



# Air Quality

## in the City of Hamilton

### What is Air Quality?

Air quality has a large affect on our health, the environment, and the economy. Air quality is calculated by measuring six key air pollutants:

- Nitrogen dioxide (NO<sub>2</sub>)
- Ground level ozone (O<sub>3</sub>)
- Inhalable particulate matter (PM<sub>10</sub>)
- Respirable particulate matter (PM<sub>2.5</sub>)
- Sulphur dioxide (SO<sub>2</sub>)
- Carbon monoxide (CO)

Bad air quality can be created by us; from the air pollutants released into the air from our cars, trucks, factories, and the energy we use for heating and cooling our houses. It's the burning of fossil fuels such as coal, oil, gasoline, diesel and natural gas that cause poor air quality and lead to more severe environmental issues such as climate change and acid rain.

The quality of air we breathe is important to everyone living in Hamilton. Having a city with clean air helps improve the quality of life for current residents and helps attract new residents, especially those looking to raise a family.

### What are some of the major causes of poor air quality?

#### Smog

Smog is a combination of ground-level toxic gases and airborne particulate matter that hangs over urban areas on hot, dry, and windless days. When this occurs, many health concerns are raised especially for children, seniors, pregnant women, people with heart and lung conditions, and smokers.

In Hamilton: Hamilton has a corporate smog response plan to reduce air emissions during bad air quality days by developing and implementing Air Quality Advisory actions for municipal operations. For example City staff are alerted about poor air quality forecasts and encouraged to take transit. The City also encourages business and industry to develop and implement Air Quality Advisory action plans to reduce smog and protect health.

## Transportation

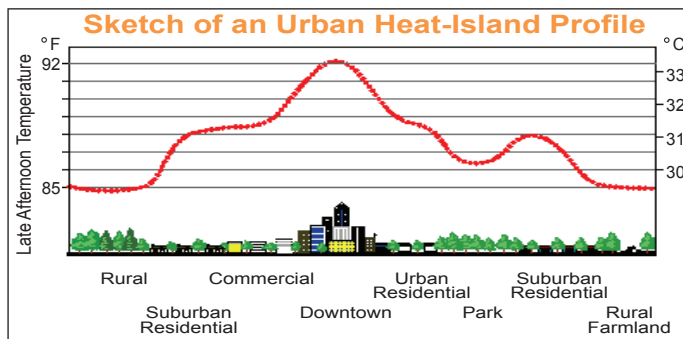
Emissions from everyday vehicles (cars and trucks) produce more air pollutants than all other sources. It is important to decrease the large amount of pollution created by our dependence on vehicles as much as possible. The breakdown of national transportation emissions = approximately 21% of nitrogen oxide emissions, approximately 51% of volatile organic compound emissions, and approximately 4% of fine particulate matter emissions.

In Hamilton: When cars, trucks and buses are left running while in park, they continue to produce air pollution that contributes to problems like climate change and smog, which affects the health of all Canadians. Hamilton has implemented an idling by-law which does not allow vehicles (personal, business or City-owned) to idle for more than three consecutive minutes.

## Urban Heat Island

Heat Islands are created when green spaces are replaced with asphalt and buildings. Cities can be up to 4 to 7 degrees Celsius hotter than their suburban or rural surroundings on hot summer days. This is referred to as “the heat island effect” and occurs because urban development replaces trees and natural surfaces with large amounts of paved and dark asphalt coloured surfaces like roofs, walls, roads, and parking lots that absorb, rather than reflect, the sun’s heat.

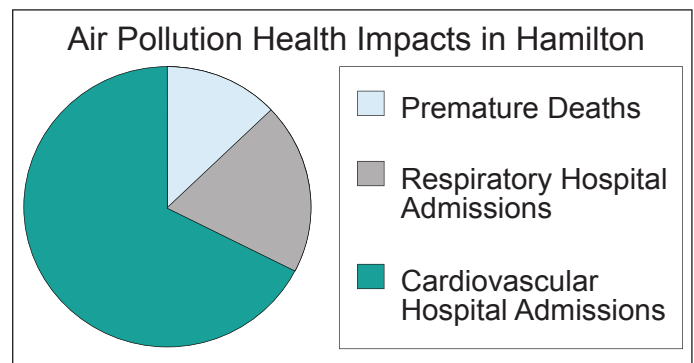
In Hamilton: The City has introduced green building incentives such as green roofs into new commercial property developments. Green roofs are one way to absorb air pollutants and heat using vegetation. The City is protecting and expanding urban green spaces and the tree canopy throughout the City. Green spaces and trees act as filters, provide shade and create urban cool spots within a City.



## What do the health experts tell us?

The Ontario Medical Association (OMA) has done a study on the impacts of poor air quality in Ontario. The OMA's 2005 report estimated that the cost of treating illnesses caused by air pollution is \$16 billion, or about \$1,250 per person in Ontario per year.

In Hamilton: Hamilton has done similar local air pollution and health studies that take into consideration cardiovascular disease caused by air pollution. It is estimated that five key air pollutants - nitrogen dioxide, ground level ozone, fine particulate matter, sulphur dioxide and carbon monoxide contribute to approximately 100 premature deaths and 620 hospital admissions in Hamilton each year.



## Can I check Hamilton's air quality?

The Ontario Ministry of the Environment (MOE) has an Air Quality Index (AQI) - a system that rates the air quality in a city. Hamilton has three air monitors set up around the city by Ontario's MOE to monitor our air quality.

In Hamilton: The Hamilton Air Monitoring Network (HAMN) is an industry-operated air monitoring network with cooperative effort from 22 local companies who are committed to assessing air quality in Hamilton on a regular basis and tracking changes in the air we breathe. HAMN has a real-time air monitoring website, [www.hamnair.ca](http://www.hamnair.ca), where you can see the data coming from the air monitors. HAMN is a key element in helping to determine where progress is being made and identifying air quality issues that require additional focus and attention.



## What is Hamilton doing to improve air quality?

Hamilton is taking action. We are fighting climate change and improving our air quality by being smarter with how we plan, which includes:

- where we build new industrial buildings and homes;
- where we build roads;
- what types of transportation we account for and encourage (i.e. bike lanes);
- using as little fossil fuels as possible; and
- using cleaner ways to make energy

## Connecting with Other Cities

Air pollution knows no boundaries and pollution from one city can very easily float into a neighbouring city or even another country. Therefore it is necessary to work together with other municipalities around Hamilton to achieve and reach larger milestones in improving air quality and combating climate change.

In Hamilton: Hamilton is part of The Greater Toronto Area Clean Air Council which promotes the reduction of air pollution emissions and increased awareness of regional air quality issues in the Greater Toronto Area through the collective efforts of all levels of government. Hamilton is a signatory of the 2009 Intergovernmental Declaration on Clean Air. Hamilton is part of the Alliance for Resilient Cities which is a collaborative network of decision-makers that support the efforts of local governments to identify the impacts of climate change, analyze adaptation options and develop actions to protect their communities.

## What are some of the specific projects and activities taking place in Hamilton?

Clean Air Hamilton is a multi-stakeholder group dedicated to improving air quality in Hamilton's community. This group is committed to improving citizens' health and quality of life through communication and promotion of realistic, science-based decision-making and sustainable practices. Clean Air Hamilton releases annual Clean Air Hamilton Progress Reports which track the present local air quality trends and the activities undertaken by Clean Air Hamilton to help improve air quality at the local level. This report, available on-line at [www.cleanairhamilton.com](http://www.cleanairhamilton.com), gives an update on new initiatives and activities.

## Community Out-Reach

Education of the importance of good air quality and teaching everyone what they can do to help Hamilton reduce air pollutants is vital to Hamilton's success.

In Hamilton: Clean Air Hamilton and the City holds a bi-annual Upwind/Downwind Conference that brings citizens, government, industry, academics, and students together to network and learn about current and emerging air quality issues.

## Where can I find information online?

### [www.hamilton.ca/newofficialplan](http://www.hamilton.ca/newofficialplan)

- learn about Hamilton Official Plan and how it is helping improve air quality

### [www.greenventure.ca](http://www.greenventure.ca)

- access resources and tips on environmentally friendly solutions

### [www.environmenthamilton.org](http://www.environmenthamilton.org)

- discover ways to get involved in your neighbourhood

### [www.hamilton.ca/sustainability](http://www.hamilton.ca/sustainability)

- find out about Hamilton's vision to become more sustainable



*For more information contact:*

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Hamilton

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