



**World Resources Institute: Electric School Bus Initiative  
Testimony: Joint Transportation Hearing  
2022-2023 Executive Budget  
February 15, 2022**

Thank you for the opportunity to testify today. My name is Justin Balik and I am the Senior Manager of State Policy for Transportation Electrification at the World Resources Institute (WRI). I am here on behalf of WRI's [Electric School Bus \(ESB\) Initiative](#) to speak in strong support of Governor Hochul's bold proposal to achieve a zero-emission school bus fleet by 2035. This proposal, if enacted, would make New York a clear leader in the growing movement to electrify our country's 480,000 school bus fleet, a critical step to both combating climate change and improving the health of our children – and a critical opportunity to advance an equity-first agenda.

New York stands to benefit from electrifying school buses on several fronts:

- There are over 50,000 school buses, about 10% of the U.S. school bus fleet, operated in New York<sup>1</sup>
- Diesel exhaust from school buses is a known carcinogen that is linked to reduced lung development in children, respiratory diseases and negative impacts on cognition, affecting students' abilities to succeed in the classroom.<sup>2</sup> Electric school buses are a healthier solution for students and bus drivers as they produce no tailpipe emissions. Children that rely on school buses are disproportionately in disadvantaged communities and stand to benefit the most from electrification.
- NY has ambitious climate goals for reducing medium and heavy-duty vehicle (MHDV) emissions, with a goal of achieving 100% zero-emissions by 2045<sup>3</sup>
- NY can be a national leader in creating a workforce that is trained to operate and maintain electric vehicles, advancing access to high-quality jobs
- Cleaner air, especially in high-pollution corridors and communities of color
- Electric school buses can help support the transition to a cleaner energy grid through pairings with renewable energy and storage

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<sup>1</sup> <https://www.nyapt.org/about>

<sup>2</sup> "The Road to Clean Air: Benefits of a Nationwide Transition to Electric Vehicles." *American Lung Association*. Sept. 2020, <https://www.lung.org/clean-air/electric-vehicle-report>.

<sup>3</sup> <https://www.governor.ny.gov/news/advance-climate-week-2021-governor-hochul-announces-new-actions-make-new-yorks-transportation>

- As vehicle-to-grid technology advances, electric school buses may be able to improve the resilience of New York's power grid

### **Executive Budget Proposal**

It is our assessment that the Governor's proposal has set an ambitious but achievable timeframe for fully electrifying New York's school buses. The milestones of 2027 for new bus purchases and 2035 for the entire fleet would advance the state's goals codified by the Climate Leadership and Community Protection Act, as well as transportation electrification goals already set under the Northeast States for Coordinated Air Use Management (NESCAUM) multi-state MOU. New York has also adopted California's Advanced Clean Truck Rule, which applies to school buses and would require manufacturers to increase the percentage of MHDV sales that are electric on an annual basis. Finally, New York's City Council recently passed a local law requiring the City's full school bus fleet to be 100 percent electric by 2035.

As each house prepares budget resolutions over the next few weeks, it's critical that the final enacted state budget include a bold approach to school bus electrification that is comprehensive, has sufficient resources allocated and is equity-first.

### **Recommendations:**

1. **State Administered Technical Assistance**

Establish a comprehensive, whole-of-government technical assistance offering for school districts seeking to deploy electric school buses, bringing together state agencies such as the Department of Education, NYSERDA, NYPA and the Department of Transportation. While the current financial barriers to school bus electrification are significant, school districts also face a challenge managing new technology while they work to educate students during a public health crisis. Schools also face varying levels of budget challenges meeting everyday needs. School districts pursuing school bus electrification could receive guidance on issues such as financing, procurement and infrastructure management. Such assistance is especially important for disadvantaged communities.

2. **Costs and Funding the Transition**

The final enacted budget should dedicate significant state funding to support this transition, via a combination of appropriations and the expanded Clean Water, Clean Air and Green Jobs Environmental Bond Act. Our recommendation is about \$800 million over the next decade. Funding should support point of sale vouchers as well as upfront grants to school districts to supplement state transportation aid. In addition to state funding, New York should prepare all school districts with a robust effort to apply for the significant federal funding that is soon to be available under the U.S EPA's new Clean School Bus Program.

Currently, the most significant barrier to ESB adoption is the high upfront cost of an electric vehicle. The typical upfront cost of a Type C diesel bus is \$119,000<sup>4</sup> compared to \$379,000<sup>5</sup> for an electric school bus and infrastructure, meaning that electric school buses are approximately **\$260,000 more expensive than diesel** at the present time. While operations and maintenance costs are lower for electric school buses and initial costs are predicted to decline as the demand moves to scale, significant funding is needed to support this still maturing market. Currently, the difference, also known as the incremental cost, is quite high. We expect retail prices to decrease rapidly once the market reaches higher sales volumes. Therefore, assistance can be reduced over the course of this decade as prices decline.

Financial assistance should be structured so that an electric school bus, over its total vehicle life, does not cost a district or a contractor more than a diesel school bus. Financial assistance should be more robust and cover the full upfront price for disadvantaged communities. In keeping with the guidance in the Climate Leadership and Community Protection Act of 2019, the state should invest at least 40 percent of all financial assistance in disadvantaged communities. While financial barriers to school bus electrification will need to be tackled across the state, we know that the burden of air pollution is not shared equally across New York.

With sufficient funding and increased demand in place, diesel and electric school buses could reach lifetime cost parity as early as 2027, and the upfront purchase price could achieve parity by 2032.

### Workforce Development

A rapid transition to electric school buses also generates opportunities for New York's workers—and with the right investments can ensure more career opportunities for frontline communities. New York already has a significant school bus manufacturing and dealership presence that could grow even further under a transition to an electric school bus fleet. As part of a comprehensive effort to ensure a just and equitable transition to an electric school bus fleet, New York should invest in both pre-apprenticeship offerings and job training for existing school bus drivers and mechanics that partner with apprenticeship programs and prioritize residents of disadvantaged communities. Ensuring a just transition will mean investing in the retraining of existing workers to adapt their

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<sup>4</sup>Based upon the New York State Office of General Services (OGS) Summary of School Bus Awards (revised 1/14/2022), a diesel school bus is about \$110k and does not require additional capital infrastructure investments. State (4%) and local sales taxes (4.23%) are then applied.  
(<https://online.ogs.ny.gov/purchase/spg/pdfdocs/4052423000Summary.pdf>)

<sup>5</sup> From a base diesel cost of \$110k, NYSERDA TVIP covers 100% of incremental costs at \$220k, implying an ESB costs \$330k. Another \$20k is assumed for a L2 19.2 kWh charger and associated customer-side infrastructure, putting the combined cost at \$350k before taxes. For comparison, the average price of Type C electric buses awarded by the OGS is \$352,000 without necessary infrastructure and before taxes.

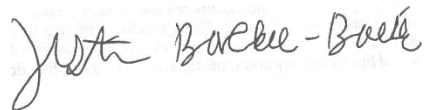
skills for the new economy. Pre-apprenticeship offerings can build a talent pipeline that prioritizes residents of disadvantaged communities. Potential frameworks for incorporating these initiatives include NYSERDA's Clean Energy Workforce Development offerings and New York's broader Workforce Development Initiative. In addition, New York should work with industry and organized labor to ensure that the jobs created by the transition to electric school buses will empower workers and strengthen communities in ways that are both systemic and sustainable.

### **Feasibility Considerations**

The potential electrification of New York's entire school bus fleet over the next thirteen years understandably raises questions regarding the status of current technology and operational feasibility. But electric school buses are not an unknown quantity, they are here and in service today. There are over 1,800 electric school buses committed to or in service, throughout the United States, and they are currently operating in every type of community. In fact, of the 1,800 electric school buses committed (awarded, ordered, delivered or in operation) more than 125 are in rural areas.<sup>6</sup> Moreover, the battery range on *today's* vehicles can reach up to 200 miles<sup>7</sup>, a distance sufficient to serve the vast majority of the country's school bus routes. Battery technology also continues to improve with each successive bus model.

In sum, Governor Hochul's nation-leading proposal can serve as a catalyst for a nationwide shift to electric school buses, ultimately leading to health benefits for our communities and mitigating the impacts of climate change. We urge the legislature to ensure that a comprehensive and adequately funded plan for an equitable transition to an electric school bus fleet is included in the enacted budget.

Sincerely,



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World Resources Institute

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<sup>6</sup> <https://www.wri.org/insights/where-electric-school-buses-us>

<sup>7</sup> [https://www.icbus.com/-/media/Project/Navistar/ICBus/ICBus/electric ce series brochure spread format.pdf](https://www.icbus.com/-/media/Project/Navistar/ICBus/ICBus/electric_ce_series_brochure_spread_format.pdf)