

## Yellow school buses going green



*Diesel filters on Tahoe-Truckee school buses aim to reduce air pollution*

CARSON CITY, NEVADA — The scene is familiar to parents with school-age children.

The school bus drops off students at the neighborhood stop, and as it pulls away the bus leaves a noxious plume of black diesel smoke hanging in the air.

Parents and students soon may notice a change to the familiar smell of diesel fumes in Tahoe and Truckee for two reasons — a 2-year-old state mandate for lower-emission diesel fuel, and successful grant hunting by officials with the Tahoe Truckee Unified School District.

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In August 2007, the district's transportation department installed costly but effective particle filters on seven of the district's fleet of 45 buses.

"These particulate traps reduce the emissions that these buses put out by 85 percent," said Don Harder, the district's fleet manager.

The filters are placed in-line between the main exhaust and tail pipe and remove much of the soot produced by the combustion of diesel fuel, said Heather Kuklo of the Placer County Air Pollution Control District.

Kuklo, who also holds a biology degree, said the developing lung tissues of a child are more susceptible to the particles, which are about a fifth of the diameter of a human hair, than are the lungs of adults.

Diesel particulate matter is rated as a carcinogen by the California Air Resource Board, Kuklo said. The district's transportation boss also referred to health concerns in explaining the retrofit program's benefits.

"You know, we want to be able to provide a safe, healthy, clean air environment," said Nanette Rondeau, the district's director of transportation.

The seven traps cost more than \$112,000 to purchase and install, money granted to the district through the Clean Air Grant Program administered by the Placer County Air Pollution Control District, a small air-quality agency within the county.

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The school district will search for more funding soon to replace three of the oldest buses in the fleet within the next five years, Harder said. The district owns two of the state's oldest school buses, one from 1967 the other 10 years newer.

On any given day, the district dispatches just 28 of its 45 buses, the others held in reserve or for special trips.

If district officials wish to meet their clean-emission goals, they must replace the buses with dirtier engines, as the particle traps are not practical on buses older than 15 years, Kuklo said. "It would be like your vacuum cleaner plugging up after 10 minutes, and you would get tired of changing the bag," she said.

Currently no regulations exist to require particle filters on the buses, Harder said, but added that he could see the writing on the wall. "All fleet operators will eventually [have] to comply at some level or another — it's not law right now, [but] once it's law all the grant money will dry up," he said.

For now, the district is better off with the retrofit than with new buses, Harder said. "Unfortunately, technology has not caught up to the requirements," Harder said. "The new buses might be cleaner, but the newest of the buses with the lowest emission output have been fraught with problems." Officials at the Placer County Air Pollution Control District implemented the Clean Air Grant program in 2001.



Don Harder, Tahoe-Truckee Unified School District transportation fleet manager, discusses the benefits of the electric particulate filters installed on seven buses in the fleet. Each filter costs \$16,000 and scrubs out 85 percent of all particulate in diesel engine exhaust. The district purchased the seven filters with a \$112,000 grant from the Placer County Air Resource Board. ###