

Electric school buses are gaining traction in Bay Area schools

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It was seven years ago that Matthew Belasco started worrying about the health of students riding the bus at Pittsburg Unified in California. As he watched hundreds of youth pile onto the big yellow vehicles each day, his eyes focused on the black plume of diesel smoke belching from the tailpipe.

"I knew that couldn't be good," said Belasco, the school district's director of maintenance, operations and transportation.

The fleet of 30 diesel buses was outdated and spitting out high levels of toxic pollution. So he started researching a solution—and landed on electric school buses.

At the time, the technology was brand new and barely tested. But Belasco believed Pittsburg Unified could be an early adopter. The district welcomed two zero-emission buses in 2018 and became one of the first dozen or so districts in the state to start ferrying students via electricity. It now has seven electric buses.

School districts across the Bay Area are following Pittsburg's lead as they slowly transition their fleets to a greener mode of transportation. So far, Milpitas Unified, Berkeley Unified, Fremont Unified, Hayward Unified, Palo Alto Unified and Redwood City School District all have at least one electric bus.

And state leaders are pushing schools to pick up the pace.

In October, Gov. Gavin Newsom signed legislation requiring all new school buses purchased after 2035 to be zero-emission vehicles. Rural [school districts](#) will have an additional decade before they must begin buying electric. There are around 600 electric buses in circulation across 230 school districts in California—a mere 2.5% of the state's estimated 24,000 school buses.

Assemblymember Phil Ting wrote the bill to hasten the state's response to [climate change](#).

"Transportation accounts for over 40% of our [greenhouse gas emissions](#) ...so it's one area where we have to make the most progress," he said.

"Obviously, school buses are a factor in that pollution."

Long term exposure to diesel particulate matter can increase lung infections, chronic respiratory and cardiac diseases, and can lead to cancer, according to the California Air Resources Board.

Dr. Barbara Weller, a pulmonary pathologist and toxicologist at CARB, said children are particularly vulnerable to air pollution since their lungs and immune systems are still developing.

"The bottom line is we do know that diesel is a toxic air contaminant and we know that children are particularly sensitive. So anything that reduces the source is a good thing," she said.

Maria Cortese, a [bus driver](#) at Fremont Unified for the past five years, is relieved that she and the kids are breathing cleaner air following the district's decision to acquire 14 zero-emission buses.

"We're not breathing in the fumes and the exhaust. The city is cleaner. It's beneficial for everyone. Not only us as the drivers, but for the environment and the people that live in Fremont," she added.

Many local districts are enthusiastic about the health and climate benefits of moving to electric, but there are concerns the technology is not yet up to speed.

The typical range of a zero-emission school bus is between 80 and 130 miles. While most Bay Area districts are dense enough that kids can be bused to and from school on a single charge, diesel buses are still used for field trips or athletic events that are farther away. And for sprawling rural school districts across the state, electric vehicles are currently unrealistic for daily use.

Reliance on electricity also has drawbacks when power outages occur. After a series of storms in early February, around half of Fremont Unified's charging infrastructure was knocked out. The district fell back on their diesel vehicles to get students to class that week.

"Looking into the future, if we decide to go 85-90% of our fleet being electric, that's a real challenge," said Ernest Epley, the school district's director of transportation. "I'm an eternal optimist, so I think it is doable. It's just going to take a lot of midnight oil and a lot of number crunching and a lot of innovation...but we need to really figure this infrastructure out."

Another problem may be getting the buses in the first place. Supply-chain issues and manufacturing shortages have caused some districts to wait more than a year to receive their vehicles.

"That's going to be a bigger challenge because now everybody's going to be buying the same buses," said Shanti Wilson, transportation supervisor at Hayward Unified. The district had to wait 15 months for its first zero-emission bus to arrive this fall.

The cost of electric-powered school buses can be prohibitive as well. A district needs nearly \$500,000 to purchase a bus and install a charging station.

This year's state budget includes \$500 million for electric school buses and infrastructure, with an additional \$1 billion commitment over the next two budget cycles. California will also receive \$88 million from the Biden Administration to fund zero-emission buses in several school districts, including San Francisco Unified, Alameda Unified and Oakland Unified.

But once the buses are bought, they can be cost-effective in the long

term. Schools will no longer have fuel, coolant or oil change expenses.

And another perk of going green, advocates say, is they're quiet. Compared to a loud, turbo-charged diesel engine, an electric school bus motor is nearly noiseless. Students and drivers alike don't have to yell over the engine to be heard anymore.

"There's no sound when you drive it, when you start it up. There's no smells. It feels different and it feels clean, it feels smooth," said Marlena Ripley, a Pittsburg Unified bus driver. "The kids love it and the parents love it because we're going into the community not so noisy."

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