



Fact Sheet: Reducing children's health risks from diesel school bus emissions

The Problem: Children of all ages face significant health risks from exposure to toxic air contaminants from diesel emissions, notably from diesel school buses.

The Solution: All-electric school buses eliminate toxic exposure and offer a cost effective solution to protect the health and safety of students of all ages, while substantially reducing greenhouse gas emissions and lowering costs for school districts throughout the state.

The Obstacle: Unlike most other states, New Jersey restricts 102inch wide vehicles to roads 11 feet wide, which inadvertently prohibits electric school buses from operating in most residential areas. In New York and Pennsylvania, by comparison, lane width requirements are 10 feet, which allow electric buses on their roads. 102 inch wide school buses are permitted in **all 49 other states in the US**. This also singularly deprives New Jersey from the opportunity to access a growing pot of grant funds designed to deploy electric school buses, including an opportunity to target the recent VW diesel testing fraud compensation funds for this effort.

The Solution: The New Jersey Department of Transportation should adopt vehicle width standards comparable to the rest of the US allowing for 102-inch wide school buses.

Fact #1: According to a University of California study, the diesel exhaust inhaled by 40 students commuting inside a traditional diesel school bus is comparable in magnitude to that same bus's exhaust inhaled by all 15 million people outside in California's entire South Coast Air Basin Region. (Source: Marshall and Behrentz, University of California, 2005).

Fact #2: Old diesel school buses emit a toxic mix of gases, including nitrogen oxides associated with asthma, exacerbation of lung disease and premature death. In addition to polluting the air, the diesel exhaust seeps into the bus cabin, directly sickening children. The level of diesel exhaust in old school buses is up to four times greater than in cars, and up to eight times greater than the statewide average air level. (Source: Shaftstein and Phillips, New York Times, Dirty School Buses, Sick Kids, 2016).

Fact #3: According to the EPA, "older, more polluting school buses can lead to significant health risks for students who typically ride these buses for one-half to two hours a day." In a 2015 study, researchers at the Universities of Michigan and Wisconsin reported finding that having cleaner air on school buses led to improved lung capacity and substantial reductions in absenteeism, particularly among children with asthma.

Fact #4: A 2014 University of Delaware study calculated a vehicle-to-grid capable electric bus provides a school district savings of at least \$5,700 *per seat* in net present value and becomes a net present benefit after five years of operation. A sensitivity analysis concluded purchasing an electric school bus is consistently a net present benefit, greatly reducing the gap in investment between traditional polluting school buses and clean energy electric vehicles. (Source: Noel and McCormack, *A cost benefit analysis of a V2G-capable electric school bus compared to a traditional diesel school bus*, University of Delaware).

Fact #5: In a 2015 state-by-state ranking by the American Council for an Energy-Efficient Economy, New Jersey was ranked 21st (down from 19th place the prior year). More than \$1 billion in clean-energy funds raised from utility ratepayers have been used in the past six years to plug deficits in the annual state budget. The report, supported by the US Dept. of Energy, confirmed what clean-energy advocates, utility executives and several state officials have repeatedly said: *New Jersey needs to be more aggressive in promoting energy efficiency.*