



## WEST COAST COLLABORATIVE

A public-private partnership to reduce diesel emissions

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

# DERA 2008: Nevada School Bus Retrofit & Replacement Initiative

The West Coast Collaborative (WCC) is pleased to announce the Nevada Division of Environmental Protection's (NDEP's) completion of its project to retrofit and replace heavy-duty diesel school buses operating throughout the State of Nevada. This project was implemented using \$295,320 in U.S. Environmental Protection Agency (U.S. EPA) Diesel Emissions Reduction Act (DERA) grant funding combined with \$196,880 in matching funds from NDEP.

### What is the Project?

Retrofitted 168 heavy-duty diesel school buses with Diesel Oxidations Catalysts (DOCs), Closed Crankcase Ventilation Systems (CCVs), and Direct Fired Heaters (DFHs) to reduce both exhaust emissions and diesel fuel consumption. Also retired 2 pre-1991 model year diesel school buses and replaced them with 2010 model year diesel buses.

### Why is this project important?

The Nevada School Bus Retrofit & Replacement Initiative is focused on reducing emissions from diesel powered school buses. The program is designed to reduce the exposure of school-age children to particulate matter (PM) and other harmful components of diesel emissions from school bus exhaust, as well as to reduce emissions to help improve and maintain air quality in communities throughout the State of Nevada.

### What are the environmental benefits?

Over the remaining lifetime of the 170 affected engines, these upgrades will reduce emissions of fine particulate matter (PM<sub>2.5</sub>) by 6.4 tons, nitrogen oxides (NO<sub>x</sub>) by 11.5 tons, hydrocarbons (HC) by 19.6 tons, carbon monoxide (CO) by 96.5 tons, and carbon dioxide (CO<sub>2</sub>) by 169 tons. On an annual

basis, the associated PM<sub>2.5</sub> emissions reductions will generate over \$3 in monetary health benefits in the affected counties for every \$1 spent on the project. Reduction of PM<sub>2.5</sub> 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. Additionally, DFH anti-idling retrofits installed under this project are estimated to conserve over 15,000 gallons of diesel fuel over their in-use service lives.

### Who are the Partners on this project?

The project was led by NDEP, a state agency whose mission is to preserve and enhance the environment of Nevada in order to protect public health, sustain healthy ecosystems, and contribute to a vibrant economy. The project was implemented in partnership with the Carson City, Douglas, Esmeralda, Eureka, Lincoln, Lyon, Nye, Washoe and White Pine County School Districts. NDEP received the DERA grant award through the WCC, and distributed the grant funds to the participating school bus fleets. NDEP was also 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 governments, the private sector, 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, Canada and Mexico. The WCC is part of the U.S. EPA National Clean Diesel Campaign ([www.epa.gov/cleandiesel](http://www.epa.gov/cleandiesel)).

### How can I find out more information?

For more information on this project, please contact John Mikulin at U.S. EPA ([mikulin.john@epa.gov](mailto:mikulin.john@epa.gov) / 415-972-3956). For more information, on the WCC, please visit our website at [www.westcoastcollaborative.org](http://www.westcoastcollaborative.org)