

## Benefits of Reducing School Bus Idling

School buses are often left idling, meaning their engines are running while they are parked. On very cold days some idling is necessary to warm up, but even then diesel manufacturers now recommend no more than 5 minutes (U.S. Environmental Protection Agency, 2003, June). Many school districts and communities are working to reduce school bus idling in order to reduce fuel use and reduce emissions.

The following is an example to illustrate the potential impact of reduced idling. For a school district with 180 buses and 180 school days per year, what would happen if all of the buses reduced their idling by 15 minutes per day?

### **Fuel Savings = 4050 gallons per year**

An idling school bus uses 0.5 gallons of diesel per hour of idling (U.S. Environmental Protection Agency Office of Transportation and Air Quality, 2009, January 6), so for 180 buses for the whole school year there would be a savings of 4050 gallons of diesel.

$$\text{diesel saved} = (0.5 \text{ gallons}/60 \text{ minutes})(15 \text{ minutes}/\text{day}/\text{bus})(180 \text{ days})(180 \text{ buses})$$

### **Reduced Idling = Reduced Engine Wear**

An hour of idling produces as much wear on a school bus engine as two hours of regular driving (EPA New England, 2002, April), so reducing idling reduces engine wear and could prolong the useful life of a school bus. For a bus driving 4 routes per day per bus with 35 minutes driving and 15 minutes idling per route, a reduction in idling of 15 minutes per day is a reduction in 11.5% of the engine wear. Reduced engine wear could prolong the useful life of a school bus saving money in replacement costs.

### **Reduced Emissions**

EPA has experimentally determined the emissions from an idling school bus (U.S. Environmental Protection Agency Office of Research and Development, n.d.). From those data, it is possible to calculate that if 180 buses reduce idling by 15 minutes per day for the school year they would reduce their emissions by

Nitrogen oxides	1283 pounds
Carbon monoxide	535 pounds
Particulate matter	6 pounds

Diesel exhaust is an irritant to eyes and lungs, and it can be associated with headaches, nausea, lightheadedness, numbness and tingling (U.S. Environmental Protection Agency, 2002). Diesel exhaust also contains known carcinogens and is known to trigger asthma symptoms (Pandya et al., 2002). Decreased emissions around schools could reduce the number of asthma attacks experienced at school.

## References

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