



Electric Buses in America

Lessons from Cities Pioneering Clean Transportation

Electric buses can reduce the environmental and health threats posed by diesel buses while also providing a reliable and cost-effective option for cities and school districts.

Clean, viable, cost-effective transit

Battery-powered electric buses can reduce the environmental and health threats posed by diesel buses while providing a reliable, cost-effective option for transit agencies and school districts.

Electric buses have performed well in early pilots, often proving cheaper to fuel and maintain than their diesel counterparts.

The experience of six early adopters of electric buses illustrates the benefits these vehicles can bring, as well as the challenges that future electric bus programs will need to overcome.

Electric bus pioneers

- **Seneca, SC's** electric buses have been cheaper to fuel and maintain than diesel buses and exceeded expectations regarding performance.

- Electric buses have operated successfully in **Chicago's** extreme temperatures and produced substantial savings in fuel and maintenance costs.
- **King County, WA's** buses have performed well in all weather conditions but with high per-mile fuel costs, partly due to high electricity demand charges.
- Technical problems contributed to **Albuquerque's** electric bus test ending in disappointment, but the city recently placed a new order for electric buses.
- Electric buses operated by **Twin Rivers Unified School District, CA**, saved money on energy and maintenance, helped by favorable utility rates.
- Electric school buses in **Massachusetts** have performed well in all weather conditions but produced smaller-than-expected fuel cost savings, partly due to high electricity demand charges.

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Smart policies can encourage electric bus adoption

Electric buses benefit our communities by clearing the air, combating climate change, and often saving money over the long haul. To get the most out of a transition to electric buses:

- States, cities and school districts should commit to transitioning to electric buses on a specific timeline. This will help grow the market, drive innovation and enable agencies to reap the benefits of economies of scale.
- States should provide financial incentives for agencies to go electric in order to ensure agencies experience the benefits of electric buses without additional financial burden.
- Public officials and utilities should implement financing programs that allow cities and school districts to pay back the additional upfront cost of electric buses on utility bills as they save on fuel and maintenance costs.
- Public officials and utilities should provide discounted off-peak charging rates, limit excessive demand charges, and experiment with policies and practices that allow electric buses to be used for storage or use vehicle to grid technology.

Maximizing the benefits

Transit agencies and school districts considering electric bus deployments should:

- Work with public officials and local utilities to enact a transportation rate for electricity and use rate modeling in the planning process for launching electric bus service.
- Ensure contracts with bus manufacturers include provisions to guarantee protection in the event that the vehicles delivered do not perform as promised.
- Invest in as large a fleet as possible as soon as proof of concept can be established. The larger the fleet, the greater the potential economies of scale.
- Acquire as much data as possible from agencies already using electric buses. Ask agencies where they've been successful, where they've failed, and where they've worked with manufacturers and utilities to find solutions to issues that have arisen.
- Include environmental and health benefits in any evaluation of the costs and benefits of electric buses. Calculations of return on investment should include the total societal cost for the life cycle of an electric bus versus a diesel bus.