

WHAT YOU SHOULD KNOW ABOUT

# DIESEL EXHAUST AND SCHOOL BUS IDLING

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Recent studies have found a strong correlation between exposure to diesel exhaust and impaired lung growth in children.

School buses provide the U.S. with an estimated 10 billion student rides annually.



For more info, call the EPA Air Quality Hotline at 1-800-821-1237

**D**iesel exhaust from idling school buses can accumulate on and around the bus and pose a health risk, particularly to children. When buses idle in the school yard, the exhaust also can pollute the air inside the school building and pose a health risk to children throughout the day. Numerous scientific studies indicate that exposure to diesel exhaust can cause lung damage, respiratory problems, premature death, and lung cancer. However, there are some simple steps that schools can take to reduce idling time and air pollution.



## HOW ARE CHILDREN AFFECTED?

Air pollution from diesel vehicles has health implications for everyone, but children are more susceptible to this pollution than healthy adults because their respiratory systems are not fully developed. Children breathe 50 percent more air per pound of body weight than adults. Diesel exhaust contains significant levels of small particles, known as fine particulate matter. Exposure to particulate matter, especially fine particles, is associated with increased frequency of childhood illnesses. Recent studies have found a strong correlation between exposure to diesel exhaust and impaired lung growth in children. In a study released in February 2002, researchers from Yale University in conjunction with Environment and Human Health, Inc. found that children riding on school buses are exposed to high levels of diesel exhaust. The study indicates that the increased exposure is directly related to idling school buses. School buses provide the United States with an estimated 10 billion student rides annually.

## RECOMMENDED ACTIONS TO REDUCE DIESEL POLLUTION

Although every school district is unique, there are a number of steps that schools can take to reduce the health risks associated with exposure to diesel exhaust. Here are some actions school districts should consider:

### ESTABLISH IDLING GUIDELINES

- When school bus drivers arrive at loading or unloading areas to drop off or pick up passengers, they should turn off their buses as soon as possible to eliminate idling time and reduce harmful emissions. The school bus should not be restarted until it is ready to depart.

## STEPS YOU CAN TAKE TO REDUCE DIESEL POLLUTION

- 1 Direct school bus drivers to turn off their buses as soon as they arrive in the school yard.
- 2 Limit idling time of buses during early morning warm-up.
- 3 Provide a space inside the school where bus drivers can wait.

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- If buses need the engine to run the flashing lights, consider changing the circuit configurations so that the flashing lights can be powered by the battery without the engine running.
- At school bus depots, limit the idling time during early morning warm-up to what is recommended by the manufacturer (generally 3 to 5 minutes). In colder climates, block heaters, which plug into electrical outlets, can help warm the engine to avoid starting difficulties and shorten warm-up time.
- In the winter, provide a space inside the school where bus drivers who arrive early can wait.
- Follow anti-idling laws and guidelines in your city/state.

#### **WORK CLOSELY WITH BUS COMPANIES AND BUS DRIVERS TO IMPLEMENT THE GUIDELINES**

- Make sure both the bus company and the bus drivers understand the importance of the new guidelines.
- Highlight the economic benefit of reduced fuel consumption as a result of less idling. A typical diesel vehicle burns approximately one gallon of diesel fuel for each hour it idles. Thus, if a company operates 25 buses and each bus reduces its idling time by 30 minutes per day, at \$1 per gallon of diesel fuel, the company would save \$2,250 per school year in fuel costs.
- Inform drivers of the potential risk to their health from breathing diesel exhaust and the benefits of not idling.
- Establish a program to recognize drivers. For example, create buttons that drivers who pledge to follow the guidelines can wear.

#### **WORK CLOSELY WITH BUS COMPANIES TO RETROFIT BUSES WITH POLLUTION CONTROLS**

- Fuel buses with ultra-low sulfur diesel fuel and install particulate matter filters. This approach can reduce emissions of particulate matter by more than 90 percent.
- More information about retrofit options is available at [www.epa.gov/otaq/retrofit](http://www.epa.gov/otaq/retrofit).

#### **WORK CLOSELY WITH BUS COMPANIES TO PURCHASE THE CLEANEST NEW BUSES**

- EPA is working to reduce diesel pollution from new heavy-duty diesel trucks and buses by setting more stringent emission standards that will take effect beginning in 2004. In 2007, new trucks and buses rolling off the assembly lines will be 95 percent cleaner than today's models.
- Because some buses may meet EPA standards ahead of schedule, ask the manufacturer before purchasing a new bus to see if you can acquire one that meets these standards. In addition, many new buses come equipped with devices that minimize idling and warm-up time.

Idling wastes fuel and money.

A typical diesel vehicle burns approximately one gallon of diesel fuel for each hour it idles.

Reducing idling time by 30 minutes per day, can save bus companies \$2,250 per school year in fuel costs.



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