



FUNDING IS AVAILABLE TO CLEAN UP BUSES

Federal and state programs can help offset the cost of cleaning up school bus fleets. For example, the Environmental Protection Agency's Clean School Bus USA and Blue Skyways Collaborative expects to award more than \$3 million in 2007 in grants for school bus diesel-emission reduction projects. The U.S. Diesel Emissions Reduction Act authorized \$50 million in national funds and \$15 million for California projects. Washington state, California and New Jersey have state-funded school bus clean-up programs. Texas has \$130 million in annual funding through the Texas Emissions Reduction Program (TERP).

See our CLEAN BUSES resources online at www.cleanbuses.org for more information about:

- ✓ The health effects of diesel pollution
- ✓ Video of our Texas school bus testing
- ✓ Successes and regional programs
- ✓ The best filtering options available today
- ✓ How to start a clean school bus campaign in your district
- ✓ Funding, and more!

MANY COMMUNITIES ARE BEGINNING TO CLEAN UP BUSES

✓ **New York City:** The city's entire fleet of large buses (4,070 buses) is scheduled to be retrofitted by 2008.

✓ **Houston:** The city recently replaced or retrofitted a quarter of its 945 bus fleet.

✓ **Atlanta:** Passive filters have been installed on 353 long school buses; one-eighth of the fleet (8,000 buses) has been retrofitted.

✓ **Boston:** Out of a fleet of 700 buses, 328 have been retrofitted, and 266 new buses have been purchased.



Many other cities including Seattle, Chicago, Los Angeles, Tucson, Omaha and New Haven have been actively upgrading their fleets. Check with your city government for more information.

YOU CAN MAKE A DIFFERENCE

- ✓ Ask your school to require clean buses.
- ✓ Help set up no-idling zones outside your school.
- ✓ Be a good role model: Don't leave your car engine idling.
- ✓ Start a clean school bus campaign in your neighborhood.

For more information, go to www.cleanbuses.org

Founded in 1967, Environmental Defense is a nonprofit, nonpartisan organization representing 500,000 members. Employing more Ph.D. scientists and economists in environmental advocacy than any similar group, it works to create innovative market-based solutions to protect clean air and water, healthy food and flourishing ecosystems.

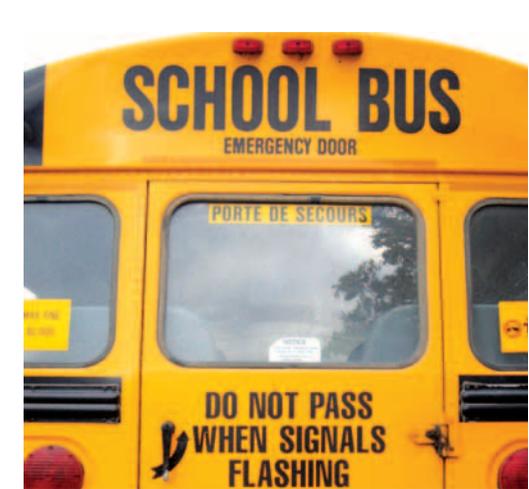

ENVIRONMENTAL DEFENSE
finding the ways that work

PROTECTING
OUR KIDS'
HEALTH:

**REDUCE
SCHOOL BUS
DIESEL
POLLUTION
TODAY**


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www.cleanbuses.org



DIESEL SCHOOL BUS POLLUTION AND CHILDREN'S HEALTH

Every day, half a million school buses safely carry 24 million American children to school, field trips and athletic events. Unfortunately, **most buses are**

powered by diesel engines that actually pollute the air inside the bus. Diesel tailpipes spew out more than 40 toxic substances, smog-forming nitrogen oxides and black sooty particulate matter (PM). Studies show the pollution gets trapped inside the bus where kids breathe.



It's important to note that **children riding most buses receive an extra dose of pollution on each ride:**

monitoring shows the diesel pollution inside a typical school bus can be up to five times higher than the outside air. And the science indicates that even short-term exposure to elevated particulate levels can have detrimental health effects.

Coarse and fine particles (PM₁₀ and PM_{2.5}) are breathed deeply into the lungs where they can lodge, creating serious, even life-threatening health problems. **Children are at particular risk because their lungs are still developing.** Kids also breathe two times more air per pound of body weight than adults do. The damage to young lungs can result in reduced lung function by adulthood and other dangerous health problems.

Particle pollution causes:

- aggravated asthma
- lung inflammation
- heart problems
- possible cancer
- premature death

The good news is that children do not have to be exposed to diesel school bus pollution. **Cost-effective solutions can cut harmful emissions by up to 90%.** New buses and retrofits, such as

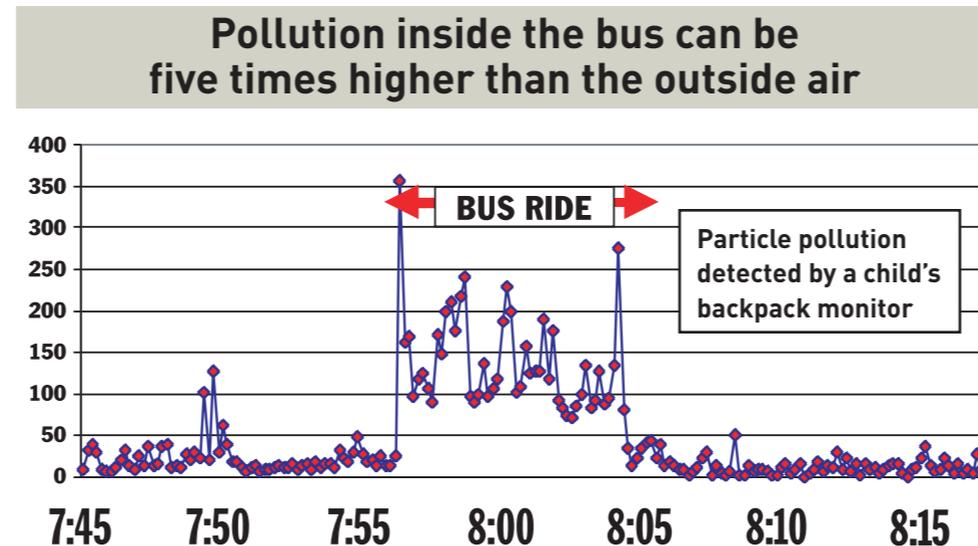
attaching filters to older buses, are smart ways to trap dirty air. Bus owners, public school districts, community leaders and parents can act now to protect children from this pollution.

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HOW CHILDREN ARE EXPOSED

Diesel pollution from the tailpipe and the engine concentrates inside the bus. Pollution enters through the door and seeps into the cabin through tiny openings when the bus is in motion. Idling exacerbates the problem: It causes a build-up of pollution that is let into the bus when the doors open. Children can receive an extra dose of pollution every time they ride, a real cause for concern, because **even short-term exposure to high levels of particulate pollution can have harmful health effects.**

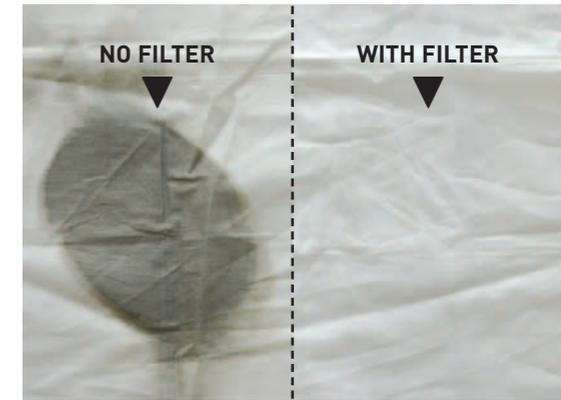


Source: Environment & Human Health, Inc. (2002)

CUTTING SCHOOL BUS POLLUTION

School buses are still the safest and smartest ways to travel to school. But with lower diesel emissions, they could be even safer. New buses and retrofits are good solutions. Here are a few ways to make a difference:

Replace: New buses are much cleaner than older ones. Thanks to strict new Environmental Protection Agency standards, new 2007 buses are 90% cleaner than the buses they replace.



A handkerchief held over a tailpipe for 30 seconds.

Retrofit: Affordable pollution-cutting filters are available. For just \$9,000–15,000 each, older buses can be fitted with tailpipe and crankcase filters that reduce emissions by up to 90%, making them as clean as new



Installing a diesel particulate filter.

off when waiting, especially within 500 feet of a school. Auxiliary power can be used to warm or cool the bus.

Re-route: Encourage smart fleet use. Routes and travel times should be scheduled to achieve the most efficiency. The cleanest buses should travel the longest distances and the most days.

buses for a fraction of the cost. Every dollar spent on retrofitting a diesel school bus is worth at least \$12 in health benefits (such as avoided emergency room visits)—a very smart investment.

Reduce: Eliminate idling. Bus engines should be turned

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