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## FISCAL IMPACT REPORT

**SPONSOR** Soules **LAST UPDATED** \_\_\_\_\_  
**ORIGINAL DATE** 2/13/24  
**BILL**  
**SHORT TITLE** Electric School Buses **NUMBER** Senate Bill 196  
**ANALYST** Rose/Liu

### APPROPRIATION\* (dollars in thousands)

FY24	FY25	Recurring or Nonrecurring	Fund Affected
\$400.0		Nonrecurring	General Fund
	\$100.0	Recurring	General Fund

Parentheses ( ) indicate expenditure decreases.  
 \*Amounts reflect most recent analysis of this legislation.

### ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT\* (dollars in thousands)

Agency/Program	FY24	FY25	FY26	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
School Budgets		\$0.0 to \$58,473.0	\$0.0 to \$22,695.0	\$0.0 to \$81,168.0	Nonrecurring	Federal funds

Parentheses ( ) indicate expenditure decreases.  
 \*Amounts reflect most recent analysis of this legislation.

Duplicates House Bill 75

### Sources of Information

LFC Files  
 Legislative Education Study Committee (LESC) Files

Agency Analysis Received From  
 Public Education Department (PED)  
 Higher Education Department (HED)

## SUMMARY

### Synopsis of Senate Bill 196

Senate Bill 196 requires PED to provide school districts with the option of replacing school buses with an electric or zero emission alternative fuel school bus (ESB). PED must provide at least the same amount of funding for ESBs as the department provides for diesel school bus replacement and may provide additional funding for ESBs or related charging infrastructure if funds are available.

The bill further authorizes ESBs to be used as electrical energy storage for providing grid services, reducing school daily electrical demand, and supplying electricity during an emergency. The superintendent will negotiate an agreement with the school, electric utility, or cooperative service for these services.

The bill also includes a temporary provision appropriating \$400 thousand to NMSU to study the feasibility of each school district transitioning to ESB and report its findings by August 1, 2025. The bill further appropriates \$100 thousand to PED to help the state transportation division develop expertise on ESBs and related infrastructure. This bill does not contain an effective date and, as a result, would go into effect 90 days after the Legislature adjourns, or May 15, 2024, if enacted.

## **FISCAL IMPLICATIONS**

The appropriations of \$400 thousand to NMSU for a study and \$100 thousand to PED for professional development and technical assistance contained in this bill are a nonrecurring and recurring expense, respectively, to the general fund. Any unexpended or unencumbered balances remaining at the end of FY25 shall revert to the general fund.

Provisions of the bill would authorize the purchase of ESBs and related charging infrastructure but do not require the state to provide additional funds for ESBs unless sufficient school bus replacement funds are available. Additional estimated operating costs in this analysis reflect the potential fiscal impacts to schools that chose to purchase ESBs with local and federal funding sources.

The current upfront costs of ESBs are about three times higher than diesel school buses. The Electric School Bus Initiative, an ESB advocacy organization, estimates the purchase price for type C buses (which represent 70 percent of school bus fleets nationally) in 2022 was \$352 thousand for ESBs and \$103 thousand for diesel school buses. PED notes recent prices for ESBs cost on average \$420 thousand each and charging stations can cost between \$16 thousand and \$46 thousand.

Current state law requires school buses to be replaced every 12 years. PED anticipates needing to replace 219 school buses in FY25 and prior requests from the department suggest the state may need to replace about 85 buses in FY26. On average, PED will award about \$133 thousand per school bus. Assuming the average ESB will cost \$400 thousand, schools will need to cover the remaining \$267 thousand from local and federal funding sources, which could be up to an additional \$58.5 million in FY25 if all 219 buses were replaced with ESBs.

It is unlikely many school districts will switch to ESBs without the aid of other state or federal funds. As such, the real fiscal impacts of this bill will be highly dependent on the number of federal awards to school districts for ESBs.

PED notes \$4 million from the FY23 transportation allocation was carried over into FY24 for an ESB pilot project. The department awarded six ESBs to Albuquerque and four ESBs to Santa Fe. Additionally, Santa Fe received \$1.1 million in 2022 from the Volkswagen settlement fund for the purchase of ESBs.

## SIGNIFICANT ISSUES

According to the World Resources Institute’s (WRI) ESB U.S. Market Study, only 1.2 percent of the national school bus fleet is currently composed of ESBs. However, the last three years have seen a noticeable uptick in school districts beginning the process of converting their fleets to ESBs. This increased adoption of electric buses has likely been propelled by tax credits within the federal Inflation Reduction Act as well as advances in bus manufacturing. In 2022, five states - New York, Connecticut, Maryland, Maine, and Delaware - legislated electrification targets for their school bus fleets. Targets range from “all new school bus purchases must be electric by 2025” (Maryland) to “75 percent of new school bus purchases and contracts stipulated as zero emission by 2035” (Maine). Colorado and Michigan have also set (non-binding) targets through state agency processes. Washington State has also allocated \$100 million toward purchasing zero-emission medium- and heavy-duty vehicles, including school buses.

As part of the federal Inflation Reduction Act, the U.S. Department of Energy (DOE) awarded nearly \$1 billion for ESBs nationwide, including \$4.6 million to four New Mexico school districts to purchase 12 ESBs (Dora: 2, Dulce: 2, Lake Arthur: 2, Las Cruces 5, and Pecos: 1 ESB). On average, these federal awards provided \$380 thousand per ESB. According to DOE, average electric transit bus costs are currently just under \$400 thousand, a decrease of over 35 percent from just over a decade ago when most electric transit bus costs exceeded \$1.2 million. As the ESB industry matures, and the cost of batteries decreases, ESB costs are expected to decrease in line with electric transit bus costs.

	Electric School Bus	Diesel School Bus
Purchase price (\$MSRP for 2022, Type C)	\$352,012	\$103,140
350 kW Single port DC Fast Charging Station	\$140,000	N/A
Overall fuel economy, in miles per gallon of gasoline equivalent	22.1 MPGe	6.5 MPGe
Overall maintenance and repair costs (\$/mile)	\$0.29	\$0.57
Year 8 battery replacement costs (\$ as of 2022)	\$15,162 - \$120,000	N/A
Diesel Exhaust Fluid (\$/mile)	N/A	\$0.03
Full coverage cost to insurance (\$/year)	\$22,548	\$12,660

Source: WRI, USDOE

The overall cost of an ESB (without subsidies) is still higher than a diesel-powered bus; however, cost parity may be approaching in the next few years. A 2022 study commissioned by the National Renewable Energy Laboratory estimates that all zero-emission medium/heavy duty vehicles will reach total cost of driving parity with diesel by 2035 without any incentives and sales of new buses may transition to entirely zero-emission vehicles as early as 2030.

## PERFORMANCE IMPLICATIONS

ESBs have only been on the roads since 2014, so the full lifespan of these vehicles has yet to be determined. However, the average lifespan projections for ESBs appear to be comparable to

diesel vehicles at 13.5 years, assuming optimal driving terrain and regular maintenance. According to WRI, the driving range of ESBs ranges from 125 miles to 210 miles. Reported ranges may be closer to 70 miles and 100 miles depending on passenger load and use of onboard systems like air conditioning or heating. PED notes the average school bus ride in New Mexico is less than 32 miles, with 99 percent of routes being under 78 miles. A 2023 LESC study of school transportation found school buses in New Mexico travel between 14.3 thousand miles to 20.4 thousand miles per year.

The estimated total cost of ownership over a full lifespan for ESBs compared to diesel buses is still generally higher, even after assuming better fuel economy, lower maintenance and repair costs, inflation, and additional infrastructure costs. However, the numerous available subsidies and federal incentives for ESBs can make it a viable option for schools that fully leverage other funding sources.

Exposure to diesel exhaust is connected to a wide range of negative health outcomes including asthma, pulmonary related emergency room visits, decreased lung function, and increased risk of cancers. Increased pollution levels are also connected to absences from school. Ultrafine particles, like those in diesel emissions, have been found particularly to impact the brain, causing inflammatory responses, lesions, and cognitive and behavioral issues. Researchers with the National Bureau of Economic Research identified retrofits on diesel buses that decreased ultrafine particulates had positive and significant effects on student test scores.

## **ADMINISTRATIVE IMPLICATIONS**

Provisions of this bill would require NMSU to study and report on the feasibility of transitioning to ESBs for each school district, given routes, bus contracts, costs and infrastructure needs, public charging station needs, and related grants and incentives. NMSU must complete the report by August 1, 2025. HED notes NMSU has two experts who could conduct the study and prepare the report.

Provisions of this bill would require PED to develop and share expertise about ESBs with school districts. The department indicates this task would be contracted and training activities may include ESB safety, maintenance, driving and charging procedures, towing procedures, and emergency responses.

The bill also authorizes ESBs to be used as electrical energy storage for providing grid services or school electricity supply (both daily and emergency) when not in use for transporting students. Prior to these ESB uses, the superintendent of the school district must negotiate an agreement with the electric utility or cooperative service.

## **CONFLICT, DUPLICATION, COMPANIONSHIP, RELATIONSHIP**

This bill is a duplicate of House Bill 75.

## **OTHER SUBSTANTIVE ISSUES**

According to the U.S. Environmental Protection Agency, school buses are parked an average of 18 hours a day during the school year and nearly three months over the summer. As such, ESBs

can supply power as a parked vehicle to the power grid, also known as V2G. The first ESB V2G project in 2019 was a pilot involving seven ESBs at Cajon Valley Union School District in California, which is now supplying about 70 kW of power back to the grid—roughly enough to power 30 homes.

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