



## Traffic-Related Air Pollution & COVID-19

The M-LEEaD Center's Community Engagement Core (CEC) increases awareness and understanding of environmental health research.

Stakeholder Advocacy Board members include:

- Community Health and Social Services
- Detroit Health Department
- Detroit Hispanic Development Corporation
- Detroiters Working for Environmental Justice
- Eastside Community Network
- Ecology Center
- Green Door Initiative
- Henry Ford Health System
- MDHHS
- Michigan Environmental Justice Coalition
- Sierra Club
- We the People of Detroit

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### What is the main concern?

Exposure to traffic-related air pollution is associated with greater COVID-19 severity.

### What is traffic-related air pollution (TRAP)?

TRAP includes tailpipe emissions, tire and road wear and other air pollutants. People who live near major roads and highways are exposed to higher concentrations of pollutants including:

- Nitrogen Oxides ( $\text{NO}_x$ ) are emitted from tailpipes of motor vehicles, and can worsen lung conditions.
- Ozone ( $\text{O}_3$ ) is produced from  $\text{NO}_x$  reacting with other air pollutants. Exposure to ozone can cause or worsen lung conditions and influence birth outcomes.
- Particulate Matter ( $\text{PM}_{2.5}$ ) includes tiny particles that can be inhaled deep into the lungs.  $\text{PM}_{2.5}$  can increase risk of lung conditions, heart conditions, and premature death.
- TRAP includes other pollutants such as carbon monoxide, volatile organic compounds (VOCs) and metals from brake and tire wear.



## TRAP and COVID-19

Long term exposure to TRAP, especially people living near major roadways, is associated with increased risk of lung and heart conditions, such as asthma, lung cancer, and ischemic heart disease. Recent studies have found that TRAP, specifically ozone, NO<sub>x</sub> and PM<sub>2.5</sub>, increases the risk of COVID-19 infection, the severity of the disease and risk of death.

### What can Detroit leaders do for affected communities?

- Adopt ordinances to designate truck routes, build sound walls and vegetative buffers, and increase the distance between major roadways and residential areas, schools, healthcare facilities, and other areas with vulnerable groups.
- Ensure adequate COVID-19 care is available to communities most vulnerable to TRAP, including those living near major roadways, unhoused individuals, children, and those without air filters and air conditioners in their homes.
- Continue research on TRAP, especially relating to the construction of the Gordie Howe International Bridge, as well as warehouses and logistics centers, which will bring additional traffic pollution in Southwest Detroit.
- Promote equitable transitions to electric vehicles to reduce TRAP.
- Implement idling controls to reduce or eliminate emissions from trucks and other vehicles that are not moving.
- Take precautionary actions to reduce exposures on high pollution days.

### Works Cited

- Zhanghua Chen et al., "Near-Roadway Air Pollution Associated with COVID-19 Severity and Mortality – Multiethnic Cohort Study in Southern California," *Environment International* 157 (December 2021): 106862, <https://doi.org/10.1016/j.envint.2021.106862>.
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- Nicola Sheppard et al., "Particulate Matter Air Pollution and COVID-19 Infection, Severity, and Mortality: A Systematic Review and Meta-Analysis," *Science of The Total Environment* 880 (July 1, 2023): 163272, <https://doi.org/10.1016/j.scitotenv.2023.163272>.
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- Michael Jerrett et al., "Air Pollution and the Sequelae of COVID-19 Patients: A Multistate Analysis," *Environmental Research*, August 7, 2023, 116814, <https://doi.org/10.1016/j.envres.2023.116814>.

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The University of Michigan Lifestage Environmental Exposures and Disease Center (M-LEEaD) Community Engagement Core (CEC) promotes collaboration among UM environmental health researchers and communities to advance knowledge of environmental health issues that affect community members in Detroit and Southeast Michigan.

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