



The goal of the Collaborative is to leverage federal funds to strategically reduce emissions from the most polluting diesel sources in impacted communities. The Collaborative seeks to improve air quality and public health by targeting the highest polluting engines with the most cost-effective control strategies.

DERA 2018: Electric School Bus Replacements in Southern California

The West Coast Collaborative (WCC) is pleased to announce the Cajon Valley Union School District's (CVUSD's) completion of a United States Environmental Protection Agency (US EPA) Diesel Emissions Reduction Act (DERA) National Grant to replace Type C legacy diesel school buses. This project was implemented using \$1,000,000 in DERA grant funding combined with \$200,820 in cost-share funds from CVUSD, and \$1,100,000 from the California Air Resources Board (CARB).

What is the project?

This project replaced five model year 2006 Type C diesel school buses with five model year 2018 zero tailpipe emission battery-electric buses (BEBs). The replaced diesel buses were removed from service and permanently destroyed.

Why is this project important?

This project's primary objective is to improve the environmental health of children by partnering with CVUSD to replace legacy heavy-duty diesel school buses with zero emission buses. The project will eliminate school bus tailpipe emissions in communities disproportionately affected by diesel exhaust and poor air quality. Exposure to diesel exhaust has been associated with decreased lung function and retarded lung development and can also exacerbate the symptoms of asthma, bronchitis and pneumonia. This project will reduce children's exposure to diesel emissions as well as the negative health effects associated with exposure.

What are the environmental benefits?

Over the remaining lifetime of the 5 affected engines, these upgrades are estimated to reduce emissions of nitrogen oxides (NO_x) by 3.8 tons, fine particulate matter (PM_{2.5}) by 0.3 tons, hydrocarbons (HC) by 0.5 tons, carbon monoxide (CO) by 1.9 tons, and carbon dioxide (CO₂) by 668 tons. Additionally, the reduction of PM_{2.5} emissions will also reduce black carbon (BC), which influences climate by directly absorbing light, reducing the reflectivity ("albedo") of snow and ice through deposition, and interacting with clouds. The project will also conserve nearly 71,000 gallons of diesel fuel by deploying BEB powertrain technology.

Who are the partners on this project?

The project was led by CVUSD, a California school district serving El Cajon and Rancho San Diego; in partnership with First Priority Green Fleet, The Lion Electric Company, San Diego Gas and Electric, Nuvve Inc., BTC Power, Kisensum, and EV Connect. CVUSD received the DERA grant award through the WCC, and oversaw project implementation. CARB contributed funding for battery-electric buses via its Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), and CVUSD contributed cost-share and administrative support for bus replacements. Other partners contributed support for BEB charging and vehicle-to-grid infrastructure integration. CVUSD was responsible for data monitoring and reporting for the project.

What is the Collaborative?

The WCC is an ambitious partnership between leaders from federal, state, local and tribal government, the private sector, academia, and environmental groups committed to reducing diesel emissions along the West Coast. Partners come from all over Western North America, including Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Washington, the Pacific Islands, Canada and Mexico. The WCC is facilitated by the US EPA DERA Program (<https://www.epa.gov/dera>).

How can I find out more information?

For more information on this project, please contact John Mikulin at US EPA (mikulin.john@epa.gov / 1-415-972-3956). For more information on the WCC, please visit our website. www.westcoastcollaborative.org