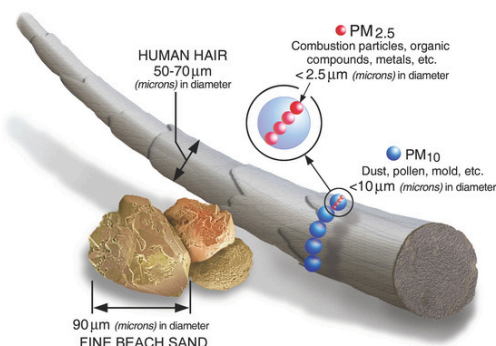


Diesel Exhaust and Health in Detroit: The Issue and Action Steps for Community Members

What is Particulate Matter (PM)?

Particulate matter (PM) is a mix of particles in the air. PM can sometimes be as big as dust, soot, or smoke. It can also be much smaller (called PM_{2.5}). When we breathe in PM_{2.5}, these small particles can pass the body's protective defenses in our nose and throat. PM_{2.5} can travel deep into our lungs and bloodstream, leading to many different health issues.



Size comparisons for PM particles
Source: U.S. EPA

What is diesel exhaust?

When trucks burn diesel fuel, this creates a mix of very tiny particles and gases called diesel exhaust.

Diesel exhaust can contain different types and sizes of PM such as black carbon (soot), metals, and other toxins.

The amount of and the types of toxins in diesel exhaust may depend on:

- Age of the engine
- If the vehicle has pollution control equipment
- Fuel type and quality
- Engine's load (how much effort it needs to move the truck)

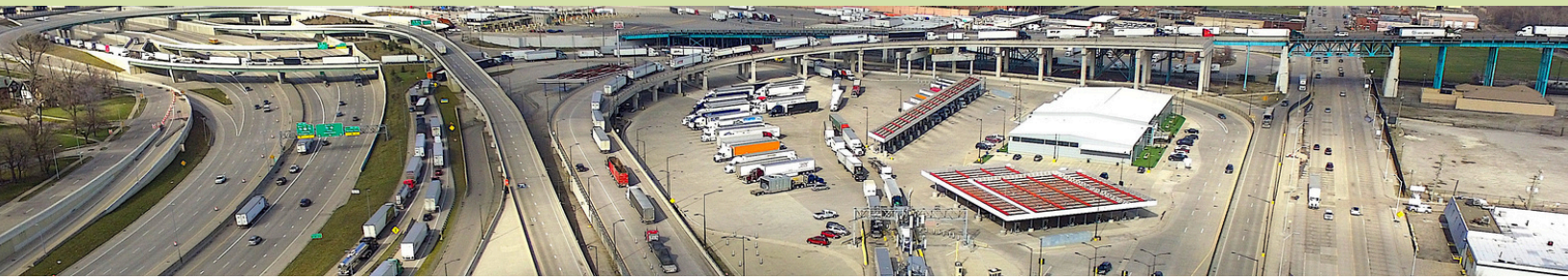
Sources of diesel exhaust

"On-road" emissions occur mostly on highways and major roads. Heavy-duty trucks are the largest emitters of on-road diesel exhaust.



"Off road" emissions occur in other places. For example, construction equipment, cranes/loaders, trains, and ships emit off-road diesel exhaust.





How does diesel exhaust impact my health?

Exposure to diesel exhaust can cause:

- Eye, nose, throat, and lung irritation
- Lightheadedness
- Worsening of bronchitis and asthma
- Reduced growth of lungs
- Chronic respiratory symptoms
- Kidney damage
- High blood pressure
- Lung cancer
- Heart attacks



Why is diesel exhaust a concern in Detroit?

Diesel exhaust emissions make up about 20% of PM_{2.5} levels at some Detroit air monitoring sites. In Detroit, diesel exhaust comes from “on road” vehicles and “off road” construction equipment powered by diesel engines.

At “hot spots,” like those close to roadways, high PM_{2.5} levels are largely due to diesel exhaust. This means levels may be particularly high in Southwest Detroit, due to truck traffic from the Ambassador Bridge.

Are there policies to protect Detroiters?

There is no air quality standard for diesel exhaust because it is a mix of pollutants. However, the state of Michigan and the U.S. Environmental Protection Agency do monitor and regulate PM_{2.5} levels. The state recommends that work is needed to reduce PM_{2.5} levels to meet national standards in Wayne County.

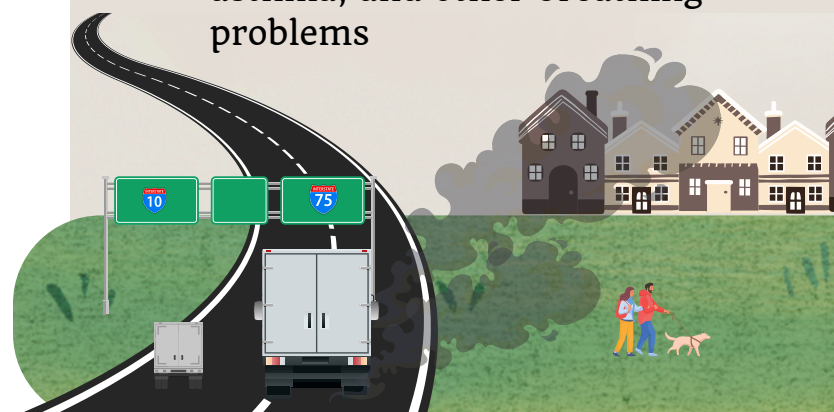
Reducing diesel exhaust can help to reduce PM_{2.5} levels in Detroit.

Who is most likely to be exposed?

Residents who live, work, or go to school within about 100 yards of highways, railroad yards, freight warehouses, and locations where diesel engines are used are most likely to be exposed to diesel exhaust.

Who is most likely to experience health impacts?

- Those living or working near diesel exhaust sources
- Other sensitive groups:
 - Children
 - Adults older than 65 years of age
 - People with heart or lung disease, asthma, and other breathing problems





How can I protect myself?

Protecting yourself from air pollution is very important. Check the air quality index regularly on airnow.gov. On days with high pollution levels:

- Stay indoors and keep doors and windows shut
- Use an N95 face mask
- Turn on HVAC (furnace or air conditioner)
- Change air filters (HEPA filters are recommended)
- Use an air purifier

Want more information related to air pollution and how to prevent exposure?



Or go to:
linktr.ee/airpollutionresources

How can I support my community?

Environmental protections can play a critical role in improving air quality in Michigan. What can we do to ensure a better environment for all of Detroit's residents?

- Encourage state decision makers to require heavy duty vehicles under contract in Michigan to replace engines and install pollution control devices. Make state and federal funds available for this.
- Talk with decision makers/policy makers about the health benefits stronger emission standards for diesel engines and lower air quality standards near highways.
- Support zoning and planning regulations that separate emission sources from people. This can be done by requiring new homes, medical facilities, daycare centers, schools, and playgrounds to be 500 or more feet from highways and busy roads.
- Urge the enforcement Detroit's anti-idling ordinance and rerouting of trucks outside of residential communities.



Please see http://mleead.umich.edu/Coec_Fact_Sheets.php for the citations included in this factsheet.

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