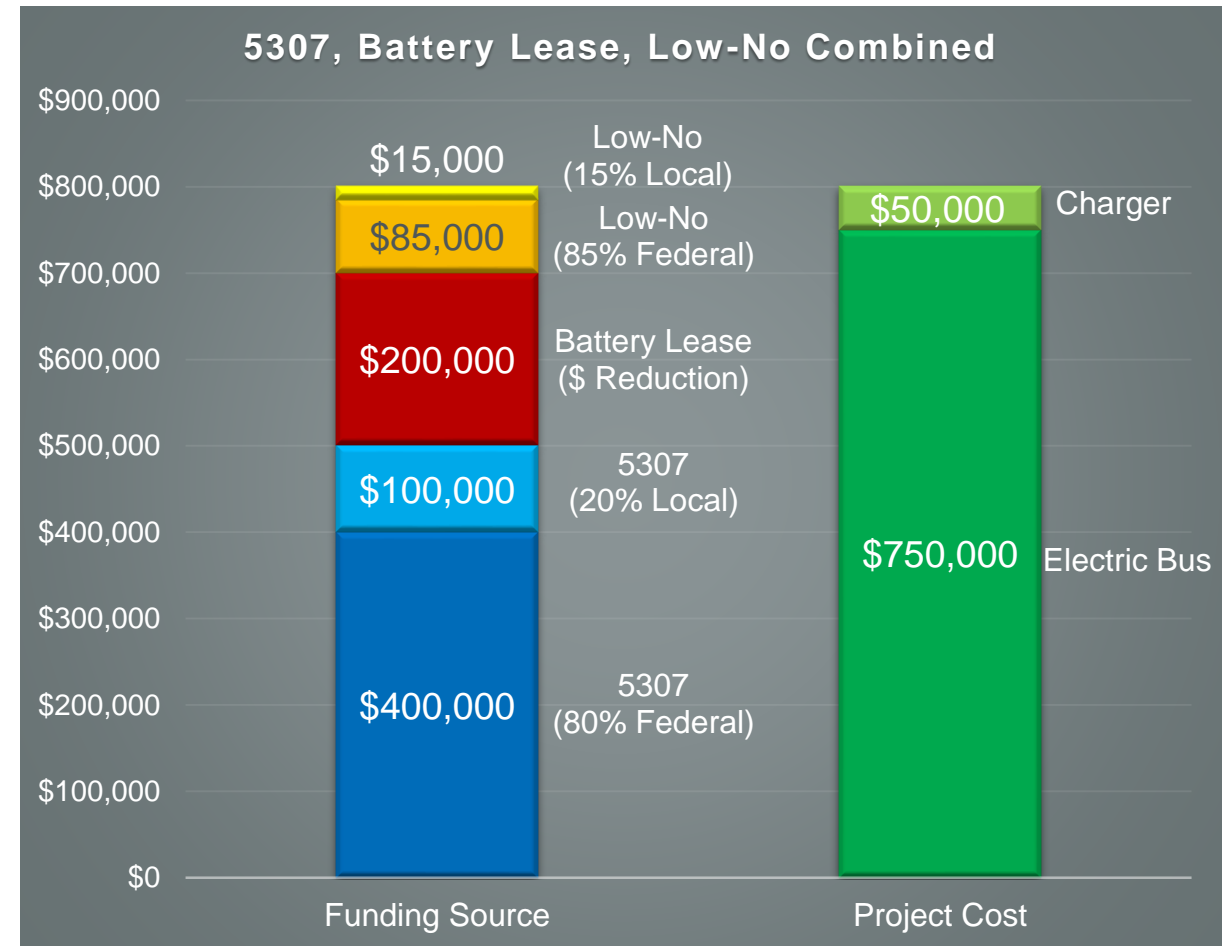


- Can be used for leasing buses and batteries
- NO federal tax credits – unlike passenger vehicles
- FAA Airport Zero Emission Vehicle grants – up to 50% of cost paid for
- Other FTA programs
 - 5339 (b) Bus and Bus Facilities
 - TIGER grant

8. COMBINING FUNDING SOURCES

Grant “applicants may choose to combine 5307 formula and Low-No funding” – [FTA Low-No FAQ](#)

- Leverage small Low-No Award to purchase many electric buses
- Reduce up-front capital cost by leasing battery
- Use 5307/5311 formula funds budgeted for replacement fossil fuel bus for electric bus





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THANK YOU.



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