

BOH22001 Clean Air Hamilton
Annual Progress Report



CLEAN AIR HAMILTON 2020 PROGRESS REPORT

January 10, 2022
Hamilton Board of Health

Matthew Lawson
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Public Health Services
Healthy Environments Division



**Clean Air Hamilton
2020 Air Quality Progress Report
November 2021**

Bruce Newbold, Ph.D.
Chair
Clean Air Hamilton

www.cleanairhamilton.ca

*Photo courtesy of Tourism and Culture
Division, City of Hamilton*

Clean Air Hamilton

Members:

Local Citizens
Ontario MECP
Health Canada
Environment Canada
ArcelorMittal Dofasco
Stelco
HIEA
Green Venture
McMaster University
MIHE
Mohawk College
Environment Hamilton
City of Hamilton
Public Health
Planning
Public Works



- Science based / Diverse / Inclusive / Facilitated Consensus
- CAH established as an implementation committee to act on recommendations contained in 1997 HAQI Reports
- Community based initiatives
- Internationally recognized
- Meet 2nd Monday of each month (virtually in light of the COVID-19 pandemic)

For the full list of Clean Air Hamilton members, please go to

<https://cleanairhamilton.ca/members/>

2020 Community Projects Supported Through Clean Air Hamilton

- **Fresh Air for Kids** (Green Venture and Corr Research)
 - Famous Fresh Air for Kids program with anti-idling engagement and campaign at participating schools;
 - Adapted to virtual learning scenario in light of the COVID-19 pandemic;
 - Engaged 218 students in the year.
- **Trees Please** (Environment Hamilton and the Hamilton Naturalists Club)
 - Collection of air quality and tree inventory data following COVID-19 protocols;
 - Inventoried 451 trees in the Parkside Neighbourhood;
 - Increased native tree canopy through tree giveaways (631+);
 - Organized community tree planting in Fall 2020, planted 200 native trees.



2021 Community Projects Supported Through Clean Air Hamilton

Approved 2021 Projects through Healthy Environment Division's Operating Budget

- **Fresh Air for Kids** (Green Venture and Corr Research)
 - Mobile air monitoring around four schools across Hamilton, virtual class presentations on results and importance of Air Quality Health Index.
- **Air Quality Research Project in Hamilton** (University of Toronto)
 - Using satellite and ground-based measurements to analyze air pollution concentrations during lock-down periods to identify reductions in nitrogen dioxide (NO₂) as an indicator for motor vehicle use.
 - Data to be used to understand how Hamilton's air pollution responded to provincial lock-down orders and inform future responses to reduced use of fossil-fuel vehicles.



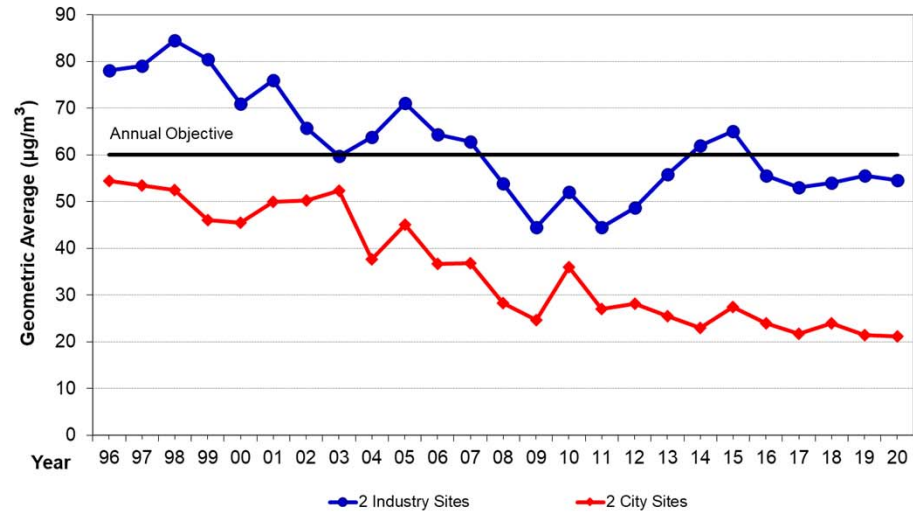
UNIVERSITY OF
TORONTO

Hamilton's Air Quality Trends

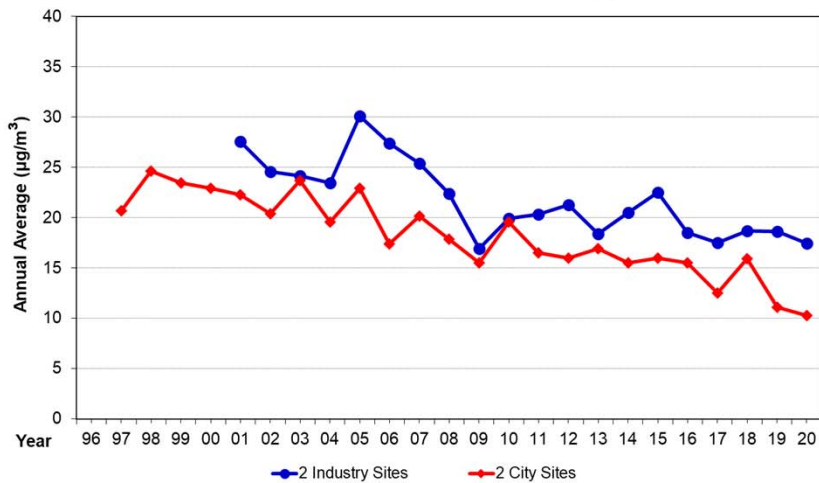
Particulate Matter (TSP, PM₁₀, PM_{2.5})



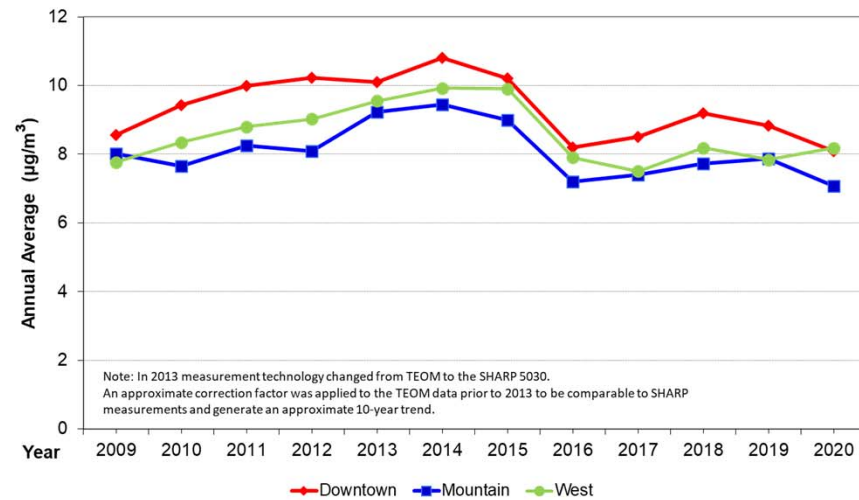
Suspended Particulate Matter Trend



Inhalable Particulate Matter (PM₁₀) Trend



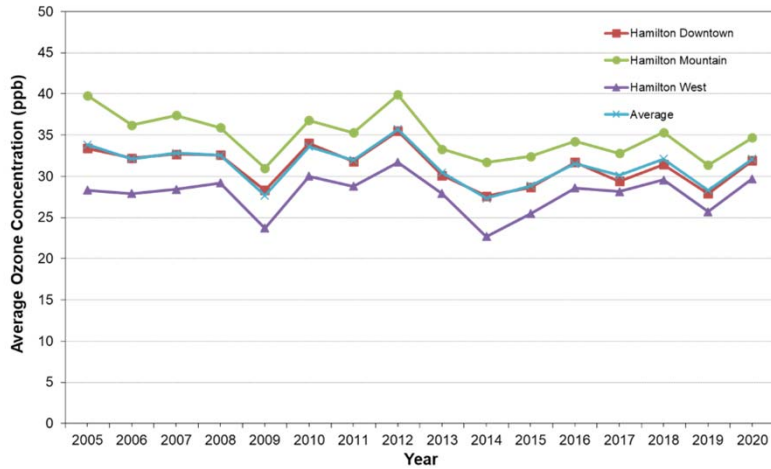
Respirable Particulate Matter (PM_{2.5}) Trend



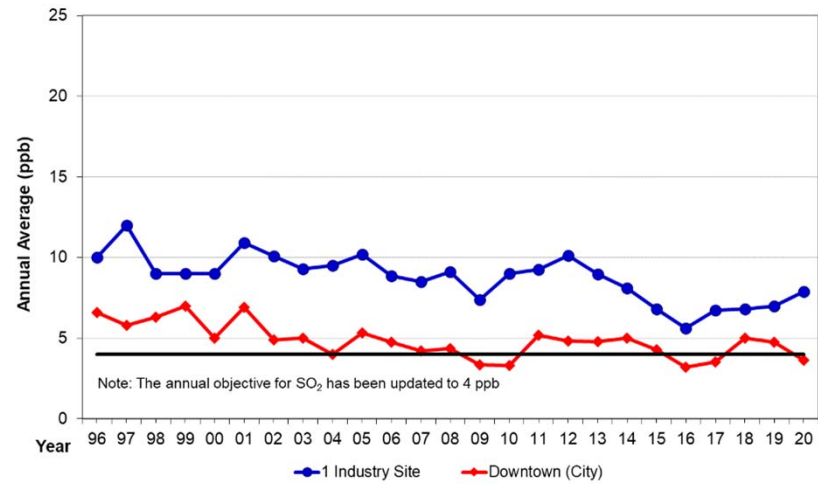
Hamilton's Air Quality Trends

Ozone (O₃), Sulphur Dioxide (SO₂), Nitrogen Oxides (NO_x), Nitrogen Dioxide (NO₂)

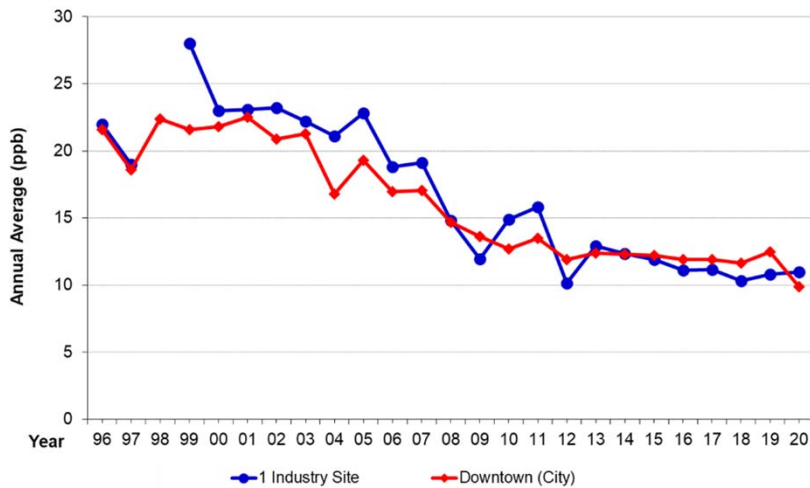
Ground Level Ozone Trend (Summer Months)



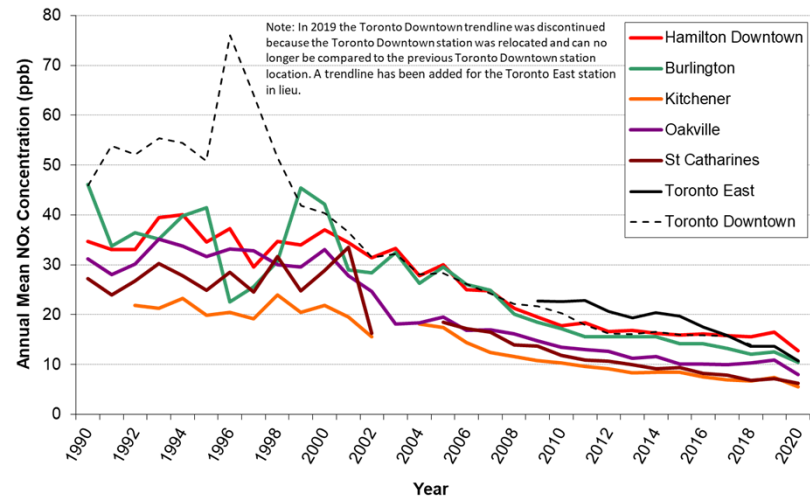
Sulphur Dioxide Trend



Nitrogen Dioxide Trend



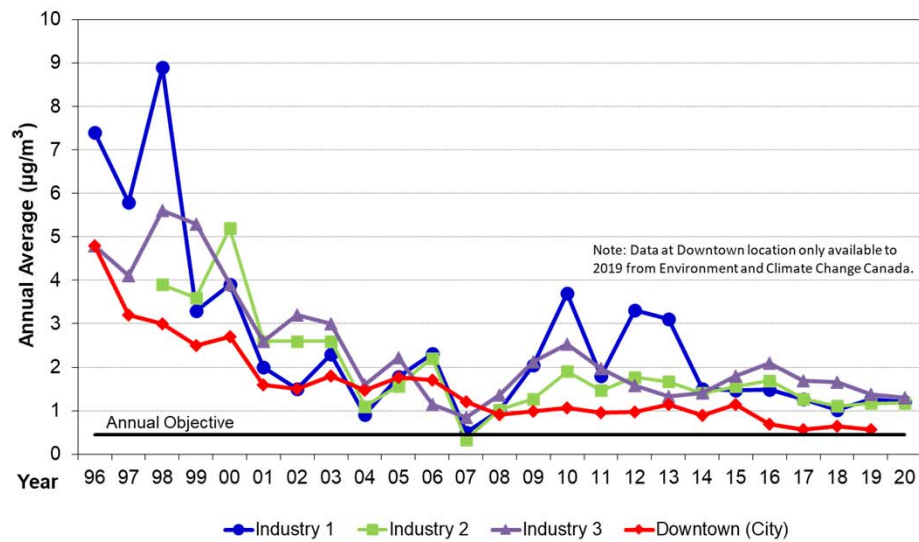
30-Year Trends for Nitrogen Oxides (Six Cities)



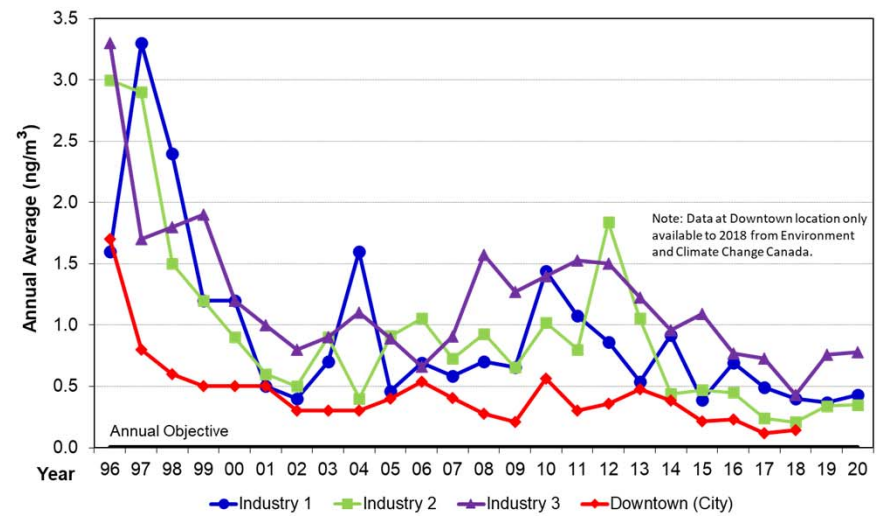
Hamilton's Air Quality Trends

Benzene and Benzo[a]pyrene

Benzene Trend



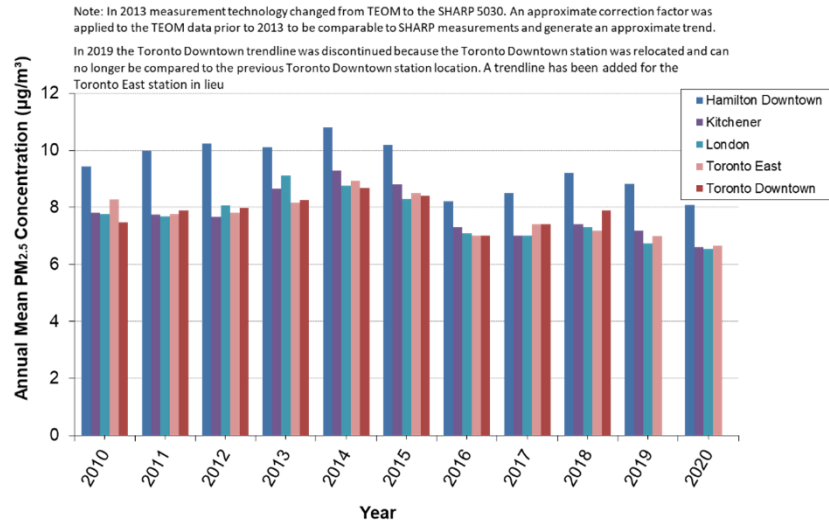
Benzo[a]pyrene Trend



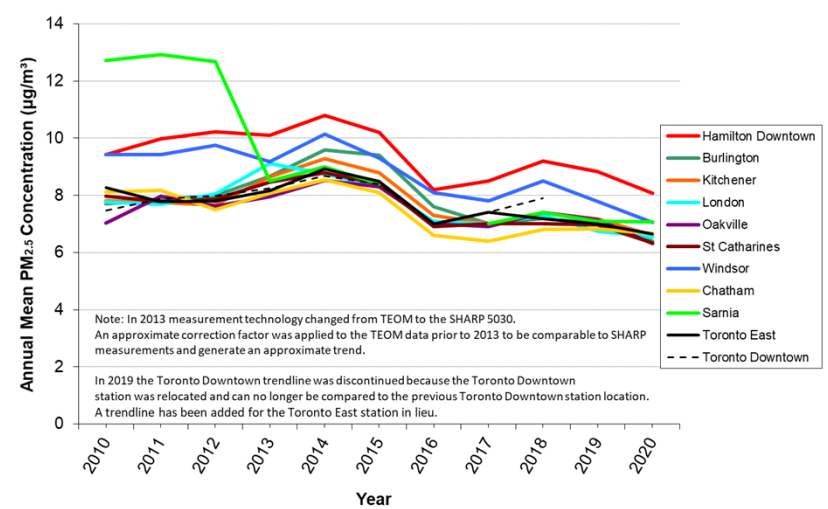
Hamilton's Air Quality Trends

Multi-City Trends for Particulate Matter (PM_{2.5}), Ozone (O₃), Sulphur Dioxide (SO₂)

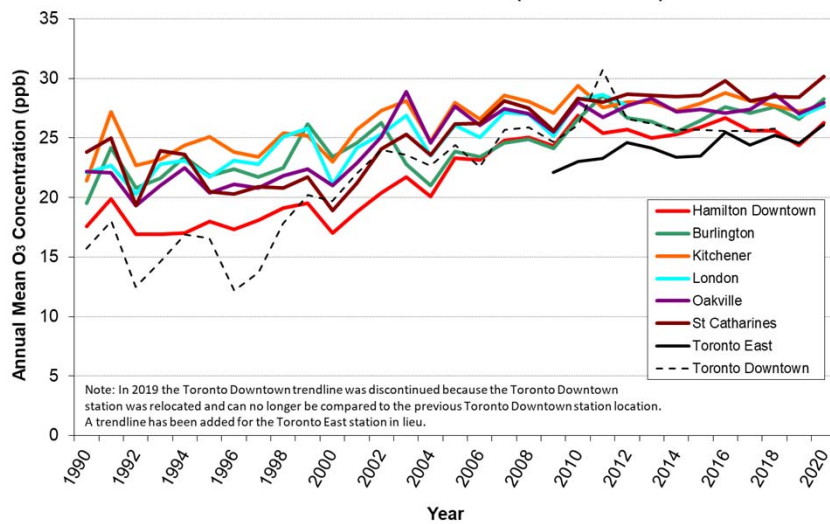
10-Year Trends for PM_{2.5} (Four Cities)



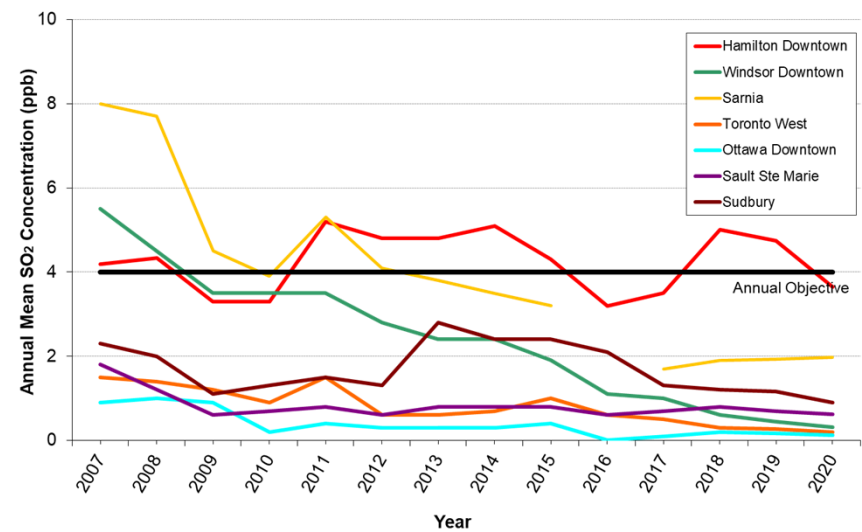
10-Year Trends for PM_{2.5} (Ten Cities)



30-Year Trends for Ozone (Seven Cities)



13-Year Trends for Sulphur Dioxide (Seven Cities)



Future Actions

- Continue to support education and outreach, air quality monitoring, and using the Hamilton Airshed Modeling System to identify major sources of pollution to prioritize action for maximum air quality improvement and exposure reduction;
- Support initiatives aimed to encourage Hamiltonians to reduce their transportation emissions through the use of alternatives;
- Encourage continued efforts of MECP and industry to reduce air borne contaminants in the City of Hamilton and the Province of Ontario;
- Organize additional UWDW Lunch & Learns (& UWDW conference) to educate and engage the City of Hamilton community on a broad range of air quality topics; and,
- Continue to expand air quality monitoring by undertaking projects with community organizations and academia to better understand air pollution concentrations at the neighbourhood level.

Why?

To ensure the health and well-being of the citizens of Hamilton.





Thank you,
On behalf of
Clean Air Hamilton

