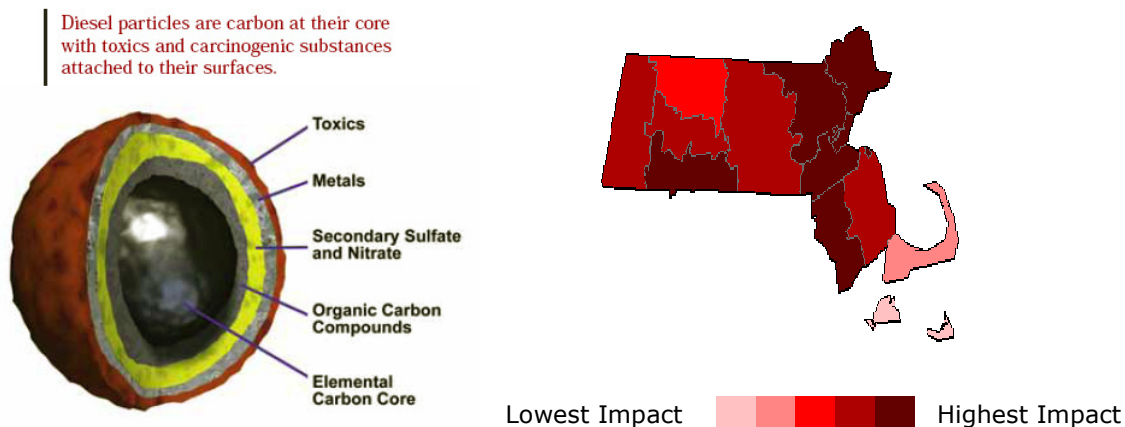


Massachusetts Diesel Pollution Initiative Diesel Pollution Overview

What is diesel pollution?

Diesel exhaust contains lung irritants, including more than 40 “air toxics”, carcinogens, and fine particulate matter (known as PM 2.5). These tiny particles are of special concern since they can be inhaled deep within the lung and can enter the blood stream. PM2.5 can aggravate asthma, increase respiratory systems such as coughing, cause chronic bronchitis and decreased lung function, contribute to cardiovascular problems such as heart attacks, and even result in premature death. Using methodology from the US EPA and the California Air Resources board, the Clean Air Task Force estimates that the cancer risk from diesel pollution is 8 times more than from all other air pollutants *combined*.



Source for images: Clean Air Task Force, *Diesel and Health in America: The Lingering Threat* (Feb. 2005).

See <http://www.catf.us/projects/diesel/>

EACH YEAR, diesel pollution in Massachusetts is responsible for more than:

- ❖ **400 premature deaths**
- ❖ **700 non-fatal heart attacks**
- ❖ **9,000 asthma attacks**
- ❖ **13,000 respiratory symptoms in children**
- ❖ **60,000 work loss days**

Source: Clean Air Task Force, *Diesel and Health in America: The Lingering Threat* (Feb. 2005).

See <http://www.catf.us/projects/diesel/>

How is MA affected by Diesel Pollution?

According to the Clean Air Task Force’s 2005 study, *Lingering Threat*, Suffolk, Middlesex, and Norfolk rank within the hardest hit 5% of counties in the entire U.S. for health impacts from diesel exhaust. For example, the lifetime diesel soot cancer risk for a resident of Norfolk County is 375 times the EPA’s “acceptable risk” level of one cancer in a million people. Diesel hotspots are concentrated in urban areas, and along highways, so people who live and work in or near cities are exposed to the greatest risks.

What fleets contribute to the diesel pollution problem?

- School buses
- Transit buses
- Construction and other industrial equipment
- Trucks
- Locomotives
- Marine vessels

Since many of these sources are concentrated in urban areas, much of the Commonwealth's population is at high risk. Occupational exposures to diesel have been associated with increased incidence of cancer.

Construction equipment, locomotives and marine vessels are also major sources of diesel pollution and use much higher sulfur grades of diesel fuel than on-road diesel vehicles.

What Can Massachusetts Do to Reduce Diesel Pollution?

MA has received \$22.5 million from the federal government to install pollution control devices on all full-size school buses and transit buses in the state. In addition, proposed legislation (S. 2338) in Massachusetts will require retrofit technology to be installed on diesel waste haulers and state owned, leased or contracted vehicles (including construction equipment). The legislation will also set up a private fleet fund to offset the cost of retrofit installation.

What technologies can reduce diesel pollution?

New Federal standards will apply to new vehicles only

Beginning in 2007, federal standards require new on-road diesel engines to be more than 85% cleaner than they previously were, by requiring technologies like *diesel particulate filters* to be included on every on-road vehicle. But since these new standards only apply to NEW engines, existing on-road diesel vehicles built to yesterday's emission standards will be on the road for years to come unless they are retrofit.

Retrofit Technologies are also available for Existing Vehicles

The same filters and other retrofit technologies that can reduce deadly fine particle pollution from new vehicles can *also* clean up existing vehicles over 85%. US EPA and the California Air Resources Board (CARB) certifies many different types of pollution control equipment which are categorized as "Level 1", "Level 2" and "Level 3" devices. For instance, "Level 3" or diesel particulate filters can be used in certain types of vehicles and can achieve greater than 85% reductions in carcinogens and dangerous particles. These devices remove particulate matter from diesel exhaust by physical filtration. The most common type is a ceramic (cordierite or silicon carbide) honeycomb through which the exhaust travels on its way to the tailpipe. "Level 2" devices such as high performance diesel oxidation catalysts/flow-through filters reduce particulate matter emissions by more than 50% but less than 85% and "Level 1" or diesel oxidation catalysts reduce particulate matter emissions by more than 25% but less than 50%.

Diesel Particulate Filter
Picture from epa.gov

