

School Bus Idling and Health

**Recommendations to
Reduce Idling
Save Money
and Spare the Air**



ADEQ
Arizona Department
of Environmental Quality



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HEALTH EFFECTS OF SCHOOL BUS IDLING

Recently published studies identified diesel engine fumes from school buses as a possible health hazard to children and school employees.

Diesel fumes from idling school buses can be harmful when loading students on to buses, particularly when several buses are lined up (queued) at once. Young lungs are particularly susceptible, as they are not completely developed. In addition, children breathe 50% more air per pound of body weight than adults.

The following health problems can occur when a school bus's engine is on and the bus is not moving:

- Soot from the exhaust increases the chance of heart and lung disease
- Asthma and respiratory problems are aggravated by prolonged exposure to diesel fumes
- Breathing diesel exhaust may increase the risk of getting cancer.

For your health and the health of our children, turn your engine off. Idling should be limited at all times, especially when the bus is near a school. Idling buses waste fuel, put wear on the engine, and are a potential source of hazardous air pollutants. The less buses idle, the healthier our community will be.



**No Idling Zone
Young Lungs at Work**

RECOMMENDED SCHOOL BUS IDLING PROCEDURES

Bus drivers have the power to help keep our air clean. As a result of these health related findings, the following procedures are recommended to keep our bus drivers and school children healthy:

ARRIVING AT SCHOOL

1. Turn off the engine ASAP and do not turn it on again until you are ready to depart.
2. If available, roof vents can remain open for ventilation.
3. Park the bus at least 100 feet from an active school air intake system, unless school district has determined that will block traffic or impair student safety.

LOADING STUDENTS

If lights are needed, activate them without running the engine. Wait until all students are loaded and door is securely shut prior to starting engine.

QUEUED BUSES

When several buses are lined up waiting for students:

1. Lead bus should control movement of other buses at all times.
2. All drivers should wait until word is received that every bus is loaded and ready to leave before starting their engines.

DEPARTING FROM SCHOOL

Drivers are discouraged from "caravanning" behind other buses to avoid fumes from the leading bus entering the passenger compartment.

DELAYS

If a problem with a student, a break-down, etc., occurs:

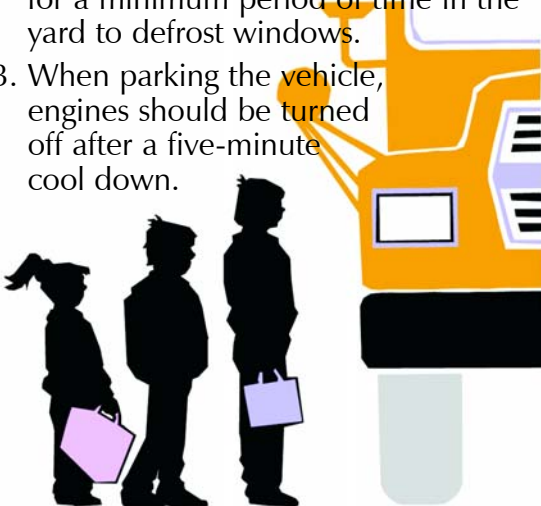
1. Buses should be free to maneuver around the delayed bus and leave the area when all the other buses are loaded and ready to depart.
2. Delayed bus should make sure windows and doors are closed while other buses depart to avoid fumes.

EXCEPTIONS

1. Smaller, special needs buses that take less time to load are exempt from these recommendations and should be free to leave when the bus is loaded.
2. If justified by cold or heat, buses may idle for a minimum time to heat or cool the bus prior to loading, or if an emergency situation dictates.

BUS STORAGE YARD

1. Drivers should not idle more than 10 minutes.
2. On cold mornings when condensation has frosted windows, drivers may idle for a minimum period of time in the yard to defrost windows.
3. When parking the vehicle, engines should be turned off after a five-minute cool down.



FACTS ABOUT IDLING AND HEALTH

- A bus idling for one hour a day during the school year adds the equivalent of 1,260 miles of wear on the engine.
- One hour of idling burns approximately 1/2 a gallon of fuel. If a school bus fleet has 50 buses and each bus reduces its idling time by 30 minutes a day, the fleet would save over \$2,500 per school year in fuel costs.
- Vehicle exhaust is the leading source of hazardous air pollution in Arizona.
- Diesel exhaust contains 40 Hazardous Air Pollutants along with carbon particulates.
- Queued idling buses have the highest levels of particulates and black carbon retained during the ride, depending on bus ventilation rates.
- Arizona's childhood asthma rate is higher than the national average.
- Asthma is the most common chronic illness in children and the leading cause of school absences.
- Diesel exhaust is classified as a probable human carcinogen by many governmental authorities, including the International Agency for Research on Cancer, the U.S. National Toxicology Program and the U.S. Environmental Protection Agency.

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