

Canadian Lung Association  
B R E A T H E

**48% of schools in  
Canada are located  
within 200m of a high-  
traffic roadway.**

Traffic-related air pollution — particularly diesel exhaust — is a serious threat to the health of Canadians. We need to do more to reduce diesel emissions from medium-duty and heavy-duty vehicles.

[www.lung.ca](http://www.lung.ca)

**High-traffic roadways are associated with a higher risk of exposure to TRAP, putting those living close to them at greater risk of adverse health effects.**



**4 in 10 Canadians**

live within 250m of a high-traffic roadway.

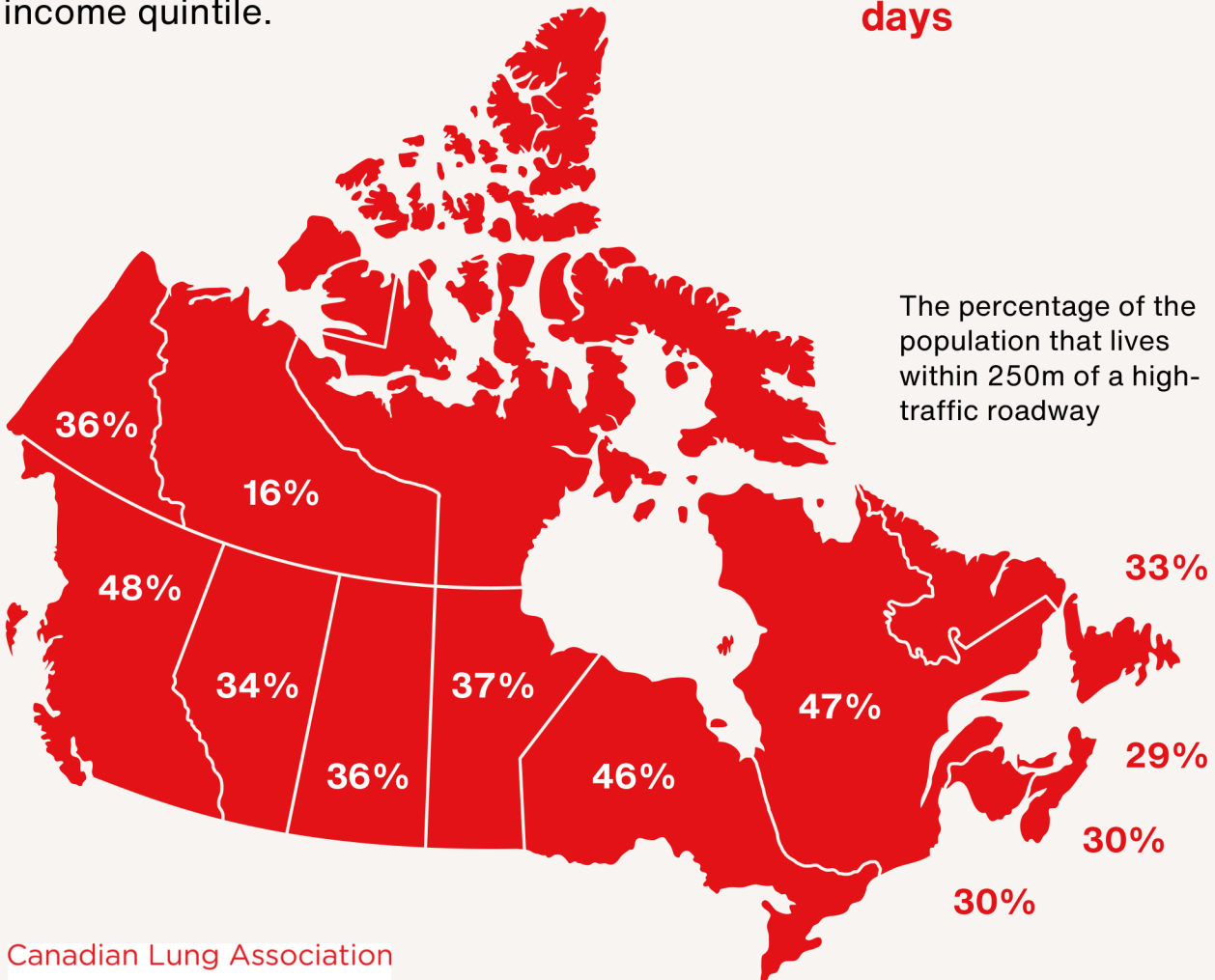
Canadians in the lowest income quintile are

**6.14 times more likely**

to live within 250m of a high-traffic roadway than Canadians in the highest income quintile.

Health Canada estimates that every year in Canada, TRAP contributes to:

- **1,200 premature deaths**
- **210,000 asthma symptom days**
- **2.7 million acute respiratory symptom days**







## Children are particularly vulnerable to the effects of diesel exhaust.

**2.2 million Canadian children travel on school buses every day – 70% of these buses are diesel fueled.**

We must protect Canadian children from the harmful effects of diesel exhaust. Accelerating the shift to electric school buses, especially in communities facing disproportionate exposure to traffic-related air pollution, is one important step that will help protect Canadian children.

Our partners, the Canadian Partnership for Children's Health and the Environment have more information on their [website](#).

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# What's so bad about diesel exhaust?

The primary components of diesel particulate matter include elemental carbon, organic compounds including polycyclic aromatic hydrocarbons (PAHs), sulfate, nitrate and many other trace metals.

Most diesel exhaust particles are tiny enough to be inhaled deep into the lungs where they pose significant risk to health.

**Health Canada estimates that each year, on-road diesel emissions are responsible for:**

- **880,000 acute respiratory symptom days**
- **62,000 asthma symptom days**
- **1,500 childhood bronchitis episodes**
- **490,000 restricted activity days**

## **Exposure to diesel exhaust has been linked to:**

- Irritation of the lungs and throat, wheezing, coughing
- Reduced lung function
- Worsening allergy symptoms
- Worsening asthma symptoms
- Impaired cardiac function
- Lung cancer
- Bladder cancer
- Breast cancer

## **In pregnant women**

- Increased infant mortality
- Reduced fetal growth
- Low birth weight
- Premature birth

## **In children**

- Development and worsening of asthma symptoms
- Behavioural and neurological problems
- Lower cognitive functioning
- Childhood leukemia



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# Canadians say air quality is affecting their health – and they want action



**79%** are concerned about how traffic emissions are affecting air quality

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**52%** say air quality is having a bigger impact on the decisions they make in daily life

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**36%** say poor air quality and worsening air pollution associated with climate change is directly affecting their health

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**58%** have noticed in the past year, a bigger impact on their health from worsening air quality related to climate change events (like wildfires)

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**86%** feel that solutions that address the health affects of air quality should be a priority when it comes to addressing climate change

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**83%** support the acceleration of the electrification of school buses

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**82%** support the introduction of interim five-year targets to ensure zero by 2040 is on track

## Sources for further reading

### **Government and NGO publications**

- [Canadian Partnership for Children's Health and the Environment](#) (website)
- [Diesel Engines and Public Health](#). Union of Concerned Scientists. Cambridge, MA, 2005 (updated 2022).
- [Diesel Exhaust: It Takes your Breath Away](#), v2.0. Workers Health & Safety Centre. Toronto, ON, nd.
- [Discussion Paper for Heavy-Duty Vehicles and Engines in Canada: Transitioning to a Zero-Emission Future](#). Environment & Climate Change Canada, December 2021.
- [Exposure to Traffic-Related Air Pollution in Canada: An Assessment of Population Proximity to Roadways](#). Health Canada, March 2022.
- [Human Health Risk Assessment for Diesel Exhaust](#). Health Canada, 2016.
- [Traffic-Related Air Pollution: Asthma, Allergies, and Lung Function Assessment](#). Health Canada, June 2020.

### **Published research**

- Gawryluk, JR, Palombo, DJ, Curran, J et al. [Brief diesel exhaust exposure acutely impairs functional brain connectivity in humans: A randomized controlled crossover study](#). *Environmental Health* 22(7): 2023.
- Kilburn, K. [Effects of diesel exhaust on neurobehavioral and pulmonary functions](#). *Archives of Environmental Health* 55(1), 2000.
- Liu NM & Grigg J. [Diesel, Children and respiratory disease](#). *BMJ Paediatrics Open* 2(1), 2018.
- Long, E & Carlsten, C. [Controlled human exposure to diesel exhaust: Results illuminate health effects of traffic-related air pollution and inform future directions](#). *Particle & Fibre Toxicology* 19(11), 2022.
- Suglia, S, Gryparis, A, Wright, RO, Schwartz, J, & Wright, RJ. [Association of black carbon with cognition among children in prospective birth cohort study](#). *American Journal of Epidemiology* 167(3), 2008.