



Clean School Bus USA

A Partnership to Reduce Pollution
from School Buses

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December 7, 2007



Presentation Overview

- IAQ issues and Diesel Exhaust
- Why School Buses?
- Solutions to lower diesel exhaust exposure
- What you can do





IAQ TFS and Diesel Exhaust

- Diesel exhaust contains harmful pollutants
 - By-product of diesel combustion
 - Particulate matter ("PM") and NOx (nitrate particles and ozone)
 - Toxic substances
- Diesel exhaust (and other mobile sources) can get into school buildings
 - Air intakes, windows, doors
 - From school buses, delivery vehicles, cars

Asthma and Diesel Exhaust

- Diesel exhaust is linked to asthma
- Concerned about particulate matter (fine particles) because:
 - Penetrate indoors from outside air
 - Penetrate deep into lungs
- Children are more susceptible
 - Breathe more air per body weight than adults
- Many studies link breathing PM to significant health problems:
 - Aggravated asthma, respiratory symptoms, decreased lung function
 - Cancer, heart disease

Why Focus on School Buses?

- School buses are very safe but we can do better:
 - Many are very old
 - Rudimentary or no emission controls
 - Almost 400,000 are diesel-powered
- 25 million children in the U.S. ride school buses
- Recent studies show that air inside bus can be more polluted than outside bus
- EPA's 2004 & 2007 heavy-duty engine standards only apply to *new* engines
 - Today's kindergartners will be in college before the school bus fleet turns over!

Clean School Bus USA Goal: Tomorrow's Buses for Today's Children

- Goals:
 - Reducing school bus idling & reinforcing smart driving practices
 - Retrofitting buses with modern pollution control technology
 - Replacing the oldest buses with new, cleaner buses
- The benefits: healthier kids and communities
 - Less air pollution
 - 1,000s of fewer cases of respiratory symptoms each year
 - Reduced asthma symptoms, medication, and missed school days

The Strategies Available: Learn the Three "R's"

- **Reduce Idling and Reinforce Smart Driving Practices**
 - Smart, easy, and immediate way to reduce pollution
 - Saves fuel and money
 - All school districts can participate
- **Retrofit Buses**
 - Can achieve significant reductions in particulate matter emissions (as much as 90%)
- **Replace Buses**
 - Replacing old buses delivers important safety as well as health benefits



Reduce Idling & Reinforce Smart Driving Practices



- Goal is to get drivers to reduce engine idling
 - Behavioral change
 - Idling associated with driver comfort, engine "warm-up," habit
 - Train drivers with EPA's idling reduction video
- Can use combination of incentives and policies/regulations/laws
- Some States/localities have regulations
- Many school districts have "no-idling" policies
 - Sample policies available on EPA's web site
 - www.epa.gov/otaq/schoolbus/antiidling.htm

Reduce Idling & Reinforce Smart Driving Practices



- Recommendations for Idling Reduction
 - Idling no more than 3-5 minutes under normal circumstances
 - Power flashing lights with the battery, not the engine
 - In cold weather, warm the engine using block heaters and provide a room inside the school where drivers can wait
 - In warm weather, provide air conditioned waiting room for drivers

Reduce Idling & Reinforce Smart Driving Practices



- Reinforce Smart Driving Practices
 - Establish anti-caravanning policies
 - Don't follow closely behind other diesel vehicles especially if there is visible smoke
 - Ensure good maintenance of fleet
 - Plan routes to reduce diesel exhaust exposure



Clean School Bus Idling Reduction Program

- Free Idling Reduction Materials
 - Order via web site:
www.epa.gov/cleanschoolbus
 - Driver pledge card, driver key chain, training video, background materials, classroom poster, sample policies, etc.
- Lower emissions, save fuel
 - 20% less fuel consumed in many cases

Funding Sources for Clean School Bus USA Projects

- Federal
 - EPA: Lots of \$\$ in 2008 (most likely)
 - Look for Regional EPA announcements
- State Funding
 - Some States have programs
- Local funds
- DOT funds (CMAQ)
 - Congestion, Mitigation and Air Quality Funds
- Corporate sponsorship

What Can You Do?

- Sign up for Idling Reduction Program
 - Get your local school district to put an anti-idling policy into place
 - Train and reward drivers
 - Make sure the district enforces it
 - Work with parents, delivery truck area, etc.
- Look for grant information to help your district retrofit or replace older buses
- Order *Magic School Bus Gets Cleaned Up*
- Check out EPA's web site for other ideas, information
- Thank you!
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