



COMMUNICATION UPDATE

TO:	Mayor and Members City Council
DATE:	December 14, 2021
SUBJECT:	Air Quality Engagement Webinar - Air Quality Monitoring in Hamilton: Giving Community a Voice (City Wide)
WARD(S) AFFECTED:	City Wide
SUBMITTED BY:	Grace Mater General Manager Heathy and Safe Communities Department
SIGNATURE:	

The Air Quality Engagement Webinar - Air Quality Monitoring in Hamilton: Giving Community a Voice is occurring on December 15, 2021 at 7:00 p.m. This event is being hosted by the City of Hamilton, Environment Hamilton and University of Toronto.

Residents are able to participate by registering for the event through the following link:
https://www.environmenthamilton.org/local_air_quality

Air Quality Monitoring in Hamilton: Giving Community a Voice

This online webinar will feature presentations from Environment Hamilton, City of Hamilton and University of Toronto. It will describe the air quality monitoring project being led by City of Hamilton staff in Public Health Services, in partnership with the University of Toronto and Environment Hamilton. It will also allow residents to help inform the project and where in their ward they have air quality concerns and would like to see additional air quality monitoring.

Project Scope and Objectives

Staff in the Air Quality and Climate Change Section of Public Health Services within the Healthy and Safe Communities Department has received funding from Health Canada to conduct an innovative air quality monitoring project. The project has brought together Environment Hamilton as the lead engagement partner and the University of Toronto as the technical air quality monitoring partner.

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The project plan is to conduct a one-year study of air quality in Hamilton. While the study will cover the entire City, the study would conduct more monitoring in census tracts with lower incomes, higher levels of immigration, more racialized Canadians and higher population density. From peer review literature there has found to be a strong correlation between these socio-economic populations and poor air quality.

Six air pollutants will be measured: benzene (C₆H₆), nitrogen dioxide (NO₂), oxides of nitrogen (NO_x), nitric oxide (NO) (available as NO_x – NO₂), ground-level ozone (O₃), and sulphur dioxide (SO₂). These pollutants were selected because of community and government concerns (e.g. Clean Air Hamilton Report). In addition, technologies exist for each that allow passive sampling techniques that provide high-quality data outputs comparable to Environmental Protection Agency (EPA) Federal Equivalent Method Instruments when both are used for time-integrated sampling. Therefore, all pollutants will be observed with passive sampling at each sampling location.

Air pollution sampling locations will be stratified by geography (Ward-level Observations) and population characteristics (Population-level Observations).

Ward-level Observations: Within each Hamilton ward (15 wards), a site will be selected with ward-level average land use conditions. These locations will be sampled during each of the four seasons in 2022. Sampling during each season was selected because most previous local and regional studies have sampled during the summer when it is most convenient; however, we know there are temporal trends with many pollutants of interest (e.g. annual Ozone cycles).

Ward-level observation locations will be selected using a geographic information systems (GIS) site selection approach:

1. In the GIS, a 100 m grid will be placed overtop of Hamilton, and within each grid cell, the proportion of major land uses, and lengths of major road types will be calculated. The Average values will be calculated for all attributes within each of Hamilton's 15 wards.
2. Using the City of Hamilton's Street Light Database, a 100-meter grid cell will be placed (centred on the Street Light's location), and the same land use and road characteristics will be calculated for each potential sampling location.
3. For each Ward in Hamilton, the street light location that best represents the average Ward land use attributes will be selected.

The ward-level observations will include 15 locations measured four times (once per season) for a total of 60 observations for each of the six pollutants (360 air pollution data points).

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

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The data will be used to inform action plans around air quality in the City of Hamilton, including using this evidence to engage provincial and federal government agencies with responsibility for enforcing air pollution and emissions sources in Ontario.

To assist with communicating this engagement session to residents, the following have been prepared:

- key messages and sample social media posts (attached as Appendix “A”); and,
- event poster (attached as Appendix “B”).

For any questions on this project please contact Trevor Imhoff, Senior Project Manager, Air Quality and Climate Change at (905) 546-2424 Ext. 1308 or by email at Trevor.Imhoff@hamilton.ca or Andrea McDowell, Project Manager, Air Quality and Climate Change at (905) 546-2424 Ext. 5288 or by email at Andrea.McDowell@hamilton.ca.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A”: Key Messages and Social Media Posts

Appendix “B”: Event Poster

Key Messages and Social Media Posts

Key Messages

- This is an air quality monitoring project being led by Public Health in the City of Hamilton in partnership with University of Toronto as the technical stakeholder and Environment Hamilton as the community engagement stakeholder.
- Project Staff would very much appreciate any support in advertising and notifying Councillor's constituents of this event occurring December 15, 2021 at 7:00PM. These key messages and sample social media posts below can help you communicate this project to your constituents.
- This project aims to better understand the hyper-local neighbourhood level concentrations of air pollution across the entire City of Hamilton, with a specific focus on marginalized populations where research has shown that these populations are generally unfairly burdened by environmental issues such as air pollution.
- Every Ward in Hamilton will be monitored with up to 15 passive air sensors mounted on City street lights and sampled four times (once per season) for a total of 60 observations for each of the six pollutants:
 - Benzene (C₆H₆);
 - Nitrogen Dioxide (NO₂);
 - Oxides of Nitrogen (NO_x);
 - Nitric Oxide (NO);
 - Ground-level Ozone (O₃); and
 - Sulphur Dioxide (SO₂).
- The first public session to consult the community and inform of the project, while also getting valuable feedback on neighbourhood specific concerns related to air quality will be held on December 15, 2021 at 7:00PM. To register click this link: https://www.environmenthamilton.org/local_air_quality
- Air quality monitoring will start in January 2022 and will last up to 1 year (four seasons). There are also four additional community sessions planned throughout the project to keep the public informed on the status and outcomes of the air quality monitoring.

Social Media Posts

Twitter:

Join @CityofHamilton @EnvHamilton on Dec. 15/21 at 7pm for a virtual workshop on an innovative air quality project with @UofT to better understand neighbourhood air

pollution across the City. Have your say & register at:
https://www.environmenthamilton.org/local_air_quality

@CityofHamilton Public Health staff are working with @UofT & @EnvHamilton to better understand neighbourhood air pollution. Have your say & attend the first virtual public session on Dec. 15/21 at 7pm. Register at:
https://www.environmenthamilton.org/local_air_quality

Sample newsletter content / Facebook post

The City of Hamilton is working with Environment Hamilton and University of Toronto to better understand neighbourhood air pollution across the City. The study uses innovative low-cost passive air sensors to measure harmful air pollutants. This information will be used to inform action plans around air quality in the City of Hamilton. Have your say at the first virtual public session on Dec 15/21 at 7pm. Register for the event here: https://www.environmenthamilton.org/local_air_quality

**Air Quality
Monitoring
in Hamilton:
Giving Community
A Voice**
**Wed Dec 15
7pm**

