

# SCHOOL BUS LANDSCAPE: LOTS OF SCALE

**480,000**

Total vehicles in the  
U.S. school bus fleet

**7 billion**

Combined trips taken by  
vehicles in U.S. school  
bus fleet each year

**16,000**

School districts  
(decision node for  
most purchases)

**1,500**

School bus contractors  
*2/3 of buses district  
owned or leased*  
*1/3 owned by private  
contractors*

**21 million**

Students served by the  
U.S. school bus fleet  
every day

**300,000**

Total drivers in the U.S.  
school bus fleet

**3,000**

Electric utilities  
*2/3 are publicly operated*  
*Others are cooperatives  
or investor owned*

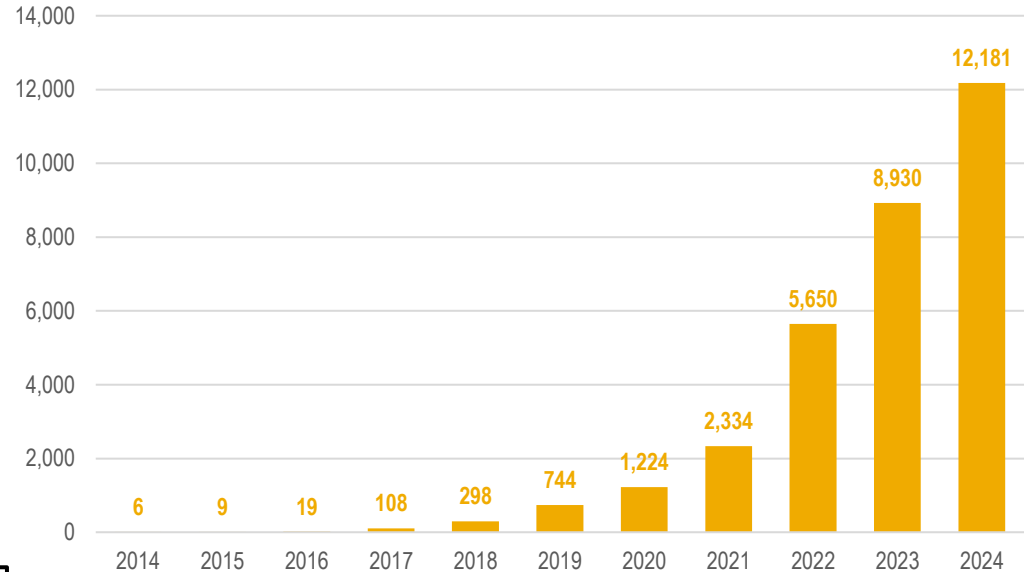
**26**

Companies in electric  
school bus  
manufacturing space

# ELECTRIC SCHOOL BUS MOMENTUM

- 12,181 committed electric school buses as of 7/18/24
- 2.5% of U.S. school bus fleet
- In 2023, electric school buses accounted for 5% of all U.S. school bus sales

New electric school buses, by year, cumulative

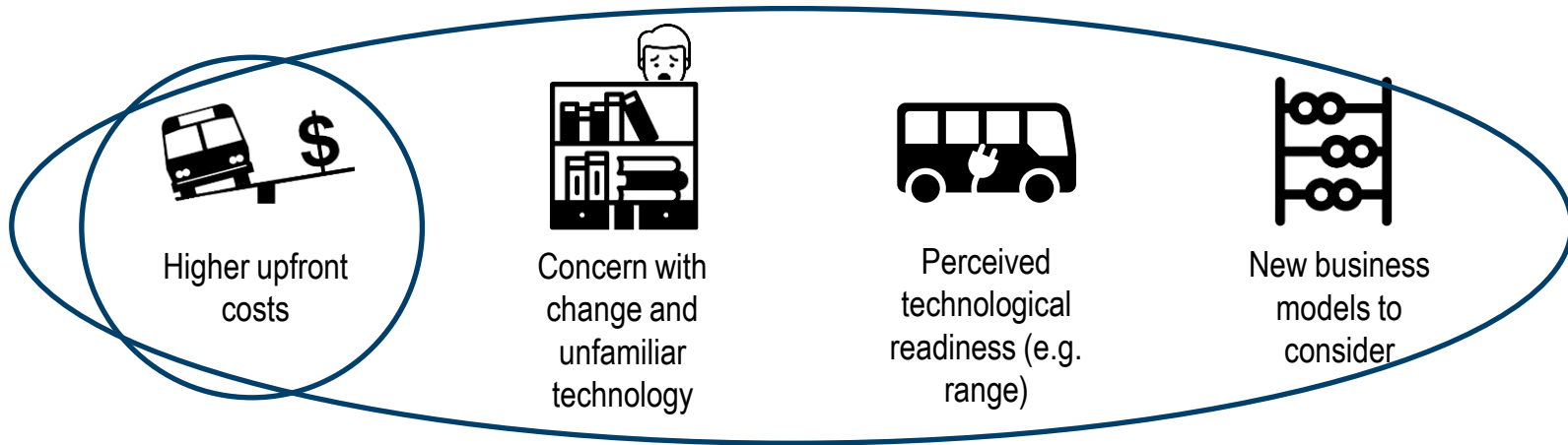


First round of Clean School Bus Program Awards

Committed: awarded, purchased, delivered or in use



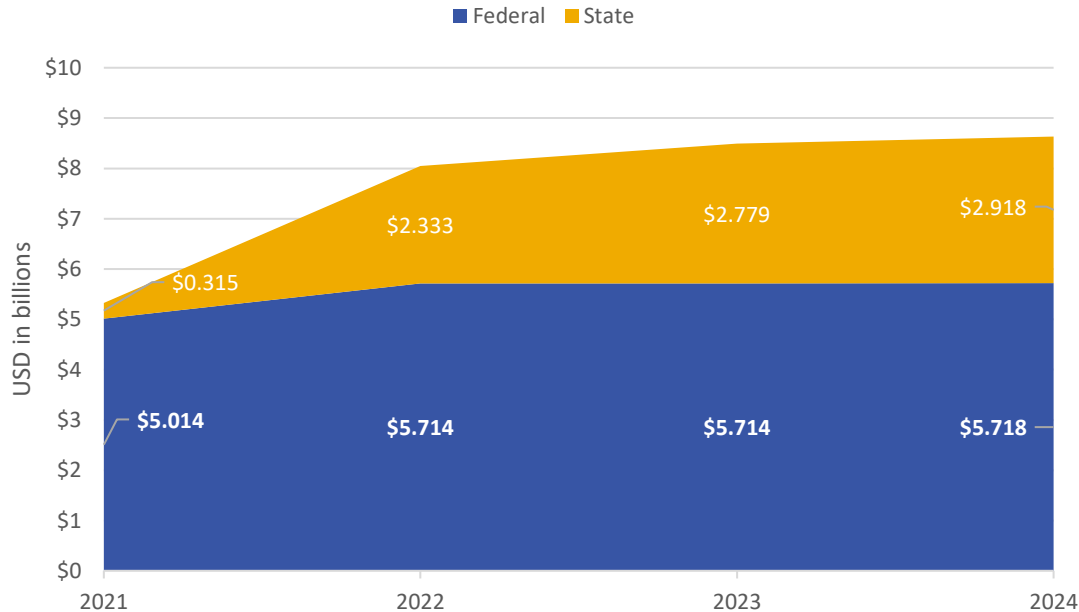
# BARRIERS TO EQUITABLE FLEET ELECTIFICATION



*These impact underserved communities disproportionately*

# \$8.6B IN FEDERAL + STATE FUNDING TO DATE

Cumulative \$USD amount of public funding committed for purchasing ESBs (in billions)

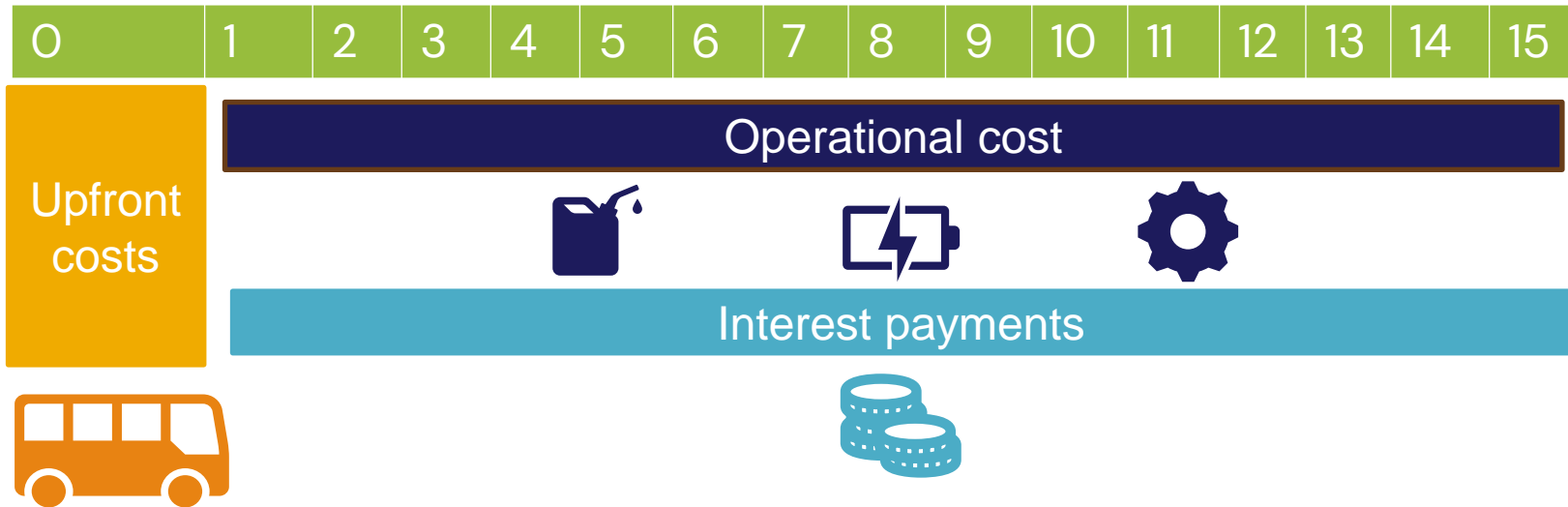


2024 value reflects estimated value for 45W tax credit  
30C not included

Opportunity to combine with financing, including from green banks

# WHAT IS TOTAL COST OF OWNERSHIP?

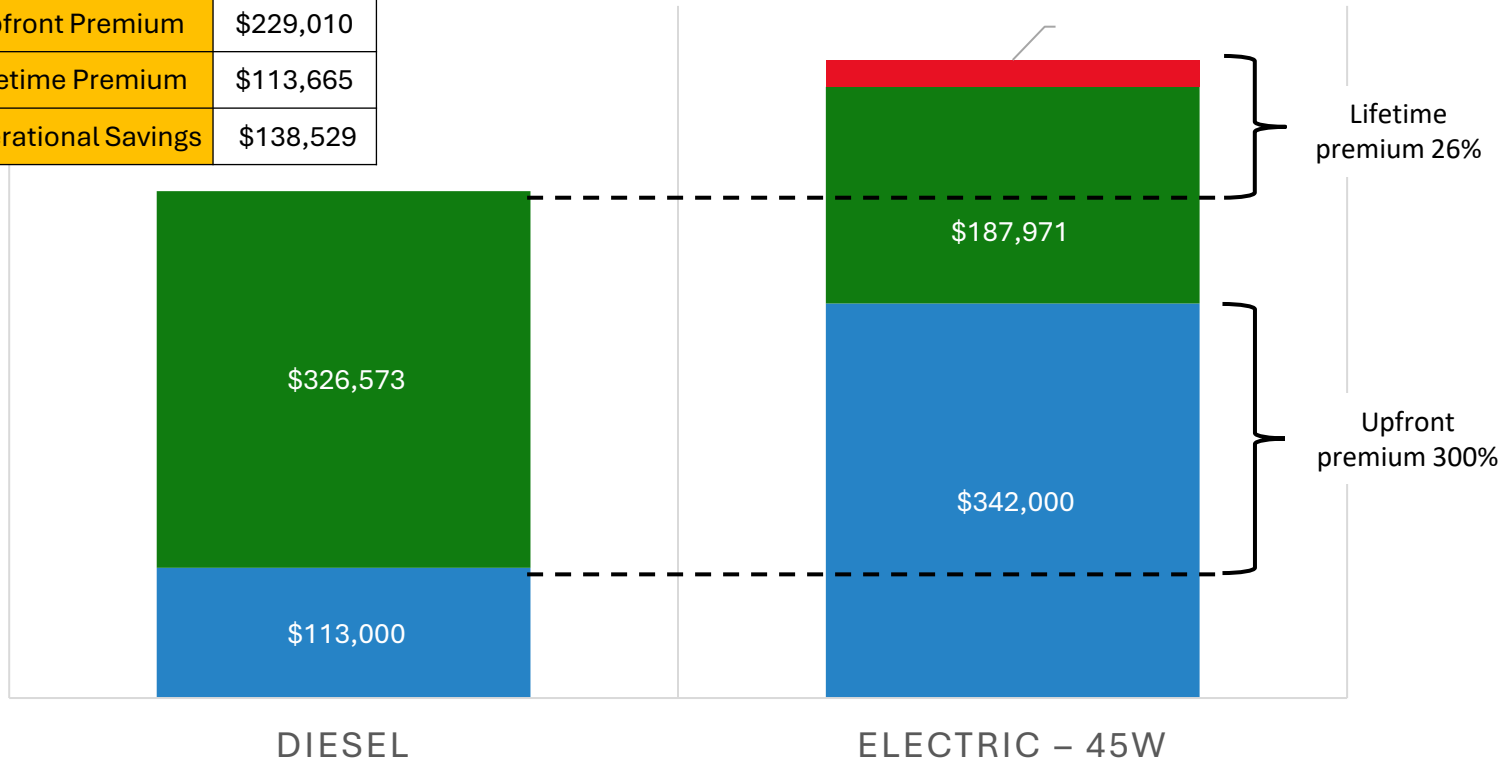
Total Cost of Ownership (TCO) is the sum of all current and future capital, operating, and financing expenses associated with the ownership of an asset. It's an important consideration when purchasing a new school bus.



# ESBS CARRY A MODERATE TCO PREMIUM

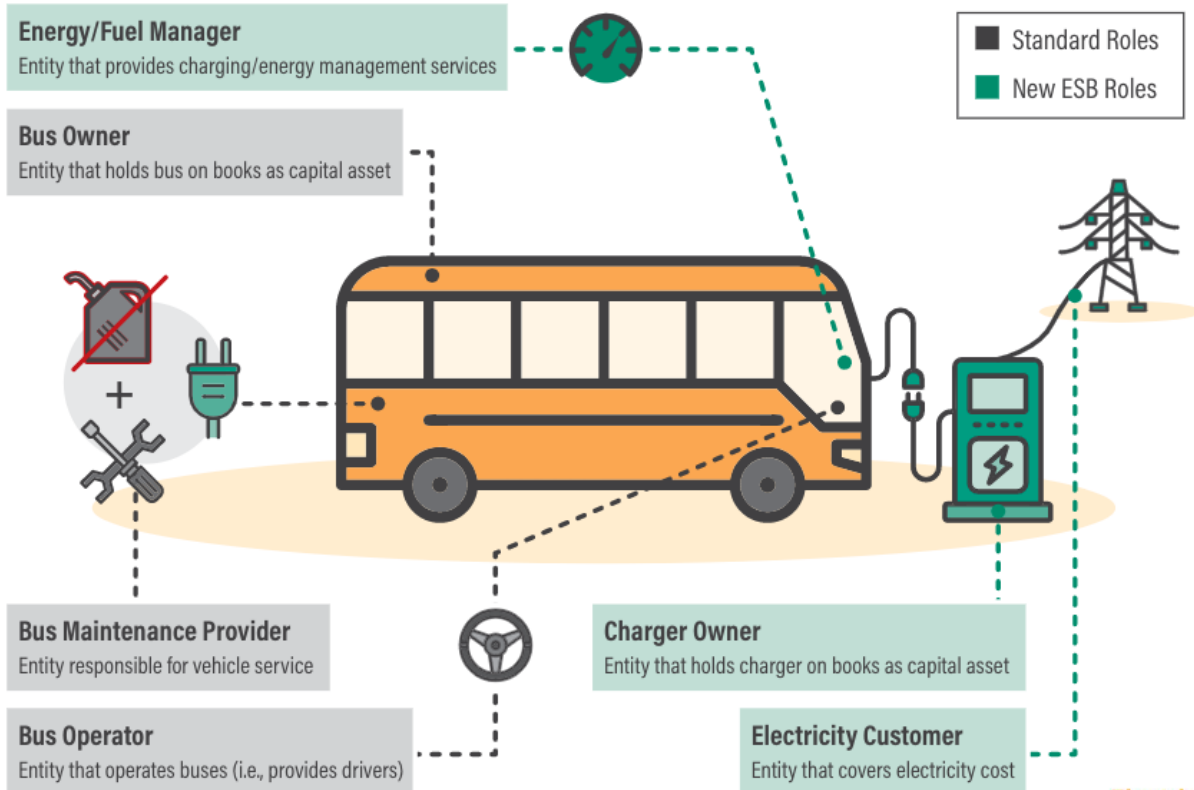
■ School Bus Price   
 ■ NPV Fuel + O&M   
 ■ NPV Infrastructure O&M

Upfront Premium	\$229,010
Lifetime Premium	\$113,665
Operational Savings	\$138,529



Source: WRI illustrative calculations referencing [TCO Technical Note](#)

# ROLES WITHIN ESB BUSINESS MODELS





# TAXONOMY OF ESB BUSINESS MODELS

Business Models	Roles within <u>all</u> business models		Roles that are specific to electrification			Example (not exclusive)
	Bus owner & maintenance	Bus operation	Charger owner (& Maintenance)	Energy manager (software)	Electricity Customer	
Traditional	SD	SD	SD	SD or 3 <sup>rd</sup> party	SD	Original model
Lease	3 <sup>rd</sup> party	SD	SD	SD or 3 <sup>rd</sup> party	SD	OEM lessor/dealer + partner
Charging-as-a-Service	SD	SD	3 <sup>rd</sup> party	3 <sup>rd</sup> party	SD	Mobility House, Amply, Electric Utilities, ESCos
Turnkey asset management	3 <sup>rd</sup> party	SD	3 <sup>rd</sup> party	3 <sup>rd</sup> party	3 <sup>rd</sup> party	Highland, Dominion Energy
Transportation-as-a-Service	3 <sup>rd</sup> party	3 <sup>rd</sup> party	3 <sup>rd</sup> party	3 <sup>rd</sup> party	3 <sup>rd</sup> party	Zum, NYCSBUS, First Student