

California will mandate electric school buses. But rural districts say they don't work

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Credit: Pixabay/CC0 Public Domain

In California's vast northern rural school districts, with their mountain passes and long, snowy winters, the typical electric bus' range is not nearly enough. West Valley is one of Lassen High's nearest athletic opponents. One of the farthest, Yreka High, is 169 miles away.

Yet California is pushing schools to get rid of their air-polluting diesel

buses and swap them for battery-powered ones.

In October, Gov. Gavin Newsom signed legislation requiring all newly purchased or leased school buses in California to be zero-emission starting in 2035. Rural school districts can have up to 10 additional years to fulfill the requirement, if they can prove the vehicles are impractical for their routes and terrain.

But even that generous time frame is unworkable unless electric bus technology significantly improves, rural school leaders say.

"The last thing we want to do is have kids stuck on the side of the road in a dead electric bus. Especially in the snow," said Lassen Union High School District Superintendent Morgan Nugent.

"We want to do our best for our environment. We live up here in the mountains. We want to see our resources protected. But we have to be realistic."

In a state facing wildfires, droughts, extreme heat and other deadly consequences of the climate crisis, California lawmakers and air regulators have implemented some of the world's most aggressive electric-vehicle mandates, to be phased in over the next two decades.

Newsom has tried to position California as a global leader in the fight against climate change. In October, he flew to China, where he met with President Xi Jinping and discussed electric municipal buses, battery storage and carbon markets with numerous government officials.

But here in California's conservative northern reaches, residents say that urban Democrats like Newsom are failing to acknowledge the limitations of electric vehicles in rural areas.

Anyone who objects to electric vehicle mandates, they say, is dismissed as a climate change denier.

Going electric will be tough for all rural residents, considering the long distances they drive on lonely roads. For the humble yellow school bus, the hurdles are even greater, as are the consequences of running out of juice in the middle of nowhere.

"Would we all love electric buses? Absolutely. That would be great. But they just don't work for us," said Assemblywoman Megan Dahle, a Republican from Bieber, a Lassen County town of 260.

Dahle, vice chair of the California State Assembly Committee on Education, pushed for the rural schools' deadline extension, which was not in the original version of Assembly Bill 579. But even that, she said, is not enough time for bus technology to improve or enough chargers to be installed.

She noted that chronic absenteeism is an issue in her district and that students who live far from campuses rely heavily on school transportation.

For Assemblyman Phil Ting, the San Francisco Democrat who wrote the school bus bill, the issue is not just air pollution but children's exposure to carcinogenic diesel emissions.

"It's even more important for rural areas because they're on the bus longer," he said.

Ting said the timeline is "absolutely not radical," noting that schools can continue to use diesel buses purchased before the deadline until the end of their useful lives, which can be decades.

"I think they just don't like being told what to do," Ting said of school districts that pushed back against the bill.

He said the bill was needed or districts would "just delay, delay, delay. And obviously, it's the students who suffer, and the environment suffers."

About 3% of the state's school buses are electric, with about 600 zero-emission buses on the road and an additional 1,300 on order, the California Air Resources Board said in a statement to the Times.

To swap their diesel buses, schools have been receiving hefty government grants and other incentives that cover most, if not all, of the cost for new electric buses.

Over the last two decades, California has spent or allocated \$1.2 billion to clean up its aging diesel school bus fleet, with an additional \$1.8 billion planned over the next five years for zero-emission buses and charging infrastructure, according to the governor's office.

Rural districts—as well as those with a high percentage of low-income students, foster youth and English language learners—will be prioritized for funding, the Air Resources Board said.

The board noted that children are "particularly vulnerable" to toxic diesel exhaust and that while school bus commutes are less than 10% of a child's day, they contribute "33% of a child's daily exposure to some air pollutants."

"The technology is going to have to improve a lot before we would consider switching" to electric buses, said Tom O'Malley, superintendent of the Modoc Joint Unified School District.

The distance an electric school bus can drive on a single charge "can vary greatly based on climate, terrain, and driver habits," Britton Smith, president of the Blue Bird Corporation, which manufactures school buses, said in a statement.

The advertised range for a Blue Bird electric school bus with a standard battery is up to 120 miles on a single charge, though some customers in California have reported a range of more than 130 miles, Smith said.

A more powerful battery with an expected range improvement of up to 20% has been developed but has not yet been fully tested, Smith added.

At the Lassen Union High School District, officials say their four battery-powered buses can go at most 93 miles on a full charge in peak weather conditions. The buses mostly stay parked.

For longer trips, Smith said, Blue Bird recommends its propane-powered school buses, which have a range of about 400 miles and "generate ten times less NO_x [nitrogen oxide] emissions than the current EPA requirements."

That type of bus will not be allowed under California's new law. Nor will hybrid buses with a fossil fuel option, Ting said.

Another issue: public electric vehicle chargers, which are few and far between in rural California, are not practical for school buses, Smith said, because of their size and the locations of the chargers at places like grocery stores or strip malls.

Buses either need to make a round trip on a single charge, or campuses will have to install enough chargers for visiting schools.

The Bishop Unified School District, in rural Inyo County at the base of

the Eastern Sierra, is among the more than 230 California public [school districts](#) and charter schools that have ordered at least one zero-emission school bus.

In 2020, Bishop swapped two old diesel buses for two new electric ones using grant money from the \$423-million Volkswagen Environmental Mitigation Trust, said Todd Remley, the school district's director of maintenance, operations and transportation. The trust is part of a massive legal settlement reached after the automaker's emissions testing scandal.

Each bus cost more than \$433,000, twice as much as a new diesel bus, but grants—\$400,000, plus \$5,000 for charging infrastructure—covered most of the cost, Remley said.

The old diesel buses were two decades old, had driven more than 300,000 miles and "smoked like a chimney," spewing stinky black exhaust, Remley said.

Electric buses "seemed like a no-brainer. It seemed like a win-win-win," Remley said. "And then? They don't work so well."

The first Blue Bird electric bus, which arrived in summer 2020, sometimes sped up too quickly when the motor surged. Other times, it went into "limp mode," where it crept along but wouldn't accelerate.

It has been repeatedly hauled away—on a flatbed trailer pulled by a diesel truck—and has spent months undergoing repairs, according to Remley.

Bishop Unified's second electric Blue Bird came a few months later.

"The second bus worked a lot better. Until it caught on fire," Remley said.

The cause of the fire, which started while the bus was plugged into its charger this August, remains under investigation, according to the Bishop Volunteer Fire Department.

Remley said security camera footage shows the bus slowly start smoking, then an arcing flame, "then more sparks and sparks."

The district's insurer, the vehicle manufacturer and the dealer are wrangling over who will pay for the charred bus, which remains out of service, Remley said.

Despite the troubles, Remley believes in electric [school](#) buses. The district uses the first bus—when it's out of the shop—for in-town routes, charging it between the morning and afternoon drives.

Three more electric buses are on order.

Eastern Sierra Unified School District in Mono County also has two electric buses. Supt. Heidi Torix said charging equipment has caught fire with both.

"Unfortunately, our experience has not been positive, to say the least," Torix said in an email.

For years after the Lassen district bought the four Blue Bird electric buses with grant money in 2019 and 2020, it had just one portable charger, which takes 14 hours to fully charge a bus.

The district now has three BTC Power charging systems, in addition to the portable one, after an arduous, years-long installation process that included upgrading the electrical grid and connecting the chargers to Wi-Fi to track usage for carbon credits.

The new chargers, which now await software programming, are not yet functional.

The buses themselves, like the ones in Bishop, have repeatedly been hauled off for warranty repairs—to Reno, 86 miles southeast.

For Supt. Nugent, the one-size-fits-all push for electric [school buses](#) is misguided and an example of the disconnect between California's state government and rural denizens.

One early morning in late September, he drove along Highway 395, past trees still blackened from the 2021 Dixie fire, one of the biggest wildfires in California history. Nugent said he knows many people whose homes and land were burned.

"We're spending billions of dollars on electric buses and watching our forests burn," he said. "We're spending the money on something that isn't feasible right now."

The money would be better spent, he said, on forest management.

It feels small, he said, to be talking about carbon credits for electric buses when the amount of greenhouse gases released by California's massive wildfires in recent years has wiped out decades of air-quality gains.

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