

Diesel Idle Reduction

What is Idling?

Idling is running a vehicle's engine when the vehicle is not moving. Unnecessary idling of diesel vehicles pollutes the air, wastes fuel, and causes excess engine wear. Luckily, it is easy to implement anti-idling practices.

Health Concern

Diesel exhaust contains many harmful pollutants such as carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), and a significant level of particulate matter (PM).¹ These particles can lodge deep in the lungs and heart and are linked to:

- allergies,
- heart problems,
- aggravated asthma,
- decreased lung function,
- lung cancer, and
- premature death.¹

Children are more susceptible to negative health effects from air pollution because their respiratory systems are still developing and they have a faster breathing rate.² This is why idle reduction in school buses is especially important.

Environmental Concern

Diesel exhaust pollutants such as those listed above contribute towards ground level ozone, smog, and acid rain.^{3,4} A simple way to reduce these emissions is to stop unnecessary idling.

Engine Wear-and-Tear

Engine manufacturers generally recommend no more than three to five minutes of idling. Operating a diesel engine at a low speed (such as idling) can cause twice the wear on internal components than normal operation.⁴ This raises maintenance costs and shortens engine life.

School Bus Fleets

According to the National School Transportation Association, there are 480,000 school buses operating each day across the nation.⁵ School buses are the biggest source of mass transportation in the country and the safest mode of transportation for children.⁵ Students are 70 times safer in a school bus than a car.⁶ Schools that implement anti-idling strategies can make it even safer for the students, the community, and the environment by reducing pollution caused by idling.



Bus Fleet Anti-Idling Strategies

Implement an anti-idling policy; an example can be found at <https://tinyurl.com/548rx2uu>

- Train and coach drivers to reduce the amount of time spent idling.
- Have a designated area where drivers can wait if they arrive early or take breaks between rides.
- Limit early morning idling time to manufacturer's recommendation to reduce exhaust buildup in vehicles.
- Turn off engines as soon as possible after arriving at loading or unloading areas.
- Use GPS fleet tracking software to gather data to find ways to improve performance and decrease idling.
- Recognize and celebrate drivers who successfully reduce idling.
- Install auxiliary power units (APUs) or other idle reduction technologies to run lights and heating/cooling without burning fuel.
- Install an Idle Timer that turns the engine off after a preset amount of idle time.

Idling Myths

Myth: It is important to warm up the engine with a long idle period, especially in cold weather.

Fact: With today's improved diesel engines and modern fuels, it is not necessary to idle your vehicle for long periods. Manufacturers suggest a warm-up time of three to five minutes.⁴

Myth: It is better for an engine to run at low speed (idling) than to run at regular speeds.

Fact: Running an engine at low speed causes twice the wear on internal parts compared to driving at regular speeds.⁴

Myth: It's better to leave the engine idling because restarting it produces more pollution.

Fact: Continuous idling for more than three minutes emits more PM than a restart. Emissions after a restart contain less carbon monoxide, nitrogen oxides, and other pollutants than if the school bus idled continuously over a 10-minute period.⁴

Myth: Idling is necessary to keep the cabin comfortable.

Fact: Depending on the weather, many vehicles will maintain a comfortable interior temperature for a while without idling. In addition, auxiliary heaters can be purchased and installed to keep the cabin comfortable.⁴

Contact Us

If you have further questions, please contact the Department of Environmental Quality's Air Quality Division at **(405) 702-4100**.

References

1. <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>
2. <https://www.lung.org/clean-air/outdoors/who-is-at-risk>
3. https://afdc.energy.gov/files/u/publication/idling_personal_vehicles.pdf
4. <https://www.epa.gov/dera/school-bus-idle-reduction>
5. <https://yellowbuses.org/#:~:text=480k,You%20Never%20Travel%20Alone>
6. <https://dmv.vermont.gov/faq/why-do-school-buses-not-require-seat-belts>