I have lived in the world of acronyms most of my adult life. I added ‘IAQ’—short for ‘Indoor Air Quality’—to my vocabulary this past year. Good indoor air quality (IAQ) is considered an important component of safe, healthy, and productive school environments (U.S. Environmental Protection Agency, 2009). In our work at the Education Facilities Clearinghouse (EFC), we collect and disseminate resources on safe and healthy education facilities, and I have been eager to learn more about IAQ in relation to school environmental health.

What is the significance of IAQ? ‘A’ is for air. People breathe air—regularly! That alone makes IAQ a pretty important topic. Most adults probably have a basic awareness that inhaling mold, mildew, asbestos, harsh chemicals, and other pollutants can have adverse health effects, especially for one’s respiratory system (U.S. Environmental Protection Agency, 2009). Growing children with developing lungs are especially sensitive to toxic environmental pollutants (U.S. Environmental Protection Agency, Region 8, 2014). School-based exposure to poor IAQ can interfere with a student’s ability to be present, ready, and able to learn (U.S. Environmental Protection Agency, 2009). Asthma, headaches, lethargy, nausea, drowsiness, and dizziness can be
distracting. Beyond producing acute symptoms and irritations, certain hazardous pollutants—referred to as ‘air toxics’—are known or suspected to cause cancer over time (U.S. Environmental Protection Agency, 2012).

What can be done at schools to protect air quality? Many factors influence IAQ; let me draw attention to one in this blog. I was surprised to come across a study that referenced idling vehicles when searching for model practices for IAQ at schools. “What do vehicles have to do with indoor air quality?” I thought. “Vehicle emissions are linked to outdoor air pollution, aren’t they?” As I delved further into the topic, I learned that outdoor pollutants creep indoors via air flow through open doors, windows, air intake mechanisms, and ‘leaky’ building envelopes (U.S. Environmental Protection Agency, 2009). It became apparent to me how the transportation dynamics surrounding the daily ritual of school dismissal set the stage for reduced outdoor and indoor air quality.

Young schoolchildren can’t legally drive (thankfully). Therefore, transporting children to school on school buses is a major logistical operation for many school districts. You’ve seen it: buses in queue, waiting for the final bell to ring and students to spill out of buildings and climb aboard. If engines are running, fuel is burned and diesel exhaust is emitted—whether the bus is moving or not. Idling buses produce concentrated levels of unhealthy exhaust, including pollutants such as benzene and formaldehyde (American Lung Association, Colorado, n.d.; Environmental Law Institute, 2013).

Buses aren’t the only vehicles idling at schools, however. Measurements at schools have shown spikes in concentrations of air toxics during the afternoon timeframe when parents come to pick up their children (Denver Department of Environmental Health, 2012; U.S. Environmental Protection Agency, Region 8, 2014). Consider this claim: “Idling a vehicle for one minute produces more carbon monoxide than three packs of smoked cigarettes” (Denver Department of Environmental Health, 2012). This comparison provides some startling perspective when you imagine a tightly packed line of idling vehicles outside of a school building with engines running for 10, 20, or even 30 minutes.
Vehicle idling is largely unnecessary and is a behavior that can be modified with a combination of raising awareness, policy change, messaging, and enforcement (Denver Department of Environmental Health, 2012). The Environmental Law Institute tracks state laws and regulations on key school environmental health issues; more than 30 states are listed as having some form of state policy on vehicle idling at schools (Environmental Law Institute, n.d.).

Voluntary anti-idling (or reduced-idling) campaigns have been implemented with the goal to limit student exposure to toxic vehicle exhaust by lessening the frequency and duration of idling behavior (Denver Department of Environmental Health, 2012). Here are a few resources to explore for further information:

- The Clean Air at Schools: Engines Off! (CASEO) program is an example of a collaborative anti-idling program that utilizes a social marketing approach (Denver Department of Environmental Health, 2012).
- AirwatchNW offers a toolkit of downloadable and customizable resources for implementing idling reduction activities at schools (AirwatchNW, n.d.).
- The U.S. Environmental Protection Agency (EPA) website makes available a number of excellent resources related to anti-idling programs and related school bus diesel programs, emissions reductions, and clean fuels (www.epa.gov).

Raise your IAQ IQ and take action to address vehicle idling and other threats to air quality at schools!

References


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