

# It's Electric! ⚡



## Bringing Electric School Buses to Michigan

Michigan is leading the Midwest in school bus electrification! Kids who ride an electric bus get a cleaner, quieter, and healthier commute, while school districts save money on fuel and maintenance. New electric buses are rolling into towns across the state. We want every community to benefit from cleaner air and a healthier ride to school.

Each day in Michigan, almost **600,000** school children hop on the bus and travel an average **40 minutes per day**. Unfortunately, most of them ride on older, diesel-powered buses. That means our kids and bus drivers are breathing harmful diesel fumes for 120 hours per year! Electric buses offer a better alternative.

### Health Impacts of Dirty Diesel

Diesel exhaust is a toxic soup of gasses and particulates, including 40 known carcinogens. It is linked to various detrimental impacts on children's health and learning. Diesel buses mean:

- Asthma attacks – diesel exhaust is a known trigger for asthma attacks and other respiratory inflammation and irritation. The asthma rate for Michigan children is 18% higher than the U.S. average, and the rate is 32% higher for Michigan adults. Asthma rates in some counties are more than double the U.S. average.
- Poor learning conditions - Diesel fumes are associated with headaches, nausea, poor concentration and cognitive performance, and behavioral problems, making it difficult for students to learn. Asthma is a leading cause of school absenteeism and one study by a University of Michigan Public Health epidemiologist estimates that transitioning to clean school buses across the country could result in 14 million fewer absences among bus-riding children per typical school year!
- Disproportionate impacts – Only 7% of Michigan's school bus riders have special needs, but these children ride a disproportionate number of miles (33%), often needing to travel further and spend more time on buses to get necessary services and care. Additionally, children who require wheelchair access often enter through the rear of the bus, exposing them to more harmful exhaust when idling.

### Our Students Deserve the Best

All kids deserve a clean, healthy ride to and from school. Michigan has close to 6500 of the oldest and dirtiest diesel buses still in operation across the state. These buses are eligible for replacement through the EPA's Clean School Bus Program. Schools in Ann Arbor, Gaylord, Kalamazoo, Oxford, Roseville, Three Rivers, and Zeeland have made the switch and are already seeing the benefits for their students.



## Benefits of Clean Electric Buses

Electric school buses are good for students and the wider school community as well.



**Quiet & peaceful journey** – Students and drivers enjoy a quiet and smooth ride, due to reduced vibration and noise. Kids arrive at school more calm and ready to start the day, because they don't have to shout to hear each other on the bus.



**Productive learning** – Kids who ride an emissions-free electric bus can benefit from improved cognitive function and decreases in absenteeism. Plus, electric school buses themselves can serve as rolling laboratories to see science, technology, engineering, and math lessons come to life.



**Reduced maintenance & fuel costs** – In comparison to diesel buses, electric ones require less maintenance over their lifetime, saving dollars that can be better spent in the classroom. The regenerative braking system results in less wear, and there is no need for engine or exhaust system maintenance. Depending on the cost of electricity and fuel, electric buses can also be more economical to run.



**Healthier environment** – Zero-emissions buses mean cleaner air for the whole community. According to a 2020 report from the American Lung Association, transitioning to electric vehicles and a renewable electric grid could save Michigan \$51.4 billion in public health benefits. We could avoid 466,000 lost workdays, 97,400 asthma attacks, and, most importantly, 4,700 premature deaths. Electric buses are a big step forward.



**Reliable Energy Grid** – Electric buses can also support Michigan's clean energy goals. Because buses have predictable times of use, many utilities are partnering with schools to feed power back onto the grid when they're parked. Innovative Vehicle-To-Grid technology pilot programs are assessing the potential for buses to serve as battery storage and power for school buildings!



## Who We Are

The It's Electric! Coalition is a diverse group of Michigan advocates working to advance electric school buses across the state. We come from a variety of sectors, including health professionals, school nurses, health departments, school transportation organizations, electrification technology experts, asthma and air quality advocates, and environmental justice and child health advocates.

