

ELECTRIC OR DIESEL SCHOOL BUSES?

A DIRECT COMPARISON



Electric school buses are an excellent investment for New Mexico! The cost of operating electric school buses (ESBs) compared to diesel school buses can vary based on several factors. This breakdown demonstrates why a simple purchase price comparison is insufficient from a public policy perspective. Though ESBs have a higher upfront cost, the health savings and benefits, lower operating costs (fuel and maintenance), and potential incentives make them more cost-effective over time.

1. Purchase Price:

- **Electric School Buses:** Typically, more expensive upfront (ranging from \$400,000)
- **The New Mexico experience to date shows annual recurring expense reductions per bus of \$8,000 to \$15,000** depending on miles driven (+miles=+ savings). Over 12 years, there is a **potential savings of \$180,000!**
- **Diesel School Buses:** Cheaper, often costing about \$140,000. These create significant recurring fuel and maintenance expenses for the State budget and local districts.

2. Fuel Costs

- **Electric Buses:** Electricity is usually cheaper than diesel on a per-mile basis. Charging costs can vary but are much lower than fuel costs for diesel.
- **Diesel Buses:** Fuel prices can fluctuate, and diesel fuel is more expensive than electricity.

3. Maintenance Costs

- **Electric Buses:** Have lower maintenance costs due to fewer moving parts, no oil changes, and less wear on brakes (thanks to regenerative braking).
- **Diesel Buses:** Require regular maintenance such as oil changes, fuel filters, and exhaust system maintenance, add up over time.

4. Incentives and Grants

- **Electric Buses:** The EPA “Clean School Bus program” funds **nearly the entire cost** to buy an ESB and charger. Districts can obtain a Federal Inflation Reduction Act **\$40,000 tax credit (2)**
- **Diesel Buses:** No incentives.

5. Environmental and Health Costs

- When **electric buses** replace old diesel vehicles in large cities, health benefits associated with reduced mortality and childhood asthma total **\$207,200/bus**. (1)
- **Electric Buses:** Students riding in ESBs do not breathe in particulate matter present inside diesel buses, which induces or worsens Asthma and has other health impacts on students’ smaller lungs and growing bodies. Attendance rates increase with cleaner buses. Electric buses also reduce greenhouse gas (GHG) emissions and air pollutants, leading to potential long-term health cost savings and progress toward our state’s GHG goals.
- **Diesel Buses:** Produce emissions that can harm air quality and public health, potentially leading to higher healthcare costs. Every new diesel purchased means our state must make more difficult choices in other sectors to reach GHG goals.

6. Lifespan and Resale Value

- **Electric Buses:** Often have a longer lifespan and potentially higher resale value, but this can depend on market conditions. The longer lifespan could mean N.M. extends the mandated replacement date from 12 years to (?).
- **Diesel Buses:** Declining demand for diesel will negatively affect future values.

(1) Proceedings of the National Academy of Sciences <https://pmc.ncbi.nlm.nih.gov/articles/PMC11145267/>

(2) Under elective pay, applicable entities — such as school districts and tax-exempt organizations — can receive a refund payment from the IRS for claiming an Inflation Reduction Act tax credit. <https://www.epa.gov/cleanschoolbus/tax-credits#Funding>