City of Hamilton
BOARD OF HEALTH

Meeting #: 19-012
Date: December 2, 2019
Time: 1:30 p.m.
Location: Council Chambers, Hamilton City Hall
71 Main Street West

Loren Kolar, Legislative Coordinator (905) 546-2424 ext. 2604

---

1. CEREMONIAL ACTIVITIES

2. APPROVAL OF AGENDA

   (Added Items, if applicable, will be noted with *)

3. DECLARATIONS OF INTEREST

4. APPROVAL OF MINUTES OF PREVIOUS MEETING

   4.1 November 18, 2019

5. COMMUNICATIONS

   5.1 Correspondence from Kingston, Frontenac and Lennox & Addington Public Health respecting Municipal Policies and Municipal Policy Options to Mitigate Alcohol Harms

   Recommendation: Be received.

   5.2 Correspondence from the Association of Local Public Health Agencies respecting a Statement of Principles for Public Health Modernization, November 2019.

   Recommendation: Be received and referred to staff to consider in upcoming consultation responses to the province.

6. DELEGATION REQUESTS

7. CONSENT ITEMS

8. PUBLIC HEARINGS / DELEGATIONS

9. STAFF PRESENTATIONS

9.1 Municipal Actions to Reduce Harms Associated with Alcohol Use (BOH19032) (City Wide)

9.2 Clean Air Hamilton 2018 Progress Report (BOH19039) (City Wide)

Note: Due to bulk, Appendices "A", "B" and "C", and Presentation will only be available online.

10. DISCUSSION ITEMS

10.1 Alcohol, Drug & Gambling Services and Mental Health and Street Outreach Program Budgets (BOH19025) (City Wide)

10.2 Ontario Ministry of Health Discussion Paper: Public Health Modernization

11. MOTIONS

12. NOTICES OF MOTION

13. GENERAL INFORMATION / OTHER BUSINESS

13.1 Amendments to the Outstanding Business List

13.1.a Revised Due Dates

2015-A
Review of the City of Hamilton's Pest Control By-law
November 16, 2015 (Item 9.1)
Due Date: December 2019
Revised Due Date: January 2020

2019-H
Hamilton Millennial Survey Study – Employment Precarity
April 15, 2019, 19-004 (Item 8.1)
Due Date: December 2019
Revised Due Date: June 2020

2019-P
Pollution Surrounding the Parkview Community – Community Event
August 14, 2019, 19-008 Items 6.1-6.13
Due Date: November 2019
Revised Due Date: TBD

13.1.b Items to be Removed

2019-N
Correspondence from Hastings Prince Edward Public Health respecting Concerns with Announces Expansion of the Sale of Alcohol Beverages in Ontario
July 10, 2019, 19-007 (Item 5.1)
Addressed in Item 9.1 on today's agenda

2019-R
Semi-Annual Public Health Services Performance and Monitoring Report (Q1 & Q2 2019) (BOH19030) (City Wide)
October 18, 2019, 19-010 (Item 7.2)
Correspondence sent to Minister of Health

2019-S
Immunization of School Pupils Act Overview (BOH19029) (City Wide)
October 18, 2019, 19-010 (Item 9.1)
Correspondence sent to Minister of Health

2019-T
Seniors Oral Health (BOH19026(a)) (City Wide)
October 18, 2019, 19-010 (Item 9.2)
Correspondence sent to Minister of Health

14. PRIVATE AND CONFIDENTIAL

15. ADJOURNMENT

BOARD OF HEALTH
MINUTES 19-011

1:30 p.m.
Monday, November 18, 2019
Council Chambers
Hamilton City Hall

Present: Councillor M. Wilson (Vice-Chair)
Councillors J. Farr, N. Nann, S. Merulla, C. Collins, T. Jackson, E. Pauls, J.P. Danko, B. Clark, M. Pearson, L. Ferguson, A. VanderBeek T. Whitehead, and J. Partridge

Absent with Regrets: Mayor F. Eisenberger (Chair), Councillor B. Johnson – City Business

---

THE FOLLOWING ITEMS WERE REFERRED TO COUNCIL FOR CONSIDERATION:

1. Communications (Items 5.1-5.6)

(Collins/Merulla)
That the following recommendations be approved:

(a) Correspondence from the Regional Municipality of Durham to Prime Minister Justin Trudeau respecting a Notice of Motion regarding the Opioid Overdose Emergency Resolution (Item 5.1)

Recommendation: Be endorsed with a letter to the Federal and Provincial Ministers of Health.

(b) Correspondence from Kingston, Frontenac and Lennox & Addington Public Health respecting Comprehensive Measures to Address the Rise of Vaping in Canada (Item 5.2)

Recommendation: Be endorsed with a letter to the Minister of Health.

(c) Correspondence from Kingston, Frontenac and Lennox & Addington Public Health, respecting a Resolution regarding the Immediate Removal of Regulation 268 of the *Smoke-Free Ontario Act, 2017* (Item 5.3)

Recommendation: Be endorsed with a letter to the Ontario Minster of Health.

(d) Correspondence from the Anita Dubeau, Board Chair for the Simcoe Muskoka District Health Unit respecting Restrictions of Vaping Products and Flavoured E- cigarettes (Item 5.5)

Recommendation: Be endorsed with a letter to the Ontario Minister of Health.

(e) Correspondence from the Windsor-Essex County Health Unit respecting the Harms of Vaping and the Next Steps for Regulation (Item 5.6)

Recommendation: Be endorsed with a letter to the Ontario Minister of Health.

Result: Motion CARRIED by a vote of 12 to 0, as follows:

YES - Ward 2 Councillor Jason Farr
NOT PRESENT - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
NOT PRESENT - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
YES - Ward 13 Councillor Arlene VanderBeek
YES - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

2. Declaration of an Opioid Crisis in the City of Hamilton (Added Item 11.1)

(Merulla/Nann)
WHEREAS, the opioid crisis is affecting municipalities across Ontario, including Hamilton;

WHEREAS, opioid-related overdose emergency department visits and opioid-related deaths are increasing annually in Hamilton;

WHEREAS, the number of overdose emergency department visits for people living in the City of Hamilton is highest for opioids compared to other substances, accounting for 574 opioid overdose emergency department visits in 2018;

WHEREAS, from January to December of 2018 there were 123 opioid-related deaths, representing a 40% increase over the previous year;

WHEREAS, Hamilton's 2018 opioid-related death rate was 109% higher than or more than double the provincial rate (21.3 deaths per 100,000 population vs. 10.2 per 100,000 for Ontario);

WHEREAS, in 2018, Hamilton had the 3rd highest opioid-related mortality rate among health units in Ontario, and Hamilton had the highest opioid mortality rate among health units in southern Ontario;

WHEREAS, in 2018, the City of Hamilton had the 4th highest opioid-related mortality rate among large urban population centres in Ontario;

WHEREAS, to date in 2019 (January 1 to November 6) Hamilton Paramedic Services has responded to 516 incidents related to suspected opioid overdoses, close to 12 per week or 2 per day; and,

WHEREAS, life expectancy in Canada has stopped increasing for the first time in more than four decades, due largely to soaring overdose deaths nationally, in particular, among young adult men.

THEREFORE BE IT RESOLVED:

(a) That the Board of Health recommend to Council to acknowledge and declare an Opioid Overdose Emergency in the City of Hamilton;

(b) That a letter be sent to the Honourable Christine Elliott, Minister of Health in support of the following:

 (i) The addition of Injectable Opioid Agonist Therapies at their required concentrations to the Ontario Drug Benefit Formulary for the treatment of opioid use disorder;

(ii) Seeking authority from Health Canada to import diacetylmorphine (pharmaceutical heroin) for use as a managed opioid program medication in Ontario; and,

(iii) Ensuring that managed opioid medications are universally accessible to all Ontarians who could benefit from these kinds of programs, and that cost not be a barrier.

Result: Motion CARRIED by a vote of 13 to 1, as follows:

YES - Ward 2 Councillor Jason Farr
YES - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
YES - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
YES - Ward 13 Councillor Arlene VanderBeek
NO - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

3. Public Health Priorities (BOH19034) (City Wide) (Item 9.2)

(Collins/Jackson)
That Report BOH19034 respecting Public Health Priorities, be received.

CARRIED

4. Child and Adolescent Services Budget (BOH19036) (City Wide) (Item 10.1)

(Clark/Nann)

(a) That the Child and Adolescent Service budget be approved, and the Medical Officer of Health be authorized and directed to receive, utilize and report on the 2019-2020 Ministry of Health funded Child and Adolescent Services Budget, including the changes outlined in confidential Appendix “A”; and,

(b) That Appendix “A” to Report BOH19036 respecting Child and Adolescent Services Budget remain confidential until Council approval.

Result: Motion CARRIED by a vote of 10 to 0, as follows:

NOT PRESENT - Ward 2 Councillor Jason Farr
YES - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla

YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
NOT PRESENT - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
NOT PRESENT - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

FOR INFORMATION:

(a) CEREMONIAL ACTIVITIES (Item 1)

There were no ceremonial activities.

(b) CHANGES TO THE AGENDA (Item 2)

The Committee Clerk advised the Board of the following changes to the agenda:

6. DELEGATION REQUESTS

6.2 Alexander Kinkade, Anti-od.org, respecting new information on the Fentanyl Epidemic

12. NOTICES OF MOTION

12.1 Declaration of an Opioid Crisis in the City of Hamilton

(Jackson/Partridge)
That Item 6.1, Delegation Request from Germain Sophie Ngana, Sureka Pavalagantharajah and Angela Li, McMaster University, respecting support for Injectable Opioid Agonist Therapies; Item 6.2, Delegation Request from Alexander Kinkade, Anti-od.org, respecting new information on the Fentanyl Epidemic; Item 8.1, Delegation from Noor Nizam, respecting the Ontario Seniors Dental Care Program; Item 9.1, Code Red Presentation and Item 12.1, Declaration of an Opioid Crisis in the City of Hamilton, be considered immediately following the approval of the agenda.

Result: Motion CARRIED by a vote of 9 to 2, as follows:

NO - Ward 2 Councillor Jason Farr
NOT PRESENT - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins

YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
YES - Ward 15 Councillor Judi Partridge
NO - Ward 14 Councillor Terry Whitehead
NOT PRESENT - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

(Pearson/Collins)
That the agenda for the November 18, 2019 Board of Health be approved, as amended.

Result: Motion CARRIED by a vote of 10 to 0, as follows:

YES - Ward 2 Councillor Jason Farr
NOT PRESENT - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
NOT PRESENT - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
YES - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
NOT PRESENT - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

(c) DECLARATIONS OF INTEREST (Item 3)

There were no declarations of interest.

(d) APPROVAL OF MINUTES OF PREVIOUS MEETING (Item 4)

(i) October 18, 2019 (Item 4.1)

(Collins/Pauls)
That the Minutes of the October 18, 2019 meeting of the Board of Health be approved, as presented.

Result: Motion CARRIED by a vote of 12 to 0, as follows:

YES - Ward 2 Councillor Jason Farr
NOT PRESENT - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
NOT PRESENT - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
YES - Ward 13 Councillor Arlene VanderBeek
YES - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

(e) COMMUNICATIONS (Item 5)

(i) Correspondence from Southwestern Public Health to the Ontario Minister of Health regarding the Expansion of Alcohol Retail Outlets (Item 5.4)

(Collins/Merulla)
That the Correspondence from Southwestern Public Health to the Ontario Minister of Health regarding the Expansion of Alcohol Retail Outlets, be received and referred back to Public Health Services staff for a report to the Board of Health on December 2, 2019.

CARRIED

(ii) Correspondence from the Anita Dubeau, Board Chair for the Simcoe Muskoka District Health Unit respecting the Prohibition of Vapour Production Promotion in Convenience Stores and Gas Stations (Item 5.7)

(Clark/Whitehead)
That Correspondence from the Anita Dubeau, Board Chair for the Simcoe Muskoka District Health Unit respecting the Prohibition of Vapour Production Promotion in Convenience Stores and Gas Stations, be received.

CARRIED

(f) DELEGATION REQUESTS (Item 6)

(Merulla/Farr)
That the following Delegation Requests be approved, for today's meeting:

(i) Germain Sophie Ngana, Sureka Pavalagantharajah and Angela Li, McMaster University, respecting support for Injectable Opioid Agonist Therapies (Item 6.1)

(ii) Alexander Kinkade, Anti-od.org, respecting the Fentanyl Epidemic (Added Item 6.2)

Result: Motion CARRIED by a vote of 11 to 0, as follows:

YES - Ward 2 Councillor Jason Farr
NOT PRESENT - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
YES - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
NOT PRESENT - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

(g) CONSENT ITEMS (Item 7)

(i) Food Advisory Committee Minutes – September 10, 2019 (Item 7.1)

(Pauls/Jackson)
That the Food Advisory Committee Minutes of September 10, 2019, be received.

CARRIED

(h) DELEGATIONS (Item 8)

(i) Noor Nizam, respecting the Ontario Seniors Dental Care Program (approved at the October 18, 2019 meeting) (Item 8.1)

Noor Nizam addressed the Board with concerns respecting the Ontario Seniors Dental Care Program, with the aid of handout.

(Jackson/Pauls)
That the delegation from Noor Nizam, respecting the Ontario Seniors Dental Care Program, be received.

CARRIED

The handout is available at www.hamilton.ca, and through the Office of the City Clerk.

(ii) Germain Sophie Ngana, Sureka Pavalagantharajah and Angela Li, McMaster University, respecting support for Injectable Opioid Agonist Therapies (Added Item 8.2)

Germain Sophie Ngana, Sureka Pavalagantharajah and Angela Li, McMaster University addressed the Board respecting support for Injectable Opioid Agonist Therapies, with the aid of a PowerPoint presentation.

(Clark/Nann)
That the delegation from Germain Sophie Ngana, Sureka Pavalagantharajah and Angela Li, McMaster University, respecting support for Injectable Opioid Agonist Therapies, be received.

CARRIED

The presentation is available at www.hamilton.ca, and through the Office of the City Clerk.

For further disposition, refer to Item 2.

(iii) Alexander Kinkade, Anti-od.org, respecting New Information on the Fentanyl Epidemic (Added Item 8.3)

Alexander Kinkade, Anti-od.org, addressed the Board respecting New Information on the Fentanyl Epidemic, and access to fentanyl test strip kits.

(Pauls/Nann)
That the delegation from Alexander Kinkade, Anti-od.org, respecting New Information on the Fentanyl Epidemic and access to fentanyl test strip kits, be received.

CARRIED

For further disposition, refer to Item 2.

(i) STAFF PRESENTATION (Item 9)

(i) Code Red Presentation to the Board of Health with Steve Buist and Dr. Neil Johnston (Item 9.1)

Steve Buist, Hamilton Spectator, and Dr. Neil Johnston addressed the Board respecting the Code Red Series with the aid of a PowerPoint presentation.

(Whitehead/Pauls)
That the presentation respecting the Code Red Series, be received.

CARRIED

The presentation is available at www.hamilton.ca, and through the Office of the City Clerk.

(ii) Public Health Priorities (BOH19034) (City Wide) (Item 9.2)

Dr. Elizabeth Richardson, Medical Officer of Health, addressed the Board respecting Public Health Priorities (BOH19034), with the aid of a PowerPoint presentation.

(Collins/Jackson)
That the presentation respecting Public Health Priorities (BOH19034), be received.

CARRIED

The presentation is available at www.hamilton.ca, and through the Office of the City Clerk.

For further disposition of this matter, refer to Item 3.

(j) NOTICE OF MOTION (Item 12)

Councillor Merulla introduced the following Notice of Motion.

(i) Declaration of an Opioid Crisis in the City of Hamilton (Item 12.1)

(Merulla/Nann)
That the Rules of Order be waived to allow for the introduction of a motion respecting Declaration of an Opioid Crisis in the City of Hamilton.

Result: Motion CARRIED by a 2/3 Majority vote of 11 to 0, as follows:

YES - Ward 2 Councillor Jason Farr
YES - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
YES - Ward 15 Councillor Judi Partridge
NOT PRESENT - Ward 14 Councillor Terry Whitehead
YES - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
NOT PRESENT - Ward 9 Councillor Brad Clark

For further disposition of this matter, refer to Item 2.

(k) GENERAL INFORMATION AND OTHER BUSINESS (Item 13)

(i) Amendments to the Outstanding Business List:

(Pearson/Danko)
That the following amendments to the Board of Health Outstanding Business List, be approved:

(a) Items to be Removed:

2019-J
Correspondence from the Ministry of Health and Long-Term Care respecting 2019-2020 Low Income Seniors Dental Additional Base Funding
June 17, 2019, 19-006 (Added Item 5.10)
Addressed at the October 2019 meeting

2019-M
Seniors Oral Health (BOH19026)
July 10, 2019, 19-007 (Item 7.4)
Addressed at the October 2019 meeting

Result: Motion CARRIED by a vote of 10 to 0, as follows:

NOT PRESENT - Ward 2 Councillor Jason Farr
YES - Ward 3 Councillor Nrinder Nann
YES - Ward 4 Councillor Sam Merulla
YES - Ward 5 Councillor Chad Collins
YES - Ward 6 Councillor Tom Jackson
YES - Ward 7 Councillor Esther Pauls
YES - Ward 8 Councillor John-Paul Danko
YES - Vice Chair - Ward 1 Councillor Maureen Wilson
NOT PRESENT - Mayor Fred Eisenberger
NOT PRESENT - Ward 15 Councillor Judi Partridge
YES - Ward 14 Councillor Terry Whitehead
NOT PRESENT - Ward 13 Councillor Arlene VanderBeek
NOT PRESENT - Ward 12 Councillor Lloyd Ferguson
NOT PRESENT - Ward 11 Councillor Brenda Johnson
YES - Ward 10 Councillor Maria Pearson
YES - Ward 9 Councillor Brad Clark

(I) ADJOURNMENT (Item 15)

(Pearson/Nann)
That, there being no further business, the Board of Health be adjourned at 4:59 p.m.

CARRIED

Respectfully submitted,

Councillor M. Wilson
Vice-Chair, Board of Health

Loren Kolar
Legislative Coordinator
Office of the City Clerk

October 18, 2019

5.1

Mayor Bryan Paterson and City Council
City of Kingston
City Hall
216 Ontario Street
Kingston, ON K7L 2Z3

Dear Mayor Paterson and Council:

RE: Municipal Alcohol Policies and Municipal Policy Options to Mitigate Alcohol Harms

Recently announced provincial regulatory changes will impact the sale, service and consumption of alcohol in local communities. These changes include:

- Municipalities now have the authority to designate public areas, such as parks, for the consumption of alcohol through a local by-law.
- Special Occasion Permit events will have extended hours for the sale of alcohol, will no longer have to serve food at these events, and will not have to physically separate areas where alcohol is sold and consumed from the rest of the event.
- Tailgate Events, where patrons bring their own booze, will be allowed at professional, semi-professional, or post-secondary sporting events.

It is anticipated that these changes will increase alcohol consumption and its concomitant harms, along with demand, and hence cost, for municipal services such as police, EMS, fire services and public health. In fact, in 2014, the cost of alcohol to the healthcare system, criminal justice system, workplaces and other direct costs was $1.4 billion, $1.3 billion, $2.1 billion and $495 million, respectively. With increased consumption, these costs will only increase.

Ontario municipalities can use Municipal Alcohol Policies (MAPs), along with other municipal policies, to balance the responsible provision and use of alcohol against the need to reduce alcohol-related risk and harm for events hosted on municipal property, and to protect local governments from liability and from increasing costs to manage alcohol-related harms. In the context of the Government of Ontario's alcohol policy reforms, municipalities must consider the following:

- By loosening public consumption controls, the risk increases significantly for underage drinking, harmful alcohol consumption, intoxication, and alcohol-related harms, and could lead to serious injury and death, and consequently municipal liability. Further still, public consumption of alcohol will further normalize its use and its consumption or over consumption in public spaces may hinder the public's enjoyment of community spaces.

- While there are AGCO guidelines for Tailgate Events, there are insufficient parameters related to the management or monitoring of the Bring Your Own Booze provision, enforcement or staff training. Many municipalities are impacted by unsanctioned street parties involving the over consumption of alcohol by students and other individuals. Unrestricted access to alcohol in this type of environment contributes to harmful drinking behaviour and has the potential to place an undue burden on surrounding neighbourhoods, police and paramedic services. Queen's University Homecoming and St. Patrick's Day give rise to massive gatherings or street parties that are accompanied by a spike in Emergency Department visits in Kingston each year.
- Evidence indicates that expanding hours of alcohol service is related to increased alcohol consumption and related harms. This policy also contributes to the normalization of alcohol use among vulnerable populations including children and youth.

As such, at the October 16, 2019 meeting of the KFL&A Board of Health, the following motion was passed:

THAT the KFL&A Board of Health strongly advise municipalities to continue to prohibit alcohol consumption in public spaces such as parks as per current *Liquor License Act, 2019,*

THAT the KFL&A Board of Health strongly urges all KFL&A municipalities to strengthen or to develop municipal alcohol policies that balance the responsible provision and use of alcohol against the need to reduce alcohol-related risk and harm, and to include, at a minimum, the following provisions in their Municipal Alcohol Policy (MAP):

- **Specify times permitted for alcohol service and maintain permissible start time of 11 AM at provincially issued SOP events on municipal properties,**
- **Require that food be made available at all provincially issued SOP events on municipal properties; i.e. do not permit alcohol-only,**
- **Specify that designated alcohol service and consumption areas be physically separated from non-designated areas at provincially issued SOP events on municipal properties, and**
- **Prohibit provincially issued SOP Tailgate Events on municipal properties.**

I strongly encourage all of our municipalities to reach out to Daphne Mayer, Manager of the Substance Use, Mental Health and Injury Prevention Team, to develop or strengthen your Municipal Alcohol Policy to preserve the health and safety of our residents.

Sincerely,

Denis Doyle, Chair
KFL&A Board of Health

cc to: Monica Turner, Association of Municipalities of Ontario
Pegeen Walsh, Ontario Public Health Association
Loretta Ryan, Association of Local Health Agencies
Ontario Boards of Health

Statement of Principles
Public Health Modernization
November 2019

BACKGROUND

On April 11, 2019 the Minister of Finance announced the 2019 Ontario Budget, which included a pledge to modernize "the way public health units are organized, allowing for a focus on Ontario's residents, broader municipal engagement, more efficient service delivery, better alignment with the health care system and more effective staff recruitment and retention to improve public health promotion and prevention".

Plans announced for this initiative included regionalization and governance changes to achieve economies of scale, streamlined back-office functions and better-coordinated action by public health units, adjustments to the provincial-municipal cost-sharing of public health funding and an emphasis on digitizing and streamlining processes.

On November 6, 2019, further details were presented as part of the government's Fall Economic Statement, which reiterates the Province's consideration of "how to best deliver public health in a way that is coordinated, resilient, efficient and nimble, and meets the evolving health needs and priorities of communities". To this end, the government is renewing consultations with municipal governments and the public health sector under the leadership of Special Advisor Jim Pine, who is also the Chief Administrative Officer of the County of Hastings. The aim of the consultation is to ensure:

- Better consistency and equity of service delivery across the province;
- Improved clarity and alignment of roles and responsibilities between the Province, Public Health Ontario and local public health;
- Better and deeper relationships with primary care and the broader health care system to support the goal of ending hallway health care through improved health promotion and prevention;
- Unlocking and promoting leading innovative practices and key strengths from across the province; and
- Improved public health delivery and the sustainability of the system.

In preparation for these consultations and with the intent of actively supporting positive systemic change, the alPHa Board of Directors has agreed on the following principles as a foundation for its separate and formal submissions to the consultation process.

PRINCIPLES

Foundational Principle

1) Any and all changes must serve the goal of strengthening the Ontario public health system's capacity to improve population health in all of Ontario's communities through the effective and efficient local delivery of evidence-based public health programs and services.

Organizational Principles

2) Ontario's public health system must remain financially and administratively separate and distinct from the health care system.

3) The strong, independent local authority for planning and delivery of public health programs and services must be preserved, including the authority to customize centralized public health programming or messaging according to local circumstances.

4) Parts I-V and Parts VI.1 – IX of the Health Protection and Promotion Act should be retained as the statutory framework for the purpose of the Act, which is to "provide for the organization and delivery of public health programs and services, the prevention of the spread of disease and the promotion and protection of the health of the people of Ontario".

5) The *Ontario Public Health Standards: Requirements for Programs, Services, and Accountability* should be retained as the foundational basis for local planning and budgeting for the delivery of public health programs and services.

6) Special consideration will need to be given to the effects of any proposed organizational change on Ontario's many Indigenous communities, especially those with a close relationship with the boards of health for the health units within which they are located. Opportunities to formalize and improve these relationships must be explored as part of the modernization process.

Capacity Principles

7) Regardless of the sources of funding for public health in Ontario, mechanisms must be included to ensure that the total funding envelope is stable, predictable, protected and sufficient for the full delivery of all public health programs and services whether they are mandated by the province or developed to serve unique local needs as authorized by Section 9 of the Health Protection and Promotion Act.

8) Any amalgamation of existing public health units must be predicated on evidence-based conclusions that it will demonstrably improve the capacity to deliver public health programs and services to the residents of that area. Any changes to boundaries must respect and preserve existing municipal and community stakeholder relationships.

9) Provincial supports (financial, legal, administrative) must be provided to assist existing local public health agencies in their transition to any new state without interruption to front-line services.

Governance Principles

10) The local public health governance body must be autonomous, have a specialized and devoted focus on public health, with sole oversight of dedicated and non-transferable public health resources.

11) The local public health governance body must reflect the communities that it serves through local representation, including municipal, citizen and / or provincial appointments from within the area. Appointments should be made with full consideration of skill sets, reflection of the area's socio-demographic characteristics and understanding of the purpose of public health.

12) The leadership role of the local Medical Officer of Health as currently defined in the Health Protection and Promotion act must be preserved with no degradation of independence, leadership or authority.

DESIRED OUTCOMES

- Population health in Ontario will benefit from a highly skilled, trusted and properly resourced public health sector at both the provincial and local levels.
- Increased public and political recognition of the critical importance of investments in health protection and promotion and disease prevention to population health and the sustainability of the health care system.
- Local public health will have the capacity to efficiently and equitably deliver both universal public health programs and services and those targeted at at-risk / vulnerable / priority populations.
- The geographical and organizational characteristics of any new local public health agencies will ensure critical mass to efficiently and equitably deliver public health programs and services in all parts of the province.
- The geographical and organizational characteristics of any new local public health agencies will preserve and improve relationships with municipal governments, boards of education, social services organizations, First Nations communities, Ontario Health Teams and other local stakeholders.
- The geographical and organizational characteristics of any new local public health agencies will reflect the geographical, demographic and social makeup of the communities they serve in order to ensure that local public health needs are assessed and equitably and efficiently addressed.
- Local public health will benefit from strong provincial supports, including a robust Ontario Agency for Health Protection and Promotion (Public Health Ontario) and a robust and independent Office of the Chief Medical Officer of Health.
- The expertise and skills of Ontario's public health sector will be recognized and utilized by decision makers across sectors to ensure that health and health equity are assessed and addressed in all public policy.

CITY OF HAMILTON
PUBLIC HEALTH SERVICES
Epidemiology, Wellness, and Communicable Disease Control Division

TO:	Mayor and Members Board of Health
COMMITTEE DATE:	November 12, 2019
SUBJECT/REPORT NO:	Municipal Actions to Reduce Harms Associated with Alcohol Use (BOH19032) (City Wide) **(Outstanding Business List Item)**
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Madi McNitt (905) 546-2424 Ext. 7177
SUBMITTED BY: SIGNATURE:	Michelle Baird Director, Epidemiology, Wellness and Communicable Disease Control Division Public Health Services

RECOMMENDATION(S)

(a) That the Board of Health approve the initiation of a review of the Municipal Alcohol Policy, including the formation of a Workgroup made up of relevant municipal departments;

(b) That Public Health Services report back to the Board of Health with recommended updates to the Municipal Alcohol Policy by Q3 2020; and,

(c) That item 2019-N, "Correspondence from Hastings Prince Edward Public Health respecting Concerns with Announces Expansion of the Sale of Alcohol Beverages in Ontario" be removed from the Outstanding Business List.

EXECUTIVE SUMMARY

Alcohol is one of the leading causes of disease and disability in Canada.[1,2,3,4,5] At the Board of Health Meeting on June 17, 2019, correspondence was received from Prince Edward Hastings Public Health identifying concerns with the expansion and sale of

alcohol within Ontario. Staff were directed to report back to the Board of Health by December 2019, on municipal actions to reduce harms from alcohol use.

One strategy with respect to promoting safer use and sale of alcohol is a Municipal Alcohol Policy (MAP). The City of Hamilton Public Health Services (PHS) is recommending that the Medical Officer of Health work with relevant municipal departments to form a Workgroup to review and update (as required) the City of Hamilton's MAP. The MAP reduces alcohol-related risks and promotes the health and safety of people at events on City owned and operated property by outlining the requirements for a responsible, managed approach to alcohol service.

The last update of this policy occurred in January 2011 and it is appropriate after nearly a decade to review the policy to ensure it reflects:

- Current evidence on reducing alcohol-related harms;
- Legislative changes since 2011 and current proposed changes; and,
- Alcohol sector growth and changes to alcohol retail landscape.

The Workgroup would complete a comprehensive review of the MAP, including consultations with relevant stakeholders. Based on these findings, as well as a review of MAPs in other jurisdictions, the Workgroup will report back to the Board of Health by Q3 2020 with recommended updates to the MAP.

It is anticipated that updates may include enhancements to the existing MAP to ensure increasing convenience does not lead to increased social and healthcare harms/costs. Some measures that may be considered include:

- Regulation of retail density, location, hours of sale, and access restrictions;
- Suitability of tailgating at professional, semi-professional, and post-secondary sporting events; and,
- Consumption of alcohol in public areas, such as parks.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Not Applicable.

Staffing: The review will be completed by staff within existing complement using representatives from city departments as indicated.

Legal: Not Applicable.

HISTORICAL BACKGROUND

See Appendix “A” to BOH19032.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

This report recommends the review of the City of Hamilton Municipal Alcohol Policy, with any recommendations that result from the review being brought forward to the Board of Health in Q3 2020.

RELEVANT CONSULTATION

The review of the MAP will include consultation with relevant stakeholders to inform the recommendations that will be brought forward to Council in Q3 2020. Key considerations from municipal departments will provide context to the full scope of this issue, including the social and economic significance of alcohol in our society.

Following approval from the Board of Health to review and update the City of Hamilton’s MAP, consultation will be done with stakeholders, including but not limited to:

- City of Hamilton Municipal Departments, including but not limited to: City Manager’s Office, Finance and Corporate Services, Planning and Economic Development, and Healthy and Safe Communities;
- Relevant Public Health Units; and,
- Relevant external stakeholders including community partners and users of City of Hamilton facilities.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

Introduction

Alcohol is one of the leading causes of disease and disability in Canada.[1,2,3,4,5] It is widely consumed and enjoyed in moderation by many Canadians. However, when consumed in excess quantities it can facilitate high risk behaviours, contribute to socially deviant acts and lead to injuries, violence and crime.[1,2] The most common impacts of excessive alcohol consumption are increased risks of individual injury, motor vehicle crashes, and death.[1,2]

There is evidence showing that alcohol-related harms can be modified substantially by focusing on healthy public policy that discourages excessive alcohol consumption.[5] A

MAP is an important tool for municipalities to ensure that the potential harms from alcohol consumption on municipal properties are prevented or reduced. See Appendix "B" to Report BOH19032 for more information about the purpose of a MAP.

Local Context

In the City of Hamilton, 43% of residents age 19 and older report drinking above the Low Risk Alcohol Drinking Guidelines (LRADG) in the previous year.[6,7] These rates are not statistically different from reported provincial alcohol use (42.7%) but are still concerning. Young adults (age 19-29) are more likely to engage in high-risk binge drinking than any other age group.[5]

The City has 666 onsite licensed alcohol establishments (as of April 2016) making alcohol widely and readily available to residents. In Hamilton, approximately 900 hospitalizations and 100 deaths per year are attributable to alcohol.[6]

Health and Social Harms

The normalization of alcohol has prevented alcohol from receiving the same attention as other addictive substances but concern and commitment towards alcohol-related harms and alcohol-control policy is growing amongst municipalities. Despite existing efforts to promote better knowledge dissemination to health professionals and the public on the chronic risks of heavy drinking, the focus is often limited to the immediate impacts, including dependence on alcohol or addiction, drinking and driving or public disturbance. This has discounted the wide range of social problems, trauma, chronic disease, and violence associated with alcohol consumption that impact drinkers and others.[7]

Alcohol is related to more than 65 different medical conditions, ranging from injuries to long-term health conditions such as cancer, cardiovascular disease, and a number of mental illnesses. Research in Canada and abroad suggests that rates of chronic disease rise in the population as overall alcohol consumption rates increase.[8]

Additionally, adverse alcohol consumption carries a significant price tag. In 2014, alcohol related harm cost $14.6 billion, or 38.1 percent of the total costs of substance use in Canada. This represents a cost more than four times that of opioids and cannabis.[9]

Policy Context

The province of Ontario has liberalized the sale of alcohol products through a series of policy and regulatory changes since 2011. These changes include:

- Reductions to the minimum retail price of beer to $1;
- Halting the automatic increase in provincial beer tax;
- Extending the hours of sale for alcohol retail outlets; and,
- Introduction of alcohol sales in grocery stores.

Further, in May 2019 the provincial budget announcement included several proposed changes to provincial alcohol legislation.[10] These proposed changes include:

- Amended advertising restrictions to allow terms such as “Happy Hour” and “Cheap Drinks”;
- Removing the limit on serving size for by-the-glass licenses;
- Expanding where beer and wine can be purchased to include additional grocery stores as well as big box stores and corner stores;
- Allowing municipalities to designate public areas, such as parks, for the consumption of alcohol; and,
- Permitting alcohol sale and consumption at tailgate events.

Alcohol Sector Growth

Over the past decade, there has been a shift in the alcohol sector across the province including the emergence and growth of the craft market and other specialty alcohol retailers. Consumers have more choice than ever before, alcohol is more accessible and less expensive, and the normalization of alcohol promotion has resulted in an increase in consumption amongst previously low consumers (e.g. women).

Events that serve alcohol are marketed to target a wide variety of consumers including millennials, parents, athletes, artists, musicians, adults and older adults, and so forth. With alcohol being more available and socially acceptable, it has increasingly become a part of our everyday lives.[11]

Alcohol Availability and Harms

Many studies have shown a relationship between alcohol availability and harms:

- Decreasing hours of sale or decreasing availability of alcohol results in less consumption of alcohol and a significant decrease in alcohol-related harms;
- Raising alcohol taxes or prices reduces alcohol-related harms such as violence, crimes, vehicle crashes, chronic diseases, and suicide;
- Restricting evening hours of alcohol sale was linked to less consumption of alcohol;
- Increasing access to alcohol was found to be related to a range of alcohol-related harms such as pedestrian injuries, child maltreatment, and sexually transmitted infection transmission; and,
- Alcohol pricing and availability measures were found to impact both men and women, and all age groups.[12]

Conclusion

As alcohol availability and sales continue to increase across the province, it is imperative to consider how our residents’ health and well-being will be impacted. With these considerations in mind, the Workgroup will report back to the Board of Health with recommendations to update the MAP, as required. Recommendations will be grounded

in an evidence-based approach to alcohol policy and will balance the health and social costs of alcohol with economic benefits, while prioritizing public health and safety and the mitigation of harms.

ALTERNATIVES FOR CONSIDERATION

Not Applicable.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Economic Prosperity and Growth
Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report BOH19032: History of the Municipal Alcohol Policy (MAP)

Appendix "B" to Report BOH19032: Overview of the Purpose and Benefits of a Municipal Alcohol Policy

References

1. World Health Organization. Global status report on alcohol and health 2018. [Internet]. [cited January 3 2019]. Available from: http://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1

2. Canadian Centre on Substance Use and Addiction. Canadian drug summary- alcohol. [Internet]. 2017 [cited January 3 2019]. Available from: http://www.ccsa.ca/Resource%20Library/CCSA-Canadian-Drug-Summary-Alcohol-2017-en.pdf

3. Canadian Institute for Health Information. Alcohol harm in Canada, Examining hospitalizations entirely caused by alcohol and strategies to reduce alcohol harm. Available from: https://www.cihi.ca/sites/default/files/document/report-alcohol-hospitalizations-en-web.pdf

4. World Health Organization. Global status report on alcohol and health 2014. [Internet] [cited September 7 2018]. Available from: http://apps.who.int/iris/bitstream/handle/10665/112736/9789240692763_eng.pdf;jsessionid=CDB60AA180366225CCADD20CDCC0B1E9?sequence=1

5. CAMH Alcohol Policy Framework. (September 30, 2019). Available from: http://www.camh.ca/-/media/files/pdfs---public-policy-submissions/camh-alcoholpolicyframework-2019-pdf.pdf?la=en&hash=6DCD59D94B92BBC148A8D6F6F4A8EAA6D2F6E09B

6. Canadian Community Health Data. 2014. Available from: https://www.statcan.gc.ca/eng/survey/household/3226

7. Alcohol, Cancer and other Health Issues: An Action Plan for Prevention [Internet]. 2011 [cited October 2019]. Available from: https://www.toronto.ca/legdocs/mmis/2011/hl/bgrd/backgroundfile-38346.pdf

8. Reducing Alcohol Related Harms in Canada: Toward a Culture of Moderation. Canadian Centre on Substance Use and Addiction. 2007. Available from: https://www.ccsa.ca/reducing-alcohol-related-harm-canada-toward-culture-moderation

9. Canadian Centre on Substance Use and Addiction. Canadian Substance Use Costs and Harms, 2007-2014. [Internet]. 2018 [cited January 3 2019]. Available from: http://www.ccsa.ca/Resource%20Library/CSUCH-Canadian-Substance-Use-Costs-Harms-Report-2018-en.pdf

10. Ontario Budget: Improving Choice and Convenience for Alcohol Consumers (April 11, 2019). Available from: http://budget.ontario.ca/2019/bg-alcohol.html

11. City of Hamilton Public Health Services, Mental Health and Harm Reduction Program Team (2017). City of Hamilton Community Alcohol Report. Hamilton, ON: City of Hamilton Public Health Services. Available from: https://d3fpllf1m7bbt3.cloudfront.net/sites/default/files/media/browser/2018-09-04/community-alcohol-report-2016.pdf

12. CAMH Research Snapshot: Raising alcohol prices and decreasing availability reduces alcohol-related harms. (December 2018). Available from: https://www.eenet.ca/sites/default/files/2018/Research%20Snapshot%20-%20Alcohol%20Pricing%20&%20Availability%20Policies_0.pdf

Appendix A: Timeline of Major MAP Developments

June 29, 1999: City of Hamilton's, (Regional Municipality of Hamilton Wentworth) Council voted in favour of a Municipal Alcohol Risk Management Policy

2000: Municipal Alcohol Risk Management Guidelines developed by Facilities with input from Culture & Rec, Risk Management Services, Legal Services

Jan 1, 2001: City of Hamilton amalgamated

Jan 2002: Council passed Municipal Alcohol Risk Management Guidelines for the City

Dec 2004: review of 2002 Municipal Alcohol Risk Management Guidelines undertaken by Public Health

Jan 2005 – October 2008: Workgroup formed; meetings, consultation, revisions, and approvals take place

January 2009: PHS prepared a draft Council report & sent out to the rest of the departments for review (joint submission)

April 1, 2009: Audit and Administration Committee requested that PHS and Public Works address the following:

Alcohol-Related Events in City-Owned Facilities (Added Motion)

- That City staff review its current practice of prohibiting alcohol-related events in most city-owned facilities and report back to the Audit & Administration Committee with recommendations.

During 2009, there were some outstanding legal issues and many questions as to what was happening with the MAP.

March – April 2010: further revisions to MAP

June 16th, 2010: MAP went to Audit & Administration Committee and motion carried for approval

June 23, 2010: Council approved MAP

July – November: Implementation meetings held; implementation preparation pieces divided up according to appropriate departments

January 1, 2011: MAP comes into effect

Appendix B: Overview of the Purpose and Benefits of a Municipal Alcohol Policy

What is a Municipal Alcohol Policy (MAP)?

A MAP is a tool that helps a municipality outline the conditions for the responsible sale and service of alcohol at events on municipal property including locations such as City-owned buildings (e.g. community centres, recreation centres, parks, and public squares). A MAP does not apply to events held in privately owned properties such as restaurants, bars and banquet halls.

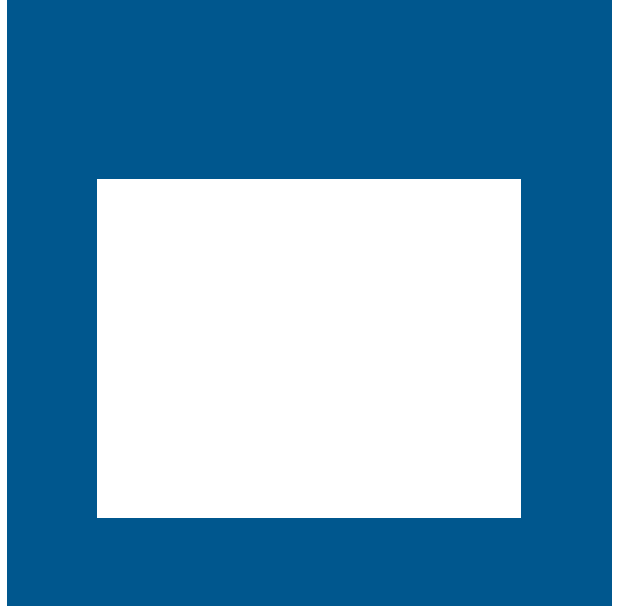
Event organizers who plan to hold an event where alcohol is to be served or consumed on City property must first obtain a Special Occasion Permit (SOP). The SOP is issued by designated Liquor Control Board of Ontario (LCBO) outlets on behalf of the AGCO. For certain special events where alcohol is to be sold, the AGCO and/or the City may also require a Letter of Municipal Significance from the local Community Council before issuing approvals. In addition, the AGCO allows holders of a liquor sales license with an AGCO-approved Catering Endorsement to sell and serve alcoholic beverages at an event in an unlicensed area. The licensee must notify the AGCO and local authorities, including public health, at least ten days prior to such an event.

After an SOP has been issued, or Catering notification received, the event organizer must obtain the appropriate permit or approval from the City to hold their event on City property. One of the conditions of that City approval is compliance with the MAP.

A MAP allows a municipality to put in place controls over how alcohol may be sold and served, how patrons enter and exit a venue, and how an event must be staffed. It also includes rules and guidelines for dealing with violations of the policy. In addition, a MAP helps municipalities and event organizers ensure the safety and enjoyment of event participants by following, at a minimum, the standards and regulations in the Ontario Liquor License Act (LLA). A municipality can choose, however, to implement standards that are stricter than the LLA.

Benefits of a MAP: Health and Safety, Reduced Liability

A MAP can help to prevent and reduce alcohol-related problems during events held in or on municipally-owned facilities and properties where alcohol use is permitted. Effective MAPs can provide measures that help to lessen and prevent the risks of injury and death. Underage drinking, drinking to intoxication, and drinking and driving are important contributors to alcohol-related harms. An effective MAP can have mechanisms in place at events to ensure minors or intoxicated people are not served alcohol and that there is access to safe transportation for patrons who are or appear to be intoxicated. MAPs in Ontario were found early on to be linked to a decrease in the experience of problems related to alcohol consumption at events on municipal property.



MUNICIPAL ACTIONS TO REDUCE HARMS ASSOCIATED WITH ALCOHOL USE

City of Hamilton Board of Health

December 2, 2019

Public Health Services
Epidemiology, Wellness and Communicable Disease Control Division

Overview

- Recommendations
- What is a Municipal Alcohol Policy (MAP)?
  - Historical background of Hamilton's MAP
- Why is this important?
  - Alcohol availability and harms
  - Local context
- What's changed?
  - Legislation changes
  - Alcohol sector growth
- Planned next steps

City of Hamilton
Municipal Alcohol Policy
Schedule 1

Operating Standards and Procedures

City of Hamilton
Effective: January 1, 2011

Recommendations

1. Board of Health to approve the initiation of a review of the Municipal Alcohol Policy, including the formation of a Workgroup made up of relevant municipal departments; and,

2. Workgroup to report back to the Board of Health with recommended updates to the Municipal Alcohol Policy by Q3 2020.

What is a Municipal Alcohol Policy?

- A Municipal Alcohol Policy is a tool that helps a municipality outline the conditions for the responsible sale and service of alcohol at events on municipal property

- Allows a municipality to have controls over how alcohol may be sold/served, how patrons enter and exit a venue, and how an event must be staffed

- Effective Municipal Alcohol Policies can provide measures that help to reduce and prevent the risks of alcohol related harms including injury and death

MAP Historical Background

Jan 2002: Council passed Municipal Alcohol Risk Management Guidelines for the City of Hamilton

Dec 2004: Review of 2002 Municipal Alcohol Risk Management Guidelines undertaken by Public Health Services

Jan 2005 – June 2008: Workgroup formed; meetings, consultation, revisions, and approvals take place

June 23, 2010: Council approved the Municipal Alcohol Policy

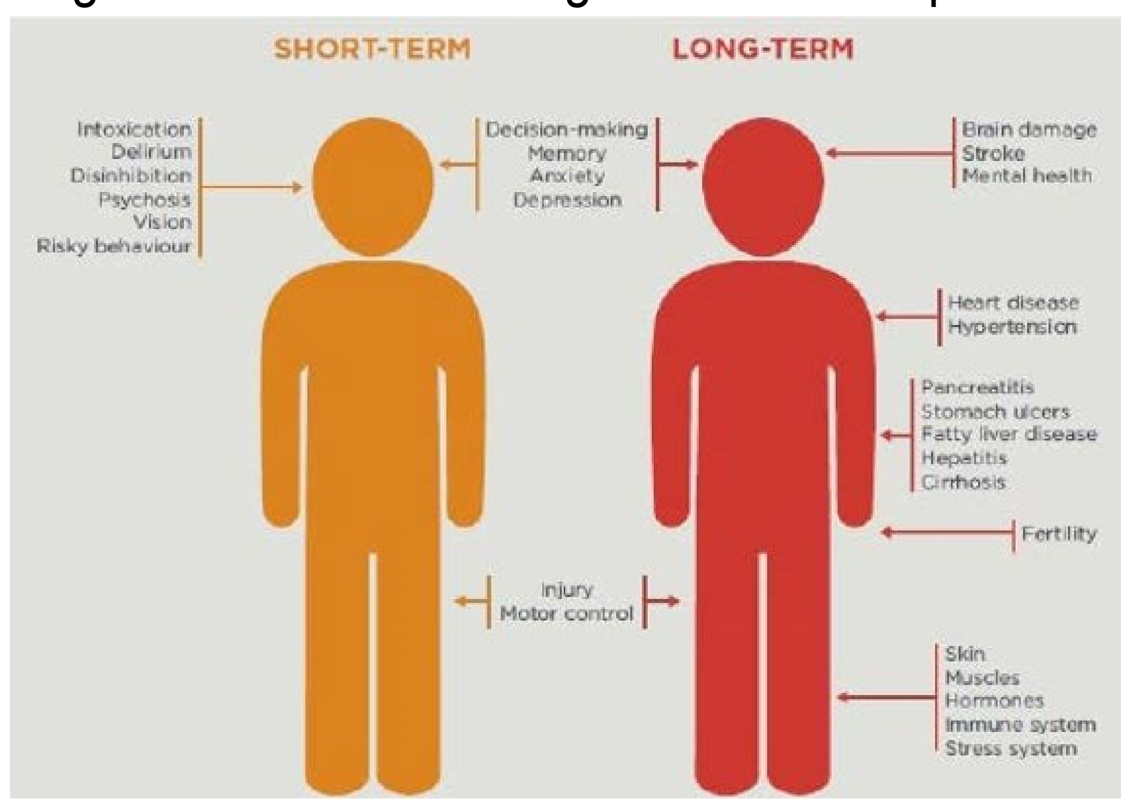
January 1, 2011: Municipal Alcohol Policy comes into effect

July 2019: Board of Health requests that Public Health Services reports back on potential municipal actions to reduce alcohol related harms

December 2019: Public Health Services services requests approval to initiate a review of the Municipal Alcohol Policy

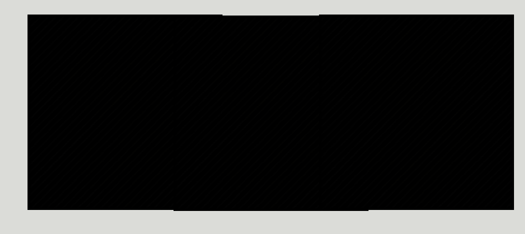
Why is this important: Health and social harms

Significant short and long-term health impacts



Source: CAMH (2019) Alcohol Policy Framework

Alcohol related harms cost $14.6 billion, or 38.1% of the total costs of substance use in Canada

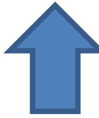


Why is this important: Local context

- 43% of Hamiltonians 19+ report drinking above the Low Risk Alcohol Drinking Guidelines
- Young adults (19-29) are more likely to engage in high-risk binge drinking than any other age group
- The City has 666 onsite licensed alcohol establishments making alcohol widely and readily available
- In Hamilton, approximately 900 hospitalizations and 100 deaths per year are attributable to alcohol

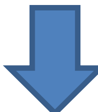
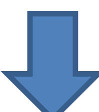
Increased Availability = Increased Harms

Studies have shown a **direct relationship** between alcohol availability and harms:

 hours of sale = consumption and alcohol related harms

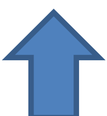
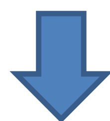
---

density of alcohol retail outlets = high-risk consumption

 grocery store sales =  in alcohol related harms

---

There is an **inverse relationship** between alcohol price and alcohol related harms.

 price of alcohol =  consumption and alcohol related harms

What's changed: Legislation

Ontario has loosened controls around alcohol sales since 2011:

- Reductions to the minimum retail price of beer to $1
- Halting the automatic increase in provincial beer tax
- Extending the hours of sale for alcohol retail outlets
- Introduction of alcohol sales in grocery stores

May 2019 - the provincial budget announcement included further proposed changes:

- Looser advertising restrictions - "Happy Hour" and "Cheap Drinks"
- Removing the limit on serving size for by-the-glass licenses
- Expanding where beer and wine can be purchased – big box stores and corner stores
- Allowing municipalities to designate public drinking areas, such as parks
- Permitting alcohol sale and drinking at tailgate events

What’s changed: Alcohol sector growth

- Alcohol is readily available and socially acceptable - it has increasingly become a part of our everyday lives

- The craft and specialty market, alcohol related events, and the normalization of alcohol in our society is changing the alcohol retail landscape

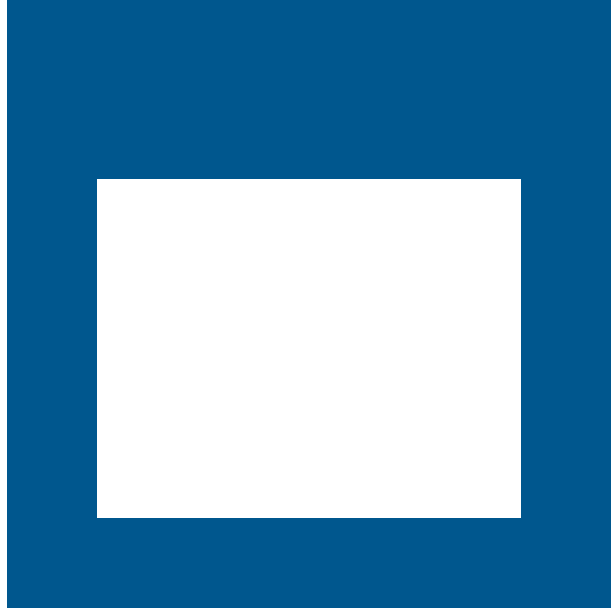
- Consumers have more choice than ever before

Planned next steps

Workgroup Formation
Q4 2019 – Q1 2020

Review and Consultation
Q1 – Q3 2020

Recommendations
Q3 2020



QUESTIONS?

INFORMATION REPORT

TO:	Mayor and Members Board of Health
COMMITTEE DATE:	December 2, 2019
SUBJECT/REPORT NO:	Clean Air Hamilton 2018 Progress Report (BOH19039) (City Wide) **(Outstanding Business List Item)**
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Shelley Rogers (905) 546-2424 Ext. 1275
SUBMITTED BY: SIGNATURE:	Kevin McDonald Director, Healthy Environments Division Public Health Services

COUNCIL DIRECTION

Clean Air Hamilton reports annually to Board of Health on the trends of local air quality and the actions undertaken by members of Clean Air Hamilton to address local air quality in Hamilton.

INFORMATION

Clean Air Hamilton is a community initiative to improve air quality in the City of Hamilton. It has a diverse membership with representation from environmental organizations, industry, businesses, academic institutions, citizens and different levels of government (federal, provincial and municipal). Initiated in 1998, Clean Air Hamilton works to improve air quality throughout the City of Hamilton and meet all ambient air quality criteria. The Public Health Section of the Healthy and Safe Communities Department supports the work of Clean Air Hamilton and other work related to air quality and climate change.

Clean Air Hamilton hosted a strategic visioning workshop in 2016 and has identified five strategic themes related to air quality improvements to focus on for the following two to three years. These include:

- Governance & Structure;

- Air Zone Management;
- Transportation;
- Air Monitoring; and,
- Dust and Particulate Matter ($PM_{2.5}$) Mitigation.

Further details can be found in Appendix “A” to Report BOH19039.

Air Quality in Hamilton

Many air pollutants’ annual percentages have decreased over time as measured at the Ministry of the Environment, Conservation and Parks’ (MECP) air monitoring stations. See Appendix “B” to Report BOH19039 for the 2018 Hamilton Air Quality Trends provided by the MECP.

2018 Air Quality Alerts

Two different air quality alerts are issued during periods of poor air quality. A Special Air Quality Statement will be issued when the Air Quality Health Index is a high risk (>6) and is forecast to last for 1-2 hours. If the high-risk Air Quality Health Index is forecast to be a persistent duration of at least 3 hours, then a Smog and Air Health Advisory will be issued by the Province of Ontario.

In 2018, Hamilton did not experience any Special Air Quality Statements or Smog and Air Health Advisory instances. Clean Air Hamilton notes that air pollution concentrations can be different at a local neighbourhood level and some areas of Hamilton can have higher air pollution concentrations than others across the City.

Hamilton Airshed Modelling System

In 2018, the Hamilton Airshed Modelling System (HAMS) was completed by Golder Associates Ltd. and funded in partnership by the Hamilton Industrial Environmental Association and the City of Hamilton Public Health Services. HAMS was presented to Board of Health at its meeting on April 16, 2018 (BOH18016) and at the 2018 Upwind Downwind Conference. The successful completion of HAMS accomplishes one of the main goals established by Clean Air Hamilton’s Air Quality Task Force Action Plan from 2013 (BOH13029).

HAMS is built on current science and uses local and transboundary emissions data, combined with meteorological modelling to establish a model of the local airshed down to a grid of 1.33km by 1.33km sections. Emission inventory sources included industrial, commercial, residential, on-road, non-road and biogenic/agricultural.

HAMS concluded that:

- Transportation related activities are significant contributors to air quality levels;

- Local industrial activities contribute less than 20% to air quality in the airshed except for Benzo[a]pyrene which is higher;
- Local industry and non-road sources contribute about 15% to SO_2 levels;
- ~75% of $PM_{2.5}$ contributions are from transboundary sources outside of Hamilton;
- Transportation sources have the highest contribution of NO_2; and
- Source contribution varies seasonally with higher transboundary contribution in winter and more local source contribution in the summer.

Hamilton Airshed Modelling System Sub-Regional Analysis

HAMS was used to provide air quality information in specific domain areas of Hamilton via a sub-regional analysis model. The information was presented to Clean Air Hamilton's Air Quality Task Force in the Fall of 2018. The sub-regional analysis divides the City into five domain areas: Industrial Core (IC), West Lower (WL), East Lower (EL), West Upper (WU), and East Upper (EU). Domain area source contributions were further analysed by industrial, on-road, non-road, transboundary and other.

The sub-regional analysis assisted Clean Air Hamilton's Air Quality Task Force to set three overarching priorities to guide future actions and they included:

1. Education and outreach;
2. Air quality monitoring; and
3. HAMS updating consistent with the best available data/evidence.

Clean Air Hamilton and the City of Hamilton continue to work together with Golder Associates Ltd. to create methodology to assess health impacts of air quality in Hamilton.

Further findings from the sub-regional analysis can be found in Appendix "C" to Report BOH19039.

2018 Upwind Downwind "Hands On Hamilton: Our Air Quality" Conference and Clean Air Fair

The Upwind Downwind conference is a bi-annual two-day event hosted by Clean Air Hamilton and members of Clean Air Hamilton. The event opened with a Clean Air Fair, a free event for the general public, on Sunday, March 4, 2018 at the Cotton Factory in Hamilton. The event was hosted by the Hamilton Industrial Environmental Association and was comprised of exhibitors focusing on Air Quality and Health within Hamilton.

The Upwind Downwind conference was held on Monday, March 5, 2019 at the Sheraton Hotel in Hamilton. The conference had a total of 98 participants. Speakers represented various levels of government, academia, Public Health Ontario and the Sarnia-Lambton Environmental Association. Presentations and discussions involved topics such as the Hamilton's Airshed Modelling System, MECP's cumulative emissions modelling, Public

Health Ontario's Environmental Burden of Health report, University of Toronto's research on air quality around school drop-off locations, transboundary emissions and emerging provincial government regulations.

Hamilton Clean Air Summit 2018

On September 14, 2018, the half day Hamilton Air Summit was hosted in the City of Hamilton Council Chambers. The event was moderated by Dr. Denis Corr, former Chair of Clean Air Hamilton, and panelists included Clean Air Hamilton members, and representatives from the office of the Environmental Commissioner of Ontario and Golder Associates Ltd.

Presentations were made on air quality public engagement, the Hamilton Airshed Modelling System, 2016 ambient air quality trends and comparisons, risk communication, the air quality health index and air zones. Panel discussions followed the presentations regarding cumulative effects, emerging provincial standards and fine particulate matter.

Clean Air Hamilton Programs 2018

A) Fresh Air For Kids:

In 2018, Green Venture and Corr Research teamed up to provide the Fresh Air for Kids program to five Hamilton elementary schools. The focus of the project is to educate students, teachers and the public about air quality around schools and the impact of engine idling. The program was delivered to Franklin Road, Ancaster Meadows, Prince of Wales, and George L. Armstrong Public Elementary Schools and St. Marguerite D'Youville Catholic Elementary School. The program included classroom work, in-the–field air monitoring and anti-idling awareness campaigns and blitzes.

Students were educated on the importance of air quality and the Air Quality Health Index. They also gained an awareness of how their actions can impact and improve the air in their neighbourhoods. Students measured fine particulate matter ($PM_{2.5}$ and PM_{10}) in their neighbourhoods. The MECP Mobile Air Monitoring van was also used to monitor air quality near the schools. This data was developed into air quality maps which students used to decide on their best ways to travel to and from their school.

In addition to the Fresh Air For Kids program, three of the participating five schools also participated in the Enhanced Fresh Air For Kids program which included anti-idling campaigns and blitzes. The program included anti-idling education where Green Venture led classrooms in the development of posters, pamphlets, key chains and other advertising material. Audits of idling vehicles were conducted before and after the anti-idling campaigns to measure the success of the program.

The initial audits took place at the beginning of the program in the Fall and follow-up audits were conducted the following Spring after the campaign was complete.

B) Friendly Streets Hamilton:

Friendly Streets Hamilton is a collaborative initiative between Cycle Hamilton and Environment Hamilton. The program encourages active, safe travel and aims to secure safer streets. The program piloted in 2017 with great success. In 2018, the program received Clean Air Hamilton funding to combine street-level air quality monitoring with their street audits.

The audits engaged 65 residents in the Beasley and Gibson-Landsdale neighbourhoods who measured $PM_{2.5}$ levels using Dylos air quality monitors along arterial roads and residential streets. The collected data showed that $PM_{2.5}$ levels were higher along arterial roads and that citizens should consider using residential streets when using active transportation.

The program identified the top three concerns related to air quality in the Beasley area to be:

1. Improving localized air quality;
2. Industrial trucks shortcutting through the downtown core; and
3. Enhancing tree canopy along arterial roads to improve shade and air quality.

Friendly Streets Hamilton partnered with the MacChangers program at McMaster University to increase engagement with students and is acting in a mentorship capacity for projects involving green transportation and truck routes.

C) Bus Brains:

The Bus Brains project by Green Venture aimed to increase uptake in electric school buses by testing air quality on school and HSR buses. In 2018, Green Venture worked with Fessenden Public and St. Marguerite D'Youville Catholic Elementary schools to collect air quality data from regular school buses, and Delta Public Secondary School to collect air quality data from Hamilton Street Railway buses. Students who do not take the bus were given the opportunity to use the air quality monitors to measure levels in their school building.

The main goals of the project were to teach students about air quality, how it can be affected by temporary events, the potential impacts to environmental and human health, to gather baseline data about air quality on school buses and to provide students with real-world experience gathering data in a manner consistent with standard quantitative research techniques.

Data was collected over a two-week period using Dylos air quality monitors and sent to Dr. Matthew Adams with the University of Toronto for future research and conclusions.

The initial data was discussed as a class and led by Green Venture. In total, 120 students were directly involved in the monitoring.

Air Quality Programs in 2019

Clean Air Hamilton identified three programs to improve air quality in 2019, with funding approved by the Board of Health (BOH19021):

1. Cycle Hamilton Coalition Inc. Friendly Streets Hamilton ($12,000);
2. Green Venture and Corr Research Inc. Fresh Air for Kids ($10,580); and,
3. Environment Hamilton and The Hamilton Naturalists Club – Trees Please ($12,420).

The results of these programs will be reported in the Clean Air Hamilton 2019 Air Quality Progress Report and presented to the Board of Health in 2020.

Future Actions

There has been substantial improvement in Hamilton's air quality since the 1970s; however, air pollution continues to create adverse health impacts to Hamilton residents. Continued, concerted actions are imperative to further improve air quality in the City of Hamilton. Collaboration from individuals, organizations, industries, the City of Hamilton and other levels of government are required to reach our goals. In the future, Clean Air Hamilton will:

- Continue to support and undertake all the recommendations of the Air Quality Task Force (BOH13029) and BOH report (BOH18016) in the areas of air modelling and monitoring, planning education and outreach, green infrastructure and updating of municipal policies that encourage and facilitates behavioural change to active and sustainable transportation and alternative forms of renewable and efficient energy for buildings;
- Continue to support and encourage Hamiltonians to reduce their transportation emissions through the use of alternatives including: public transit, bicycles, walking, hybrid or electric vehicles, etc. and support policies such as complete streets and transportation demand management; and,
- Encourage the continued efforts of the MECP and industry to reduce air borne contaminants in the City of Hamilton and the Province of Ontario.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report BOH19039:	Clean Air Hamilton 2018 Air Quality Progress Report
Appendix "B" to Report BOH19039:	2018 Hamilton's Air Quality Trends
Appendix "C" to Report BOH19039:	Hamilton Airshed Modelling System Sub-Regional Analysis

References

[1] Government of Ontario, Ministry of the Environment, Conservation and Parks (2017). What is the Air Quality Health Index? Retrieved from: (http://www.airqualityontario.com/science/aqhi_description.php).

[2.]Government of Ontario. (2017). Environmental Registry. Retrieved from: (https://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTMzODAx&statusId=MjA1MDU4

CleanAir
HAMILTON

Clean Air Hamilton

2018 Air Quality Progress Report

December 2019

Photo courtesy of Tourism and Culture Division, City of Hamilton

Table of Contents

Message from the Chair…………………………………………. 3

Strategic Activities & Meeting Dates……...……………………. 4

Clean Air Hamilton - 2018 Funded Projects…………………..… 5

Fresh Air for Kids……….……….…..…………..……………… 5

Friendly Streets……………...……………………………………. 7

Bus Brains ……………………………………………………………. 8

Upwind Downwind Conference………………………………. 9

2018 Hamilton Air Summit………......…………………….…….. 9

Hamilton Airshed Modelling System……………..……………. 10

Hamilton Airshed Modelling System Airshed Sub-Regional Analysis…………………………………………….….…..……….. 11

Conclusions……………………...………..……………………… 18

Air Quality Additional Resources……………………………..…. 19

2018 Members………………………………………………………. 20

Appendix A Hamilton’s Air Quality Trends…………………….. 21

Top Row (left to right): Brian Jantzi, Nico Strabac, George McKibbon, Bruce Newbold (Chair), Dan Dobrin, Andrew Sebestyen, Ed Cocchiarella
Bottom Row (left to right): Trevor Imhoff, Denis Corr, Tiffany Singh, Shelley Rogers, Joel Kaushansky, Lynda Lukasik, Waverley Birch, Karen Logan
Missing: Giuliana Casimirri, Robert Clackett, Rob Conley, Natalie Stacey, Charles Hostovsky, John Lundrigan, Fran Scott, Sara Yonson

Message from the Chair

I am pleased to provide the Clean Air Hamilton 2018 report which provides annual air quality trends and our on-going work to improve air quality in Hamilton. The following is our Clean Air Hamilton 2018 report. For previous years' activities go to:
http://www.cleanairhamilton.ca .

Over the past year, we continued to learn about the local air quality and to make improvements to Hamilton's air quality. The Hamilton Airshed Modelling System (HAMS) was prepared by Golder Associates and released to the community at our bi-annual Upwind-Downwind conference. Funding was provided by the Hamilton Industrial Environmental Association (HIEA) and the City of Hamilton. The model helps us to better understand questions such as: Where is our air pollution coming from? How important are sources external to the city? How much does air pollution vary across the city? Answering these questions will provide us new insights into our local air quality, and ultimately new directions to address air quality in the City of Hamilton.

The Provincial government has also continued to recognize the need to improve air quality through legislation, with the province proposing new regulations on heavy duty vehicles. Clean Air Hamilton submitted feedback and participated along with other stakeholders in consultation around this legislation, and we look forward to bringing these changes to our City.

Our mandate includes involving and informing our citizens of all these issues and giving sound, science based advice and recommendations. In March of 2018, Clean Air Hamilton held it's bi-annual Upwind Downwind Conference and Clean Air Fair, educating professionals and the public about air quality and health in and around Hamilton. Hamilton also hosted an Air Summit in September of 2018. The Summit included panels consisting of a number of Clean Air Hamilton Members. Presentations were made by the Environment Commissioner of Ontario's Office and Golder Associates. Topics of discussion included the HAMS, ambient air quality trends, emerging provincial standards and cumulative effects.

We thank the Healthy and Safe Communities Department within the City of Hamilton and City Council for their ongoing support of Clean Air Hamilton and its special projects. Funding has allowed us to work closely with local partner groups including Friendly Streets (a collaboration between Environment Hamilton and Cycle Hamilton), Corr Research and Green Venture on projects that have raised awareness amongst local citizens about air quality issues, as well as working to improve local air quality. Together, Clean Air Hamilton and its various partners are working to reduce emissions as well as our personal exposures and live healthier lives. Clean Air Hamilton's special projects and this report helps us to do that.

Bruce Newbold, Ph.D.
Chair, Clean Air Hamilton

Strategic Activities

Clean Air Hamilton is dedicated to improving air quality across the City of Hamilton. This will be accomplished through sound science based decision making, using the most up-to-date information and tools available, such as the Hamilton Airshed Model (HAMS). Clean Air Hamilton plans to focus on education and outreach, air quality monitoring, and to continue to update the HAMS and identify major sources of pollution to prioritize action for maximum air quality improvement and exposure reduction. Clean Air Hamilton has identified the following issues for research, communication and program activities in collaboration with our partners:

Governance & Structure:

To remain a multi-stakeholder group dedicated to improving air quality by increasing public perception and expanding Clean Air Hamilton membership while providing communication and promotion of realistic, science based decision making and sustainable practices.

Air Zone Management:

Comply with the Ministry of the Environment, Conservation and Parks (MECP) and Canadian Ambient Air Quality Standards. This will be done through implementation of a systems level approach and support towards an industrial mandatory monitoring regulation.

Transportation:

To encourage and facilitate more use of public and active transportation through commentary on transportation related matters, supporting educational programs and localized monitoring leading to detailed information to encourage changes in behaviour.

Air Monitoring:

To improve air monitoring activities across the City of Hamilton by providing support for additional portable air monitors and fixed air monitors that provide real-time monitoring for contaminants of concern in Hamilton.

Dust & $PM_{2.5}$ Mitigation:

Lower concentrations of $PM_{2.5}$ across the City of Hamilton below Canadian Ambient Air Quality Standards by effectively utilizing the airshed model to create partnerships and pollution inventory specific to street sweeper and dust mitigation programs.

2018 Meetings	2019 Meetings
January 8, 2018	January 14, 2019
February 12, 2018	February 11, 2019
April 9, 2018	March 11, 2019
May 14, 2018	April 8, 2019
June 11, 2018	May 13, 2019
July 9, 2018	June 10, 2019
August 13, 2018	August 12, 2019
September 8, 2018	September 9, 2019
October 15, 2018	October 7, 2019
November 12, 2018	November 18, 2019
December 10, 2018	December 2, 2019

Clean Air Hamilton Meetings

Clean Air Hamilton meetings are usually held on the second Monday of each month located at 71 Main Street West, City Hall, Room 192/93 .

Photo courtesy of Tourism and Culture Division, City of Hamilton

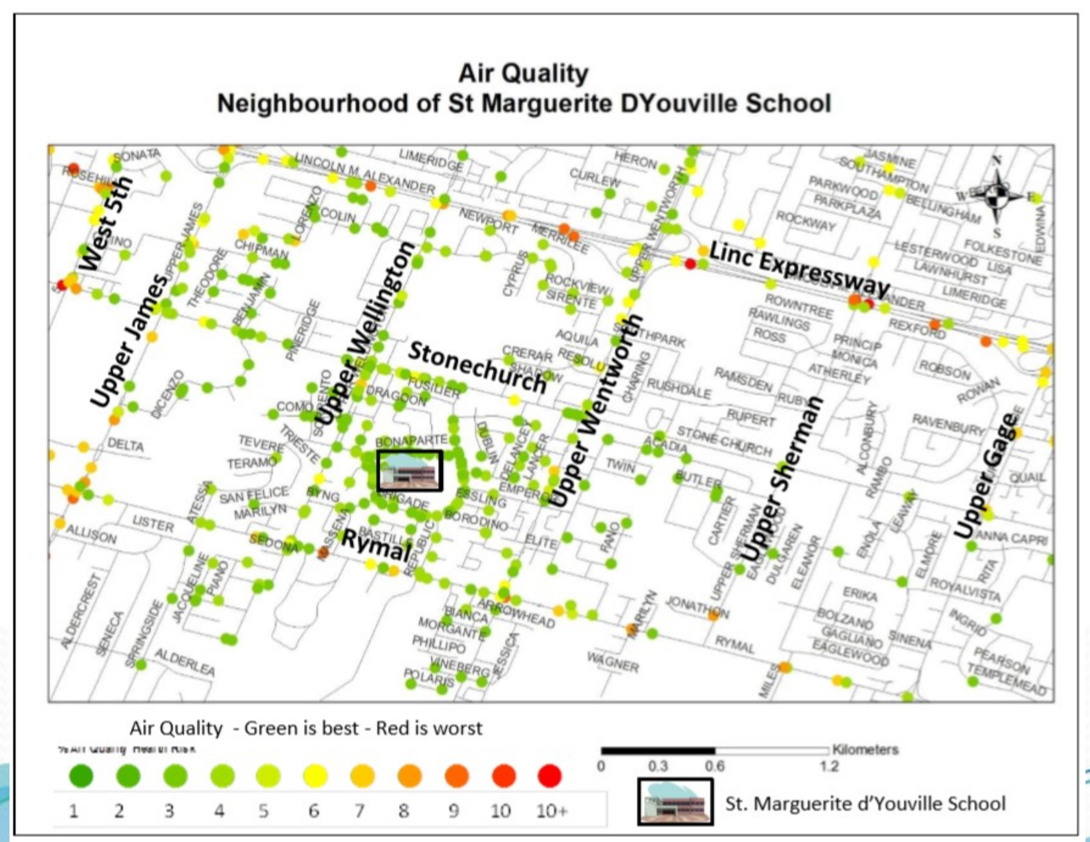
Clean Air Hamilton (CAH) - 2018

Clean Air Hamilton is an innovative, multi-stakeholder agent of change dedicated to improving air quality in our community. In 2018, Hamilton Public Health Services provided $28,577 to fund projects resulting in air quality improvement and awareness. These projects have reached hundreds of citizens and contribute to improving Hamilton's air quality through monitoring, promotion and spreading awareness. Clean Air Hamilton is proud to support the 2018 funded projects.

Fresh Air for Kids

In 2018, Green Venture and Corr Research teamed up to provide the Fresh Air for Kids program to five Hamilton elementary schools. The focus of the project is to educate students, teachers and the public about air quality around schools and the impact of engine idling. The program was delivered to Franklin Road, Ancaster Meadows, Prince of Wales, and George L. Armstrong Public Elementary Schools and St. Marguerite D'Youville Catholic Elementary School. The program included classroom work, in-the–field air monitoring and anti-idling awareness.

Students were educated on the importance of air quality and the Air Quality Health Index. They also gained an awareness of how their actions can impact and improve the air in their neighbourhoods. Students measured $PM_{2.5}$ and PM_{10} in their neighbourhoods. The MECP Mobile Air Monitoring van was also used to monitor air quality near the schools. These data were developed into air quality maps which students used to decide on their best ways to travel to and from their school.



Clean Air Hamilton 2018 Funded Projects Cont'd...

Enhanced Fresh Air for Kids

In addition to the Fresh Air For Kids program, three of the participating five schools also participated in the Enhanced Fresh Air For Kids program which included anti-idling campaigns. The program included anti-idling education where Green Venture led classrooms in the development of posters, pamphlets, key chains and other advertising material. Audits of idling vehicles were conducted before and after the anti-idling campaigns to measure the success of the program.

IDLING INFRACTION

What is Idling?

When you're waiting or parked in your vehicle and you have the engine running you're idling.

Read on for more information about idling and what you can do to stop it.

Idling Facts

1) Over 10 seconds of idling uses more fuel than restarting your engine.

2) Idling isn't an effective way to warm up your vehicle, even in cold weather. The best way to warm up your vehicle is to drive it.

3) Excessive idling can damage your engine's components, including cylinders, spark plugs, and the exhaust system.

If you're waiting or parked TURN OFF your engine. Remember Idling Stinks!

Idling is a serious issue because it

- Causes dirty, smoggy, polluted air that's hard to breathe
- Leads to serious health problems, especially in children
- Contributes to climate change
- Wastes money and gasoline

How to Avoid Idling

Step 1 - Reduce warm-up idling to 30 seconds

Step 2 - If you are going to be stopped for more than 10 seconds, turn your engine off (except in traffic).

Step 3 - Don't ever use a remote car starter as they encourage idling.

Step 4 - With really cold temperatures, consider using a block heater to warm your vehicle's engine before you start it.

Step 5 - Spread the anti-idling message to your family and friends.

Step 6 - Keep this card handy with you to remind yourself not to idle. Afterall, everyone can forget.

The City of Hamilton **Anti-Idling By-law No. 07-160** can be found on the City's Bylaw website at:

https://www.hamilton.ca/government-information/by-laws-and-enforcement/city-hamilton-by-laws

Friendly Streets Hamilton

Friendly Streets Hamilton is a collaborative initiative of Cycle Hamilton and Environment Hamilton. The program encourages active, safe travel and aims to secure safer streets. The program piloted in 2017 with great success. In 2018, the program received Clean Air Hamilton funding to conduct street-level air quality monitoring with street audits.

The audits engaged 65 residents in the Beasley and Gibson-Landsdale neighbourhoods who measured $PM_{2.5}$ levels using Dylos air quality monitors along arterial roads and residential streets. The collected data showed that $PM_{2.5}$ levels were higher along arterial roads and that citizens should consider using residential streets when using active transportation.

The program identified the top three concerns related to air quality in the Beasley area to be:

- Improving localized air quality;
- Industrial trucks shortcutting through the downtown core; and
- Enhancing tree canopy along arterial roads to improve shade and air quality.

Friendly Streets Hamilton partnered with the MacChangers program at McMaster University to increase engagement with students and is acting in a mentorship capacity for projects involving green transportation and truck routes.

Clean Air Hamilton 2018 Funded Projects Cont’d...

Bus Brains—School Bus Monitoring

The Bus Brains project by Green Venture aimed to increase uptake in electric school buses by testing air quality on school and HSR buses. In 2018, Green Venture worked with Fessenden Public and St. Marguerite D’Youville Catholic Elementary schools to collect data from regular school buses, and Delta Public Secondary School to collect data from Hamilton Street Railway buses. Students who do not take the bus were given the opportunity to use the air quality monitors to measure levels in their school building.

Photo provided by Faye Parascandalo

The main goals of the project were to teach students about air quality, how it can be affected by transient events and the impacts to environmental and human health, to gather baseline data about air quality on school buses and to provide students with real-world experience gathering data in a manner consistent with standard quantitative research techniques.

Data was collected over a two-week period using Dylos air quality monitors and sent to Dr. Matthew Adams with the University of Toronto for future research and conclusions.

The initial data was discussed as a class and led by Green Venture. In total, 120 students were directly involved in the monitoring.

2018 Upwind Downwind Conference: Hands On Air Quality

The Upwind Downwind conference is a bi-annual two-day event hosted by Clean Air Hamilton and members of Clean Air Hamilton. The event opened with a Clean Air Fair, a free event for the general public, on Sunday, March 4, 2018 at the Cotton Factory in Hamilton. The event was hosted by the Hamilton Industrial Environmental Association and was comprised of exhibitors focusing on Air Quality and Health within Hamilton.

The Upwind Downwind conference was held on Monday, March 5, 2019 at the Sheraton Hotel in Hamilton. The conference had a total of 98 participants. Speakers represented various levels of government, academia, Public Health Ontario and the Sarnia-Lambton Environmental Association. Presentations and discussions involved topics such as the Hamilton Airshed Modelling System, cumulative emissions, environmental health, air quality around school drop off locations, transboundary emissions and emerging government regulations.

Hamilton Clean Air Summit 2018

On September 14, 2018, the half day Hamilton Air Summit was hosted in the City of Hamilton Council Chambers. The event was moderated by Dr. Denis Corr, former Chair of Clean Air Hamilton, and panelists included Clean Air Hamilton Members, and representatives from the office of the Environmental Commissioner of Ontario and Golder Associates.

Presentations were made on air quality public engagement, the Hamilton Airshed Modelling System, 2016 ambient air quality trends and comparisons, risk communication, the air quality health index and air zones. Panel discussions followed regarding cumulative effects, emerging provincial standards and particulate matter.

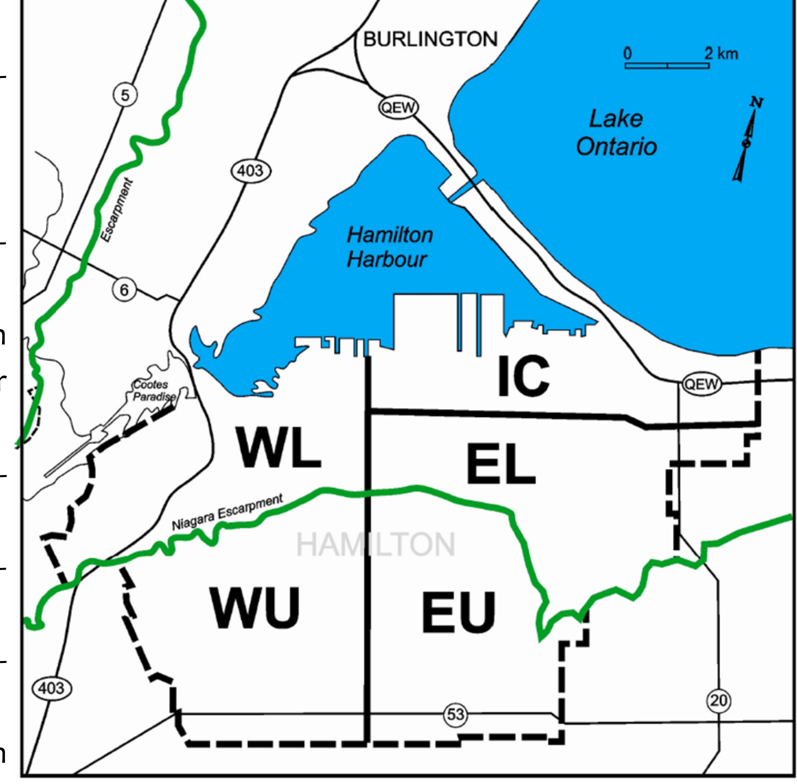
Hamilton Airshed Modelling System

In 2018, the Hamilton Airshed Modelling System (HAMS) was completed by Golder Associates Ltd. and funded by the Hamilton Industrial Environmental Association and City of Hamilton Public Health Services. HAMS was presented at the 2018 Upwind Downwind Conference and was a successful accomplishment of one of the goals set out by Clean Air Hamilton’s Air Quality Task Force Action Plan from 2013.

HAMS is built on the understanding of current science and uses local and transboundary data to establish a model of the local airshed down to a grid of 1.33km by 1.33km sections. Emission inventory sources included industrial, commercial, residential, on-road, non-road and biogenic/agricultural.

The model assisted the Clean Air Hamilton Air Quality Task Force to set three overarching priorities for future actions:

- Education and outreach;
- Air quality monitoring; and
- Model updating consistent with the best available data/evidence.



HAMS concluded that:

- Transportation related activities are significant contributors to air quality levels;
- Local industrial activities contribute less than 20% to air quality in the airshed except for Benzo[a]pyrene which is higher;
- Local industry and non-road sources contribute about 15% to SO_2 levels;
- ~75% of PM2.5 contributions are from transboundary sources outside of Hamilton;
- Transportation sources have the highest contribution of NO_2; and
- Source contribution varies seasonally with higher transboundary contribution in winter and more local source contribution in the summer.

HAMS was used to provide air quality information in specific domain areas of Hamilton via a sub-regional analysis model. The information was presented in 2018 to the Clean Air Hamilton’s Air Quality Task Force. The sub-regional analysis divides the City into five domain areas: Industrial Core (IC), West Lower (WL), East Lower (EL), West Upper (WU), and East Upper (EU) (as seen above). Domain area source contributions were further analysed by industrial, on-road, non-road, transboundary and other.

The following pages show the results from the sub-regional analysis.

HAMS Airshed Sub-Regional Analysis

Ground Level Ozone (O_3)

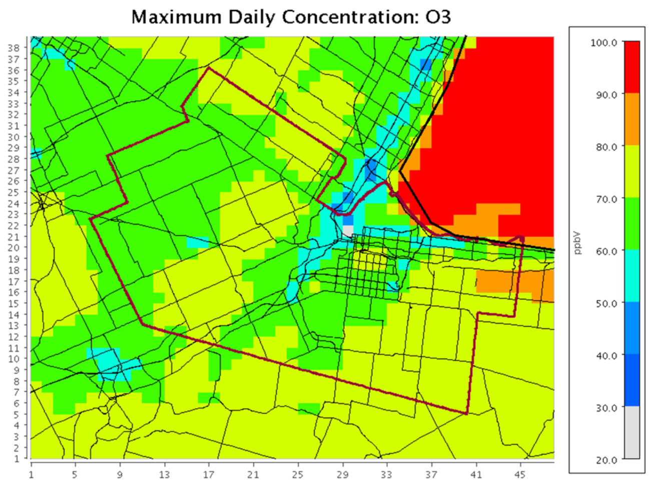
Ground level ozone (O_3 or tropospheric ozone) is formed when nitrogen oxides and volatile organic compounds react with the presence of sunlight[1]. This is why O_3 concentrations are higher during summer months. Sources include: coal-fired power plants, vehicles and urban activities. The chemical reaction between nitrogen oxides and O_3 leads to an inverse relationship between O_3 levels (below) and Nitrogen Dioxide (NO_2) as seen on page 15 of this report.

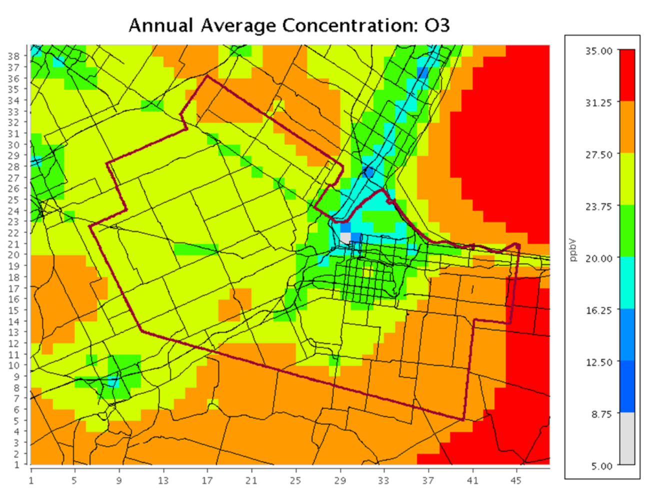
O_3 is a contributor for the Air Quality Health Index, and high levels of O_3 for extended periods of time can lead to Special Air Quality Statements and Smog and Air Health Advisories[2].

The Government of Ontario has been dedicated to lowering O_3 precursor emissions by eliminating all coal-fired power plants in Ontario.

HAMS shows that higher levels of O_3 are found on the East Lower and East Upper areas and lower levels are found in the West Lower area.

See Appendix "A" - 2018 Air Quality Trends for 2018 ozone trends in Hamilton (pages 25-26) .





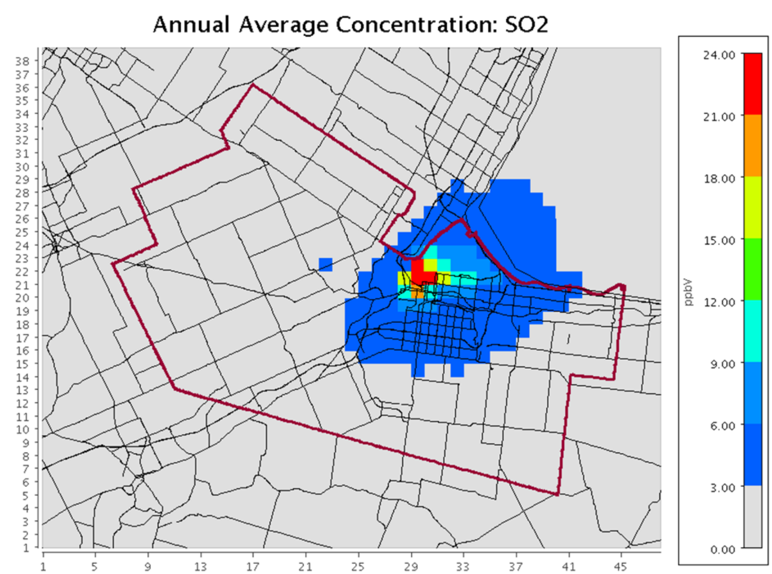
HAMS Airshed Sub-Regional Analysis Cont'd.

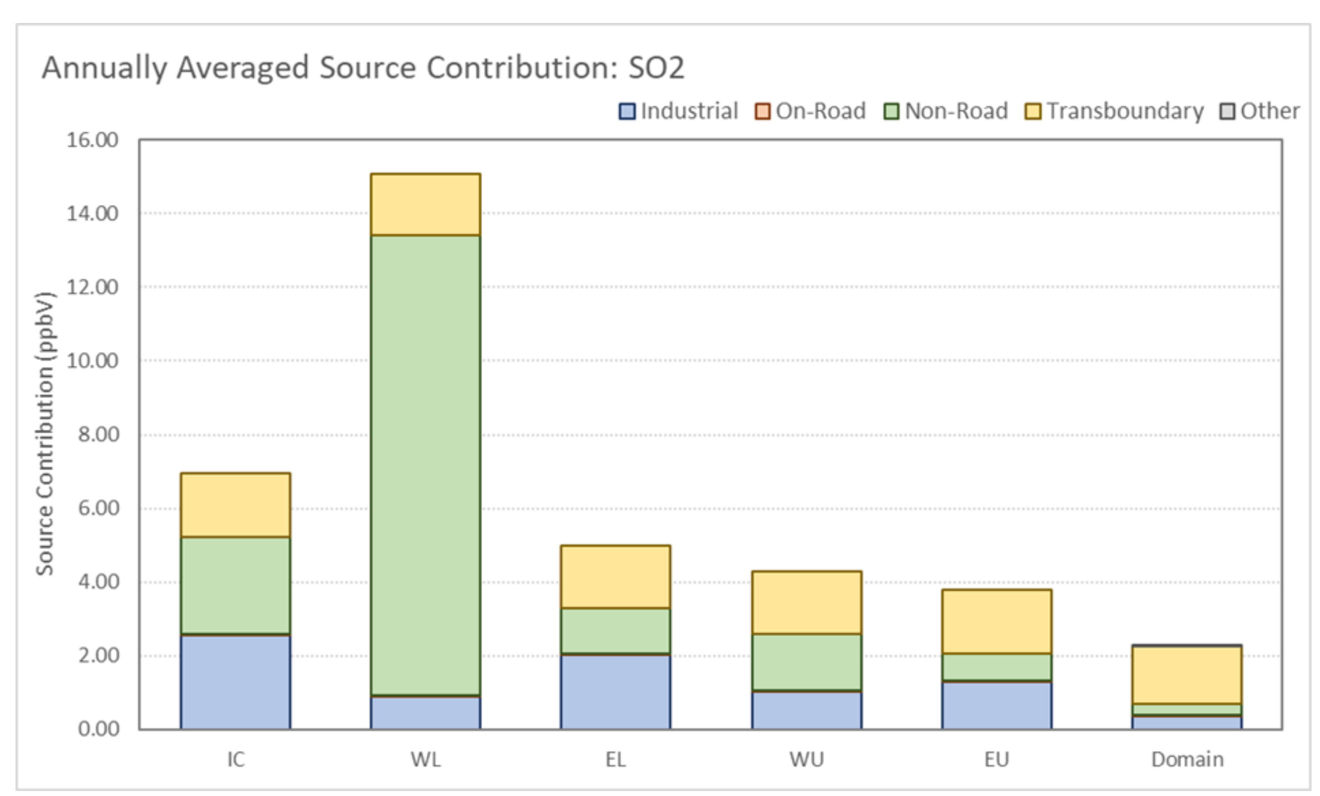
Sulphur Dioxide (SO_2)

Sulphur Dioxide can increase airway resistance when inhaled[3]. It is a product of industrial activity, however, the HAMS shows that overall, 20% of the SO_2 in Hamilton is emitted by the industrial sector.

The sub-regional analysis shows that the majority of SO_2 is due to non-road (airport, marine, rail and lawn mowers) and transboundary sources. It is highest in the West Lower area and lower in the East Lower, West Upper and East Upper areas.

See Appendix "A" - 2018 Air Quality Trends for 2018 SO_2 trends in Hamilton (page 23) .





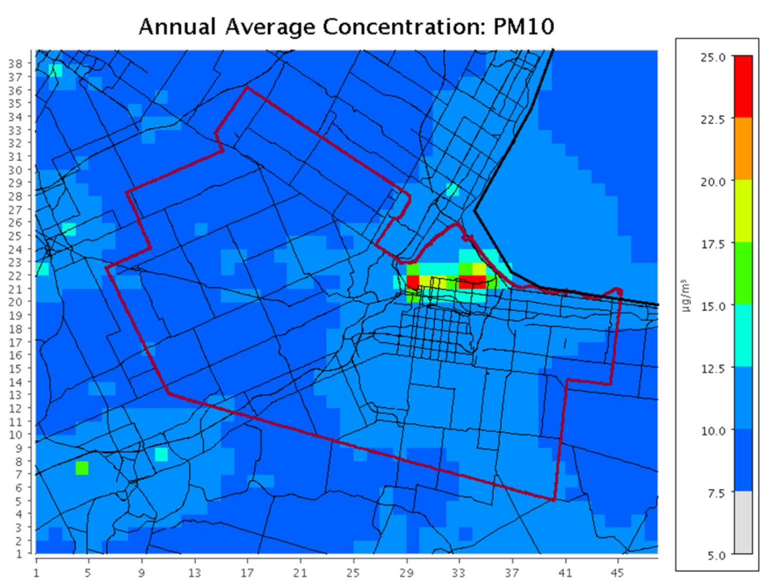
Particulate Matter: Inhalable Particulate Matter (PM_{10})

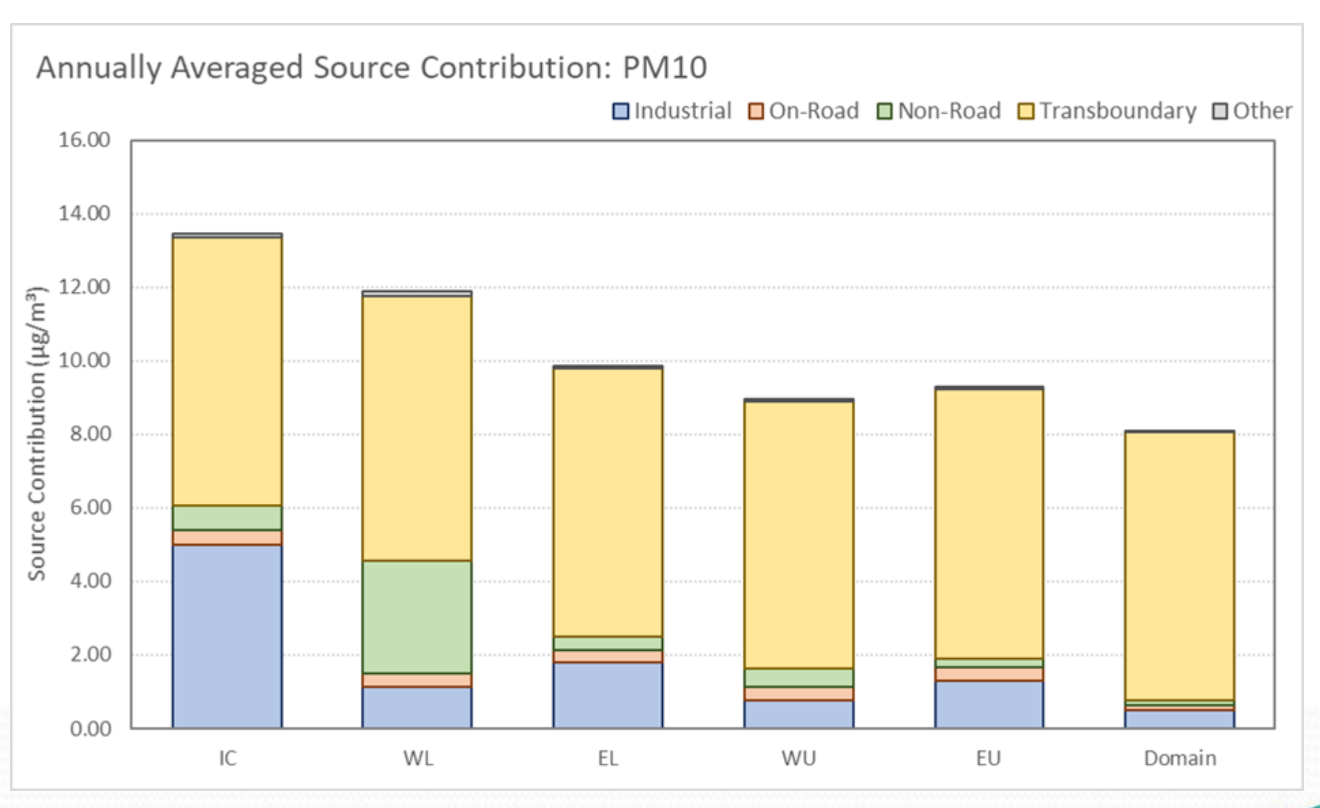
Inhalable particulate matter (PM_{10}) has a diameter of 10 μm or less. PM_{10} makes up 40-50% of total suspended particulate matter in Hamilton and has been linked to respiratory, cardiovascular and other health impacts in humans[4].

PM_{10} is primarily derived from vehicle exhaust emissions, industrial fugitive dusts, and the finer fraction of re-entrained road dust.

The sub-regional analysis shows the largest contribution of PM_{10} in all areas of Hamilton are due to Transboundary sources.

See Appendix “A” - 2018 Air Quality Trends for 2018 PM_{10} trends in Hamilton (page 21) .



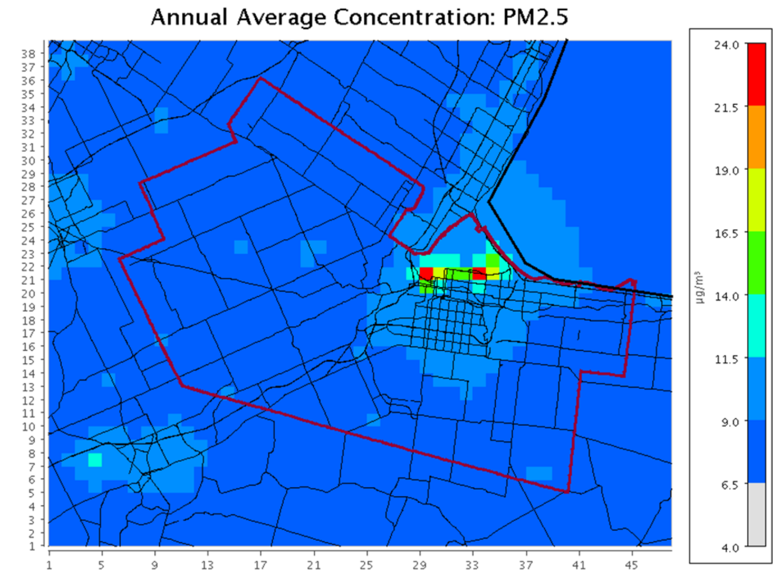


HAMS Airshed Sub-Regional Analysis Cont’d.

Particulate Matter: Respirable Particulate Matter ($PM_{2.5}$)

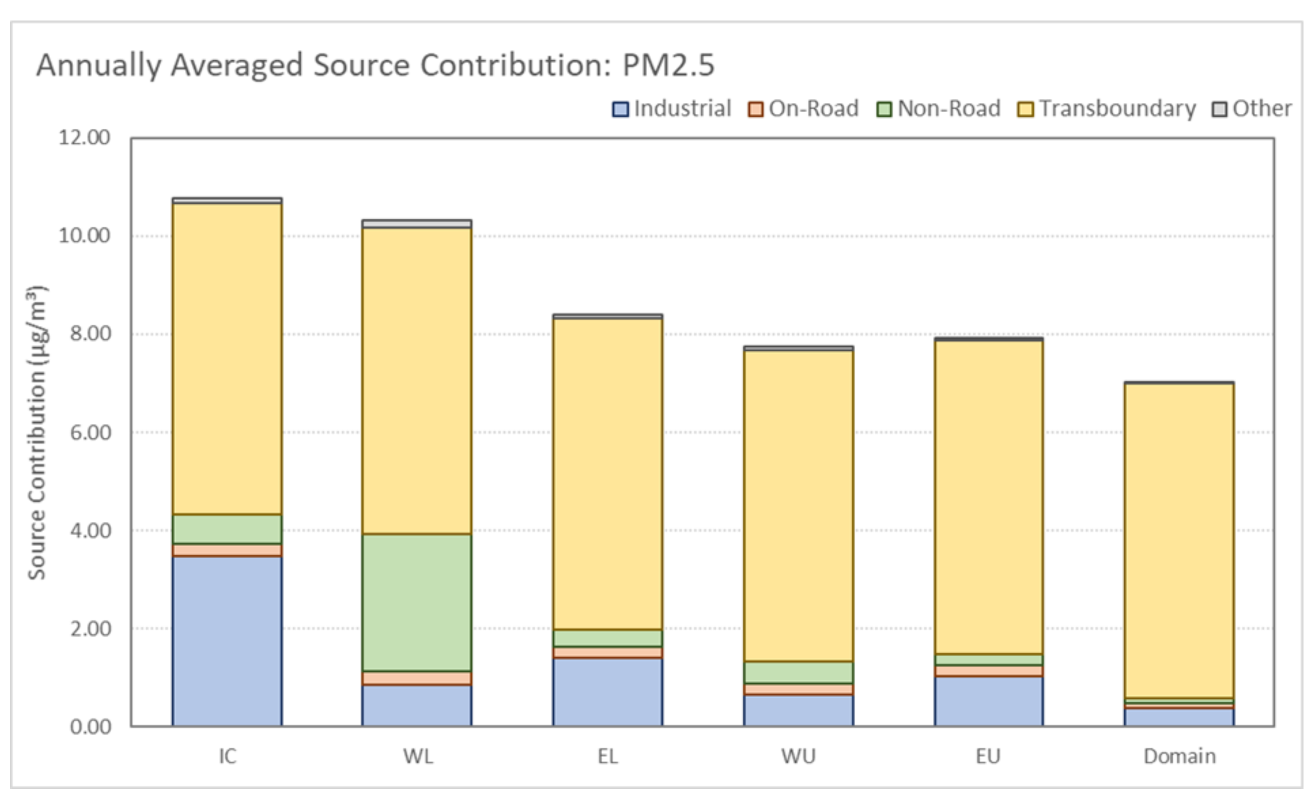
The Ontario government started measuring $PM_{2.5}$ across Ontario in 1999. $PM_{2.5}$ makes up about 60% of PM_{10}.

Scientists now agree that exposure to the small particles and organic substances is the likely cause of the observed respiratory and cardiovascular health impacts attributed to particulate matter exposure. [4]



The sub-regional analysis shows that the majority of $PM_{2.5}$ in all areas is due to transboundary sources followed by industrial in the Industrial Core area and non-road sources in the West Lower area.

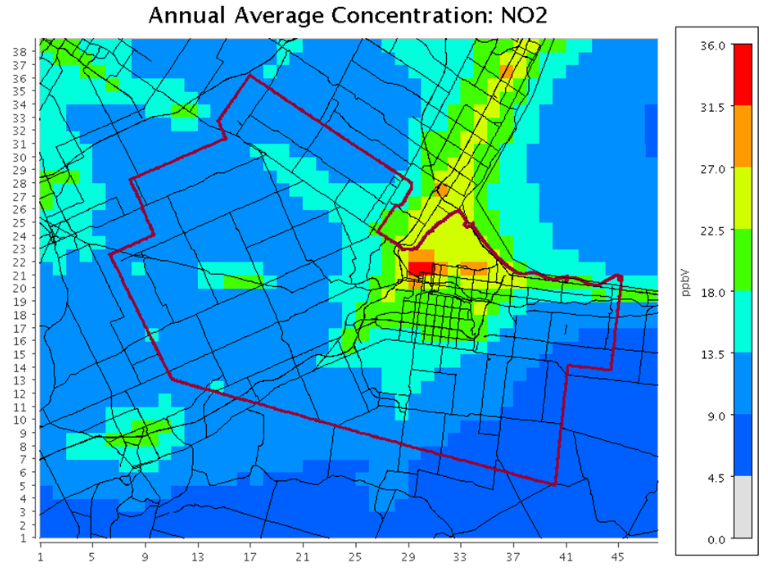
See Appendix “A” - 2018 Air Quality Trends for 2018 $PM_{2.5}$ trends in Hamilton and other Cities (pages 22).



Nitrogen Dioxide (NO_2)

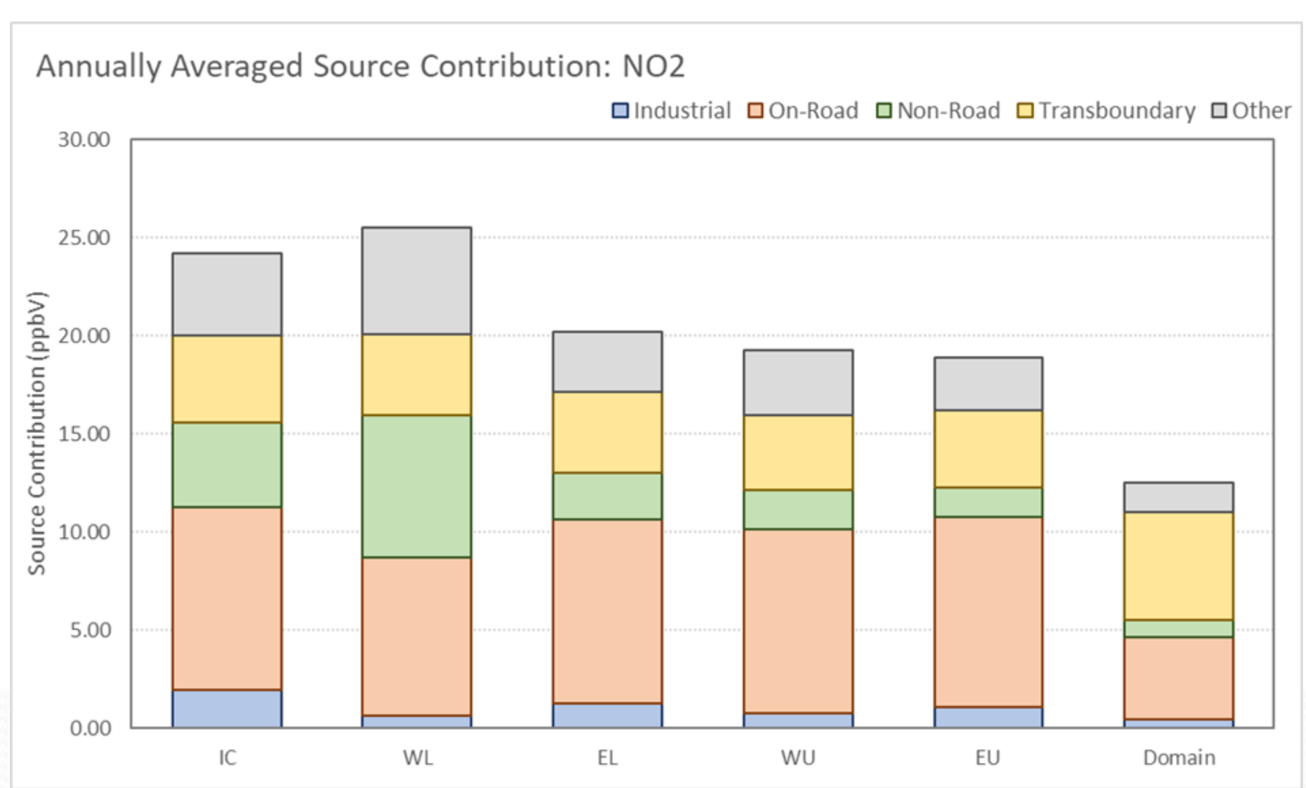
Nitrogen Dioxide (NO_2) is formed in the atmosphere from nitric oxide (NO) which is produced during combustion of fuels (i.e gasoline, diesel, coal, wood, oil and natural gas) and is responsible for the air pollution-related health impacts.

Both NO and NO_2 are routinely measured and their sum is reported as Nitrogen Oxides (NO_x) to reflect the presence of both species in urban areas. Ultimately all of the NO is converted to NO_2 which reacts with water in the atmosphere to produce nitric and nitrous acids (HNO_3 and HNO_2, respectively); these acids are converted into nitrate salts that constitute about 25% of the mass of fine particulate matter or $PM_{2.5}$.



The sub regional analysis shows the majority of NO_2 emissions in Hamilton are due to on-road sources, and non-road sources are also greater in the West Lower area.

See Appendix “A” - 2018 Air Quality Trends for 2018 NO_2 trends in Hamilton and other Cities (page 27) .

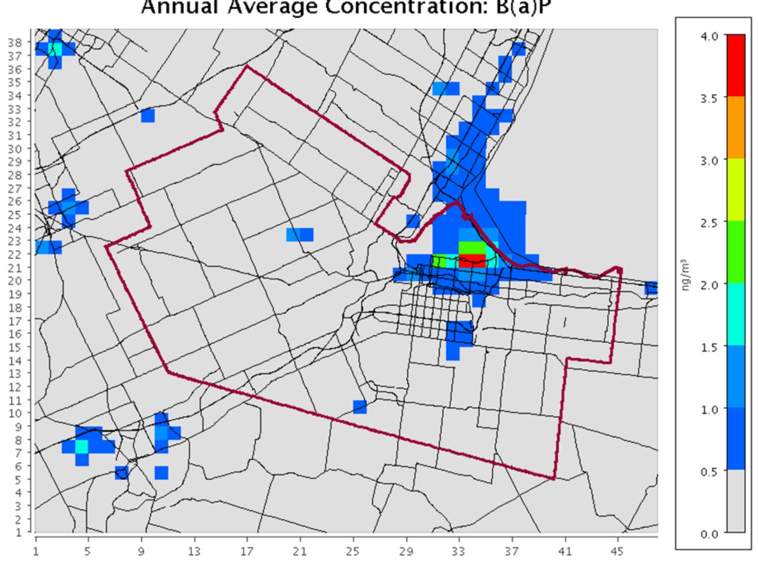


HAMS Airshed Sub-Regional Analysis Cont'd.

Benzo[a]pyrene

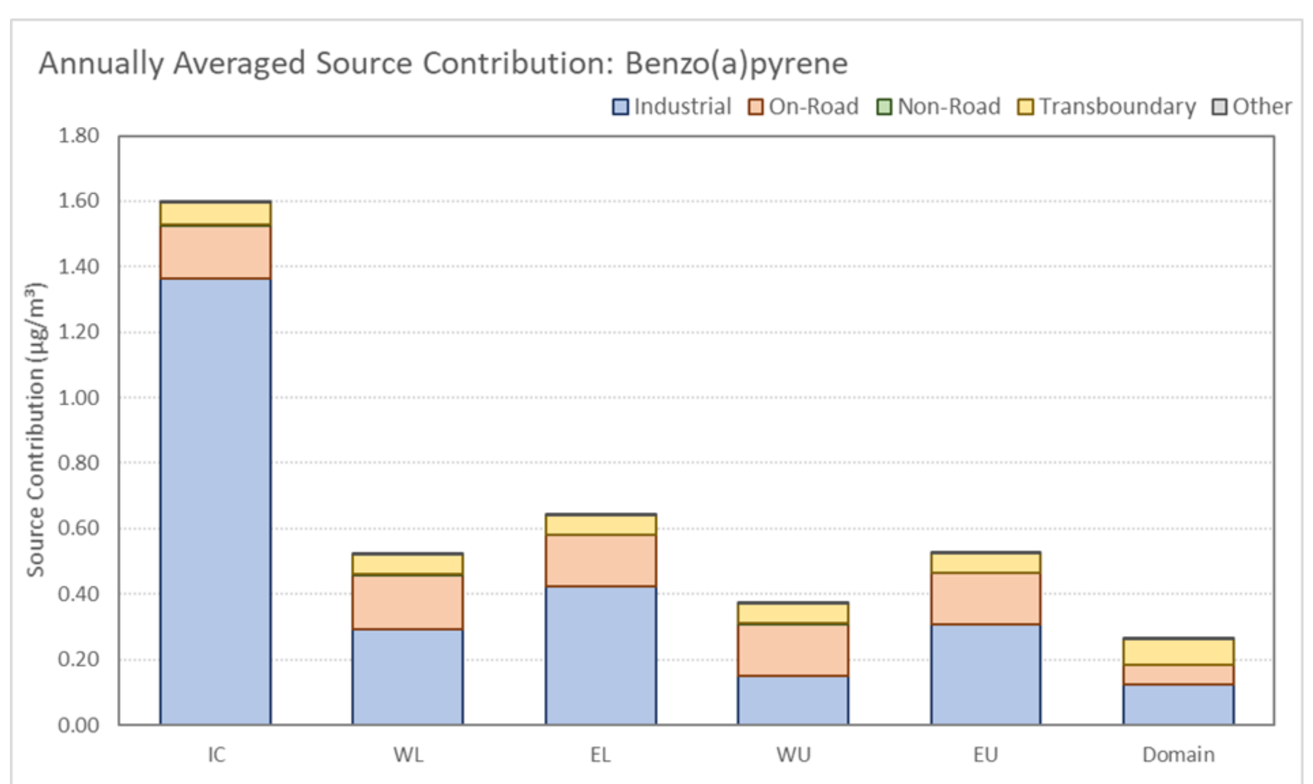
Benzo[a]pyrene (BaP) is a carcinogen and capable of causing cancer in both animals and humans. BaP is a member of a larger class of chemical compounds called polycyclic aromatic hydrocarbons (PAHs) which are emitted when carbon-based fuels such as coke, oil, wood, coal and diesel fuel are burned.

The principal sources of BaP in Hamilton are released from coke and coke by-products used within the steel industry. There have been significant decreases in BaP levels since the late 1990s.



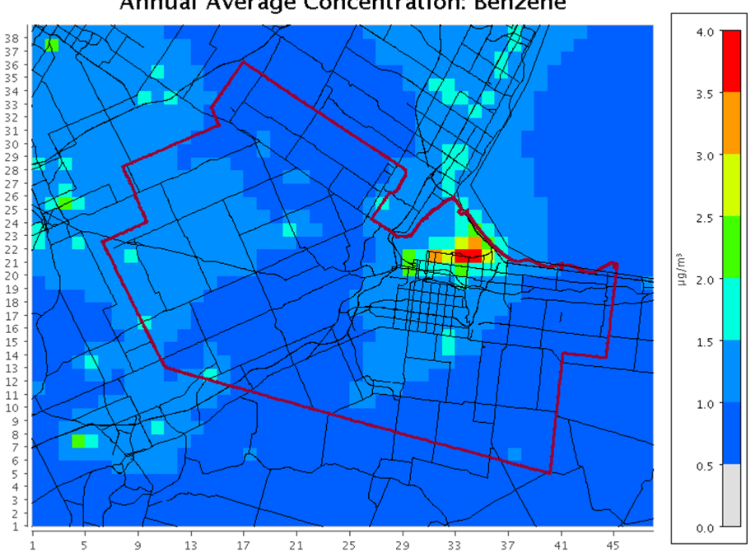
The sub-regional analysis shows that the main source of BaP in most areas is due to industrial sources, followed by on-road sources. The highest contributions are found in the Industrial Core area. Opportunities implemented to lower BaP levels are critical to lowering exposures in Hamilton.

See Appendix "A" - 2018 Air Quality Trends for 2018 BaP trends in Hamilton (page 28).



Benzene

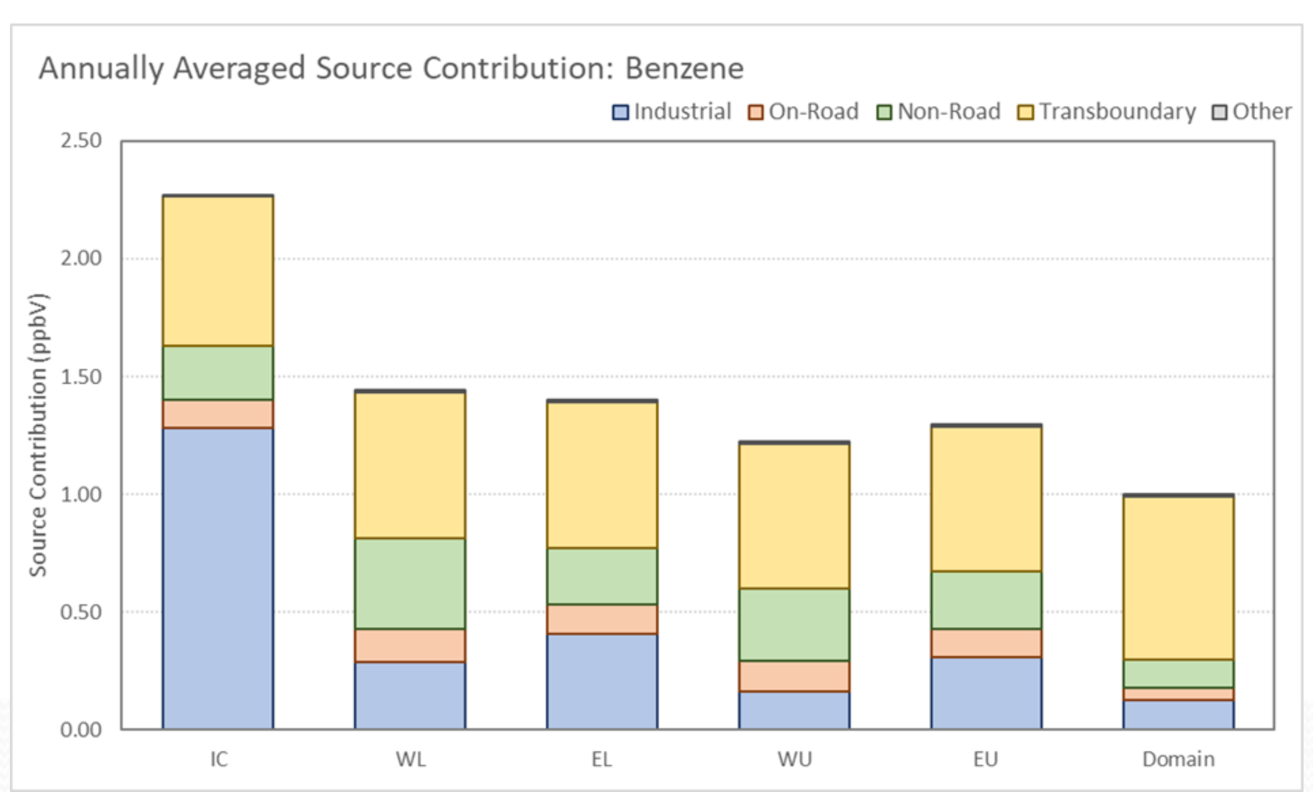
Benzene is also a carcinogenic (cancer causing agent) volatile organic compound (VOC) that is emitted from some operations within the steel industry, specifically coke ovens and coke oven by-product plant operations. Benzene is also a significant component of gasoline which can be up to 5% benzene. Vapours containing benzene are released during pumping at gasoline stations.



Air levels of benzene have been reduced dramatically since 1990's, due to significant upgrading of the coking plant operations, improved operating procedures and improved control of release of benzene vapours from the coke by-products. Opportunities implemented in lower benzene levels are critical to lowering exposures in Hamilton.

The sub-regional analysis shows that the greatest source of benzene concentration is due to industrial sources in the Industrial Core area, and that the highest concentration throughout the all other areas is due to transboundary sources.

See Appendix "A" - 2018 Air Quality Trends for 2018 Benzene trends in Hamilton (page 28).



Public Health Services Airpointer

Conclusions

In 2018, the City of Hamilton provided financial and in-kind support to Clean Air Hamilton and its activities. Descriptions of some of the programs supported by Clean Air Hamilton can be found on pages 5 - 8 in this report.
This annual funding is leveraged significantly in two ways: first, Clean Air Hamilton uses these funds in partnership with funds provided by other agencies and institutions to develop programs related to air quality; second, since all of the members of Clean Air Hamilton donate their time and expertise, there is a significant amount of in-kind support provided. It is estimated that Clean Air Hamilton’s partners provide well over $200,000 in in-kind support.

Bruce Newbold, Ph.D.
Chair, Clean Air Hamilton

Hamilton Air Monitoring Network Beach Strip Station 29102

For more information contact Public Health Services (905) 546-2424 ext. 5288

[1.] *Air Quality Ontario, http://www.airqualityontario.com/science/pollutants/ozone.php*

[2] *Air Quality Ontario, https://www.ontario.ca/document/air-quality-ontario-2016-report/air-quality-health-index-and-air-quality-alerts*

3 Air Quality Ontario, http://www.airqualityontario.com/science/pollutants/sulphur.php

[4] *SENES Consulting Ltd. (2011), Health Impacts Exposure to Outdoor Air Pollution in Hamilton, Ontario . Retrieved from www.cleanair.hamilton.ca/health-impact (i.e Inhalable particulate matter (PM10) is the airborne particles that have diameters of 10 µm or less. PM10 makes up 40-50% of TSP in Hamilton and has been linked to respiratory, cardiovascular and other health impacts in humans.)*

Air Quality - Additional Resources

To learn more about Clean Air Hamilton and our work visit www.cleanairhamilton.ca .
For annual air quality trends provided by the Ministry of the Environment, Conservation and Parks, please see Appendix “A” - Air Quality Trends 2018.

Air Quality and Health

To learn about how to protect your health visit: www.airhealth.ca

To learn about Hamilton Public Health Services and actions on air quality visit: http://preview.hamilton.ca/public-health/health-topics/air-quality-pollution-smog

Government Actions on Air Quality

To learn about the Province of Ontario’s actions on air quality visit: www.airqualityontario.com/

To learn about the Government of Canada’s actions on air quality visit: http://www.ec.gc.ca/Air/default.asp?lang=En&n=14F71451-1

Air Quality Monitoring

For a detailed model of hourly concentrations for a variety of pollutants across Hamilton visit: http://www.hamiltonaqhi.com

To check our air pollution levels in Hamilton and Ministry run air monitors visit: http://www.airqualityontario.com/

To check out the Hamilton Air Monitoring Network visit: http://www.hamnair.ca/

To check out Hamilton Air Quality Health Index website visit: http://www.hamiltonaqhi.com

Who we are:

"Clean Air Hamilton is an innovative, multi-stakeholder agent of change dedicated to improving air quality in our community. We are committed to improving the health and quality of life of citizens through communication and promoting realistic, science-based decision-making and sustainable practices."

2018 MEMBERS

Bruce Newbold, *Chair -McMaster University*

ArcelorMittal Dofasco

Citizens

City of Hamilton - *Community Initiatives**

City of Hamilton Planning - *Community Planning*

City of Hamilton Public Works - *Office of Energy Initiatives*

City of Hamilton Public Works - *Transportation Demand Management**

Corr Research

Cycle Hamilton Coalition Inc.

Environment Canada*

Environment Hamilton

Green Venture

Hamilton Conservation Authority

Hamilton Industrial Environmental Association

Hamilton Port Authority

Hamilton Public Health Services

Health Canada*

The Lung Association

McKibbon Wakefield Inc.

McMaster Institute for Healthier Environments

Ministry of Environment Conservation and Parks (MECP)
- Hamilton Regional Office

Mohawk College*

Ontario Environmental Assessment Corporation (OEAC)

Stelco

** indicates “observing member”*

This report and the work of our members is dedicated to the memory of Clean Air Hamilton member
Peter Chernets (1949—2019)

Clean Air Hamilton, December 2019

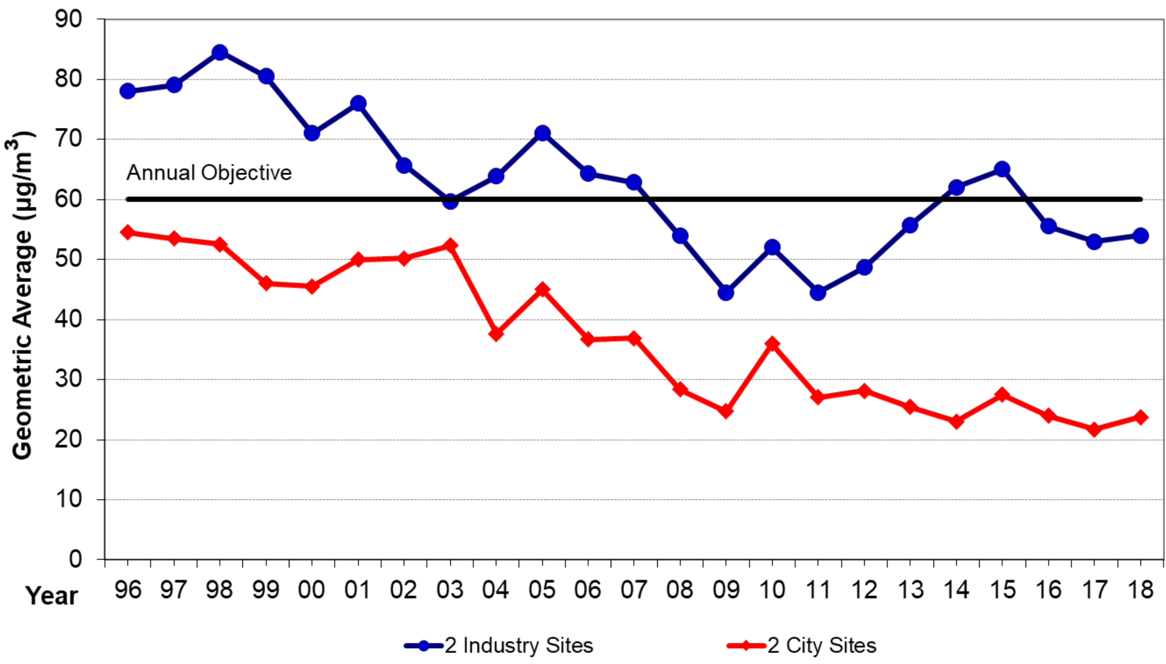
Production: Public Health Services
City of Hamilton

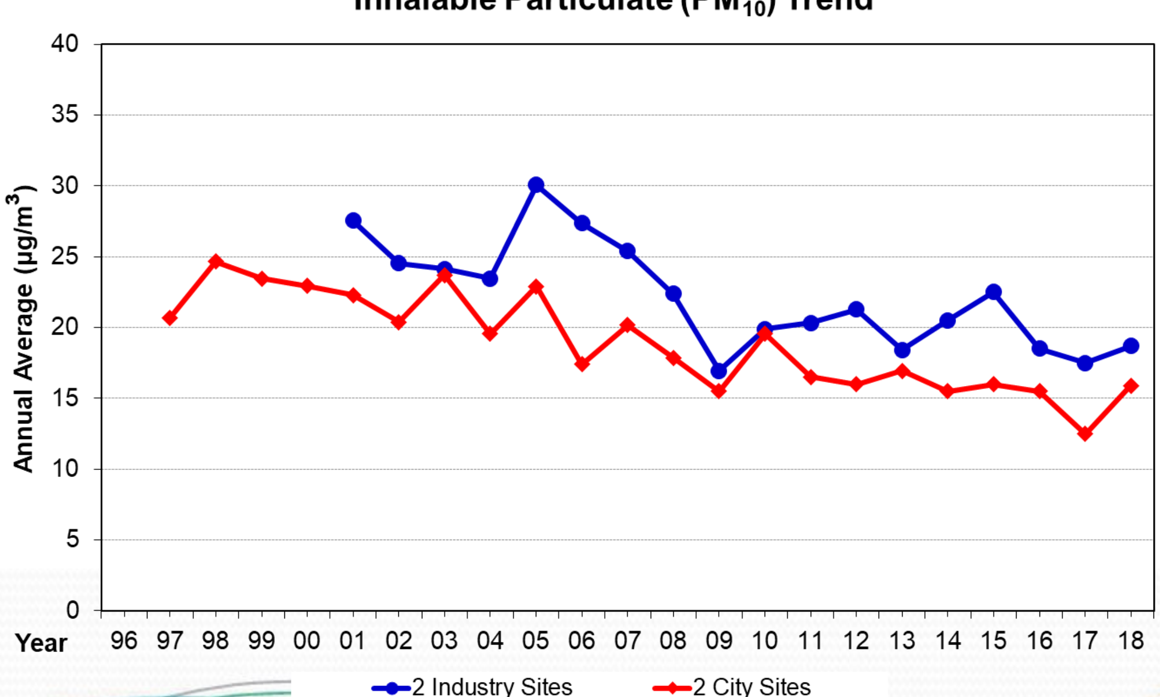
For further information, please contact:

Shelley Rogers
Coordinator Air Quality and Climate Change
Public Health Services,
Healthy Environments Division,
Healthy & Safe Communities Department
City of Hamilton
110 King St. W. 3rd Floor Hamilton, ON, L8P 4S6
Robert Thompson Building

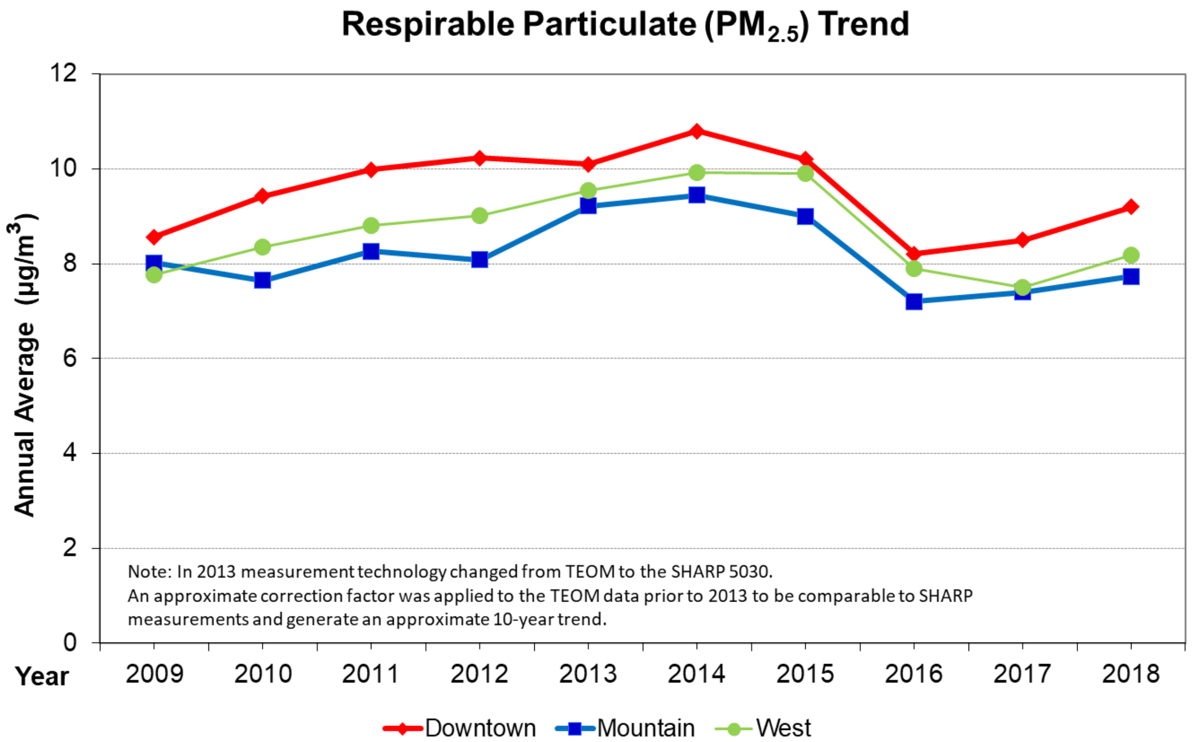
Phone:905-546-2424 Ext. 1275
Email: cleanair@hamilton.ca
or visit our website:
www.cleanairhamilton.ca

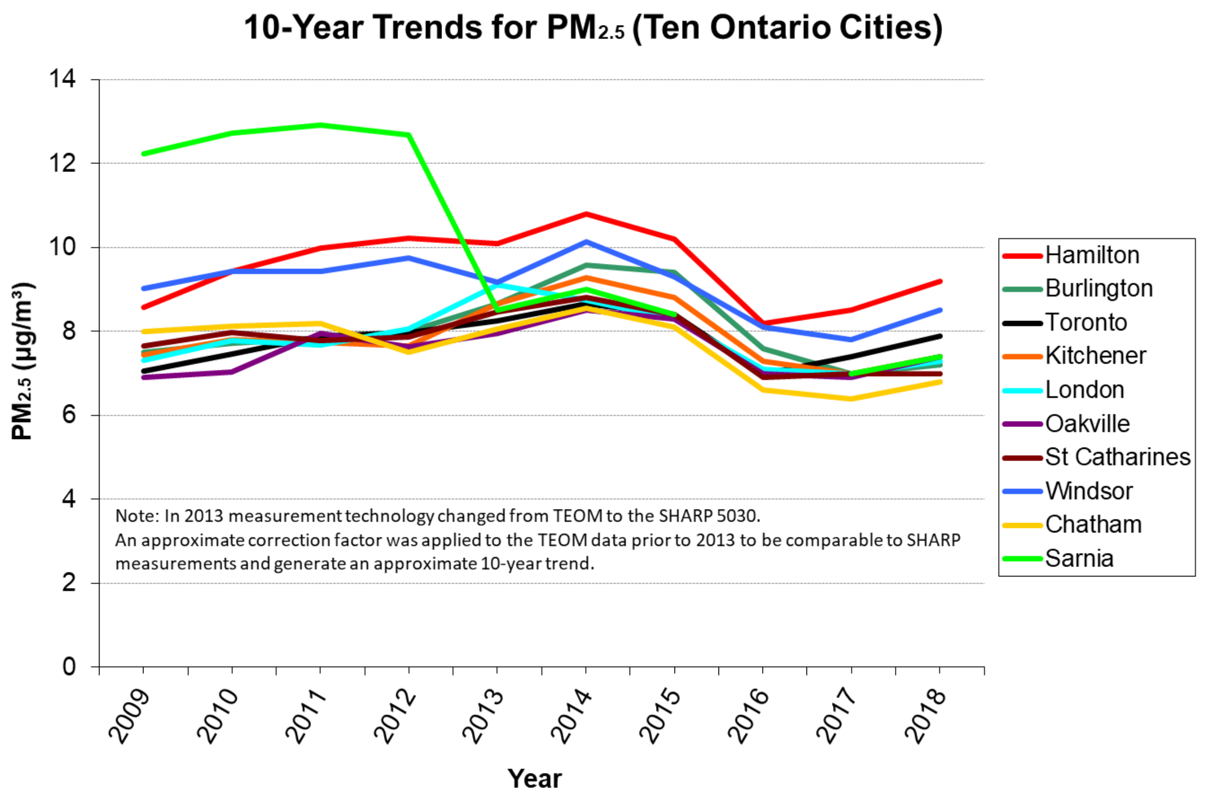
Appendix “A” - Hamilton’s Air Quality Trends 2018

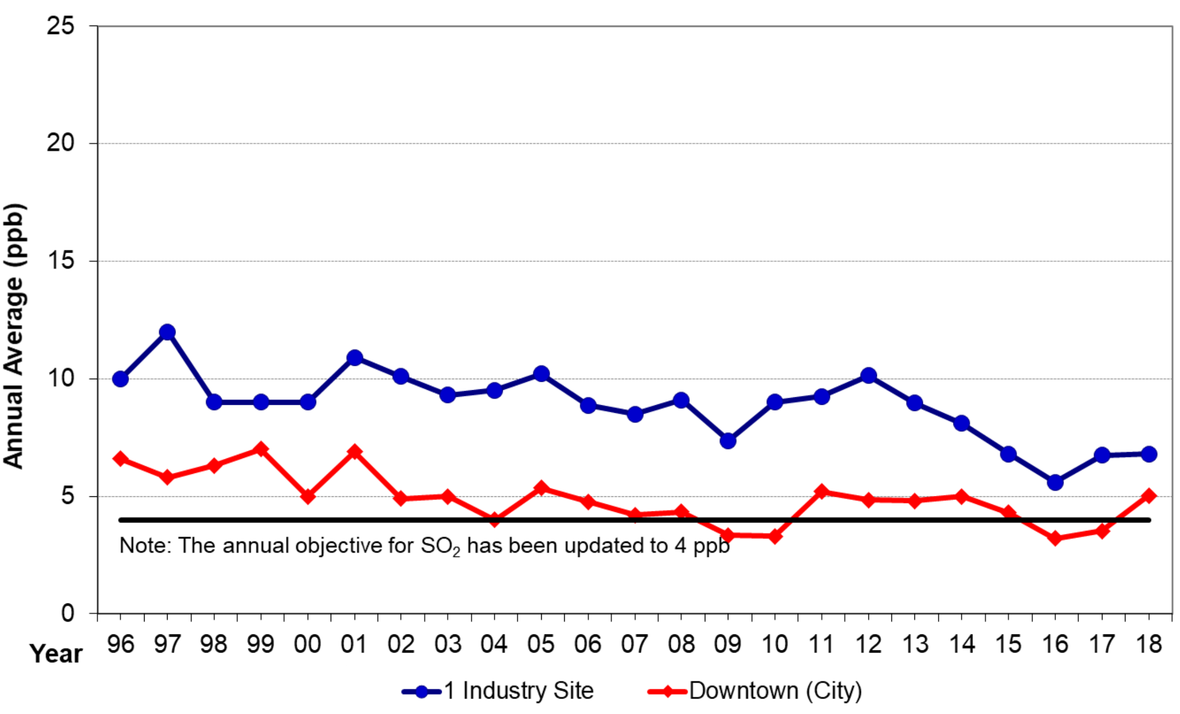


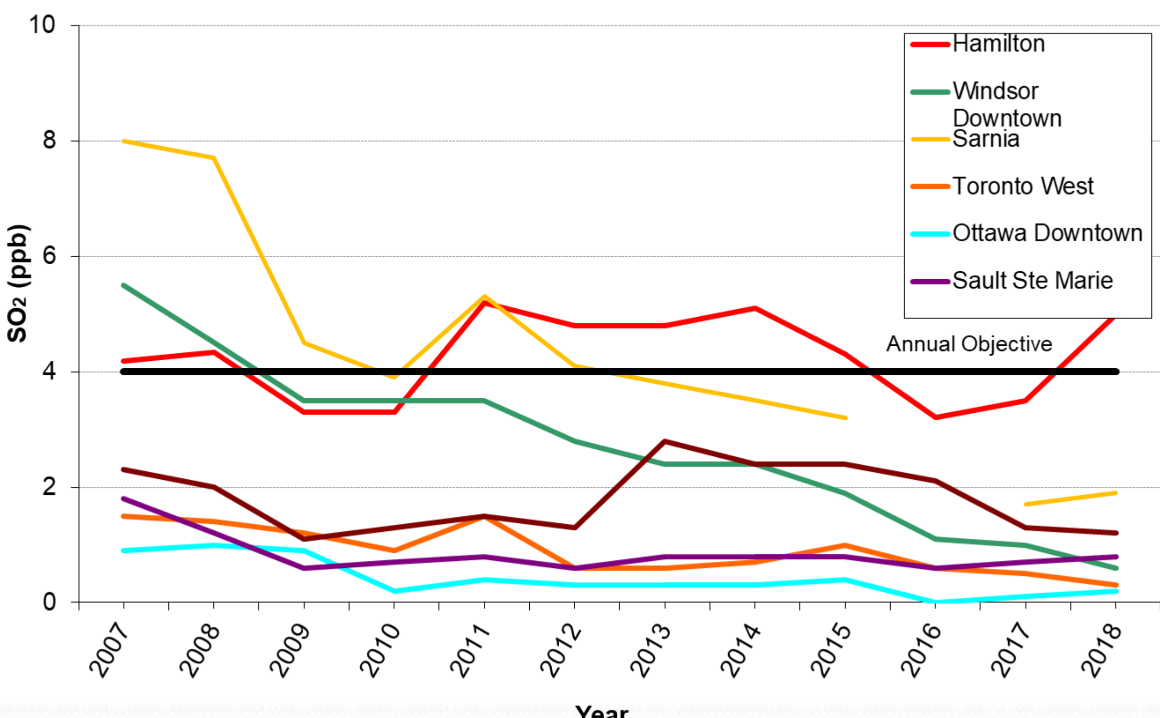


Appendix "A" - Air Quality Trends 2018 Cont.

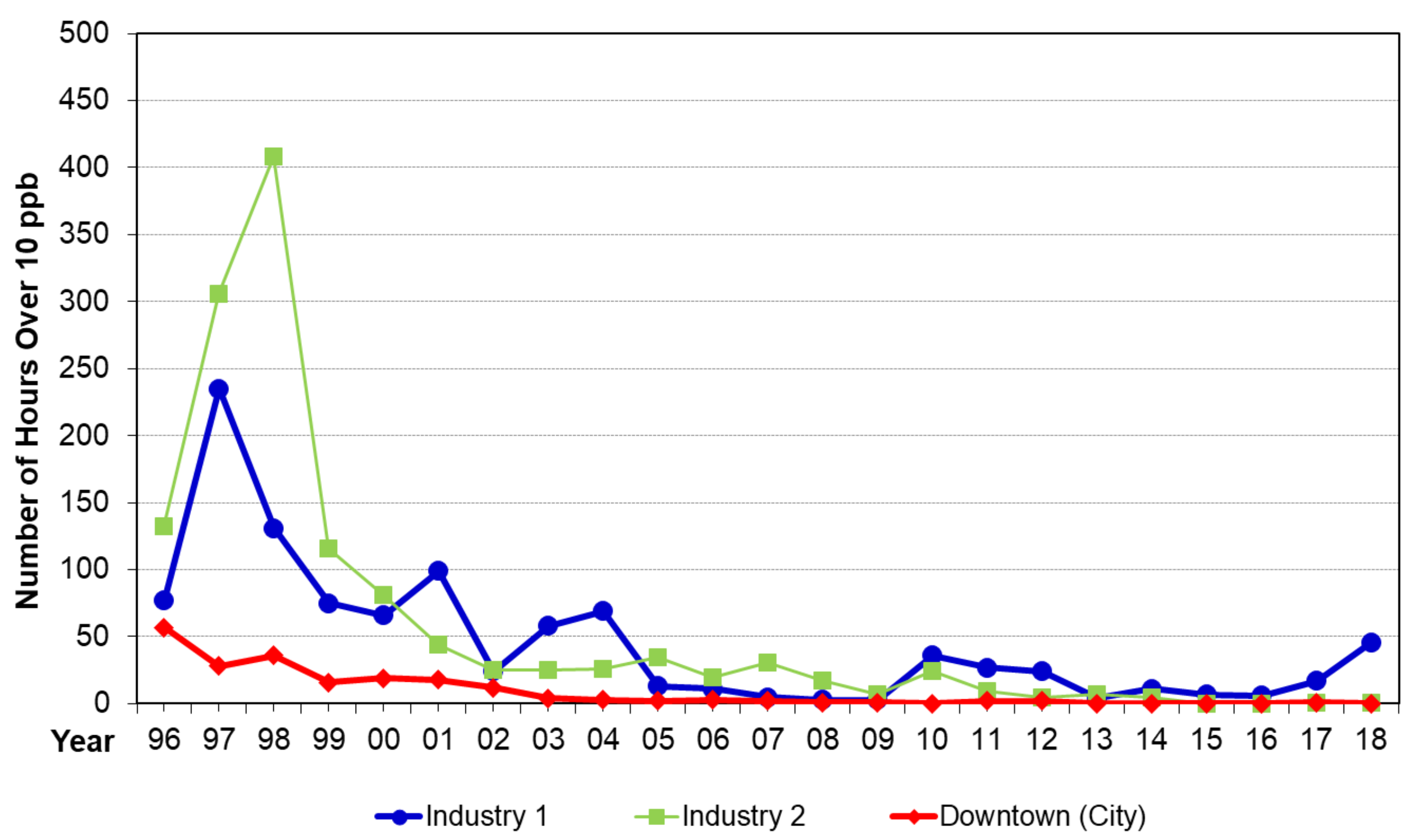


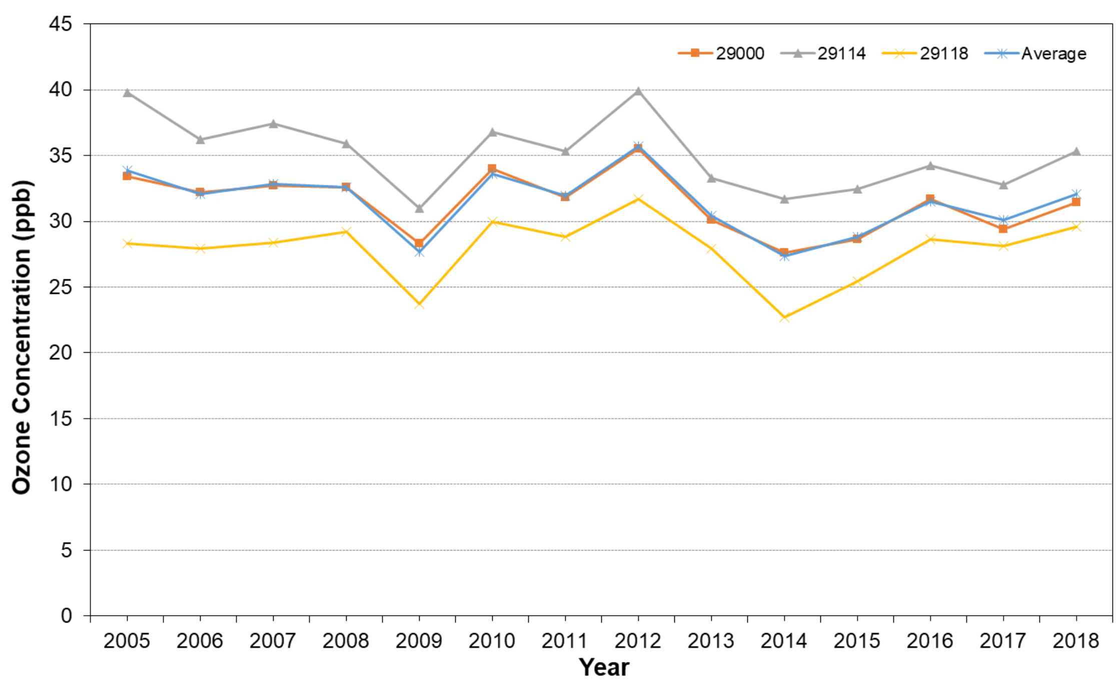


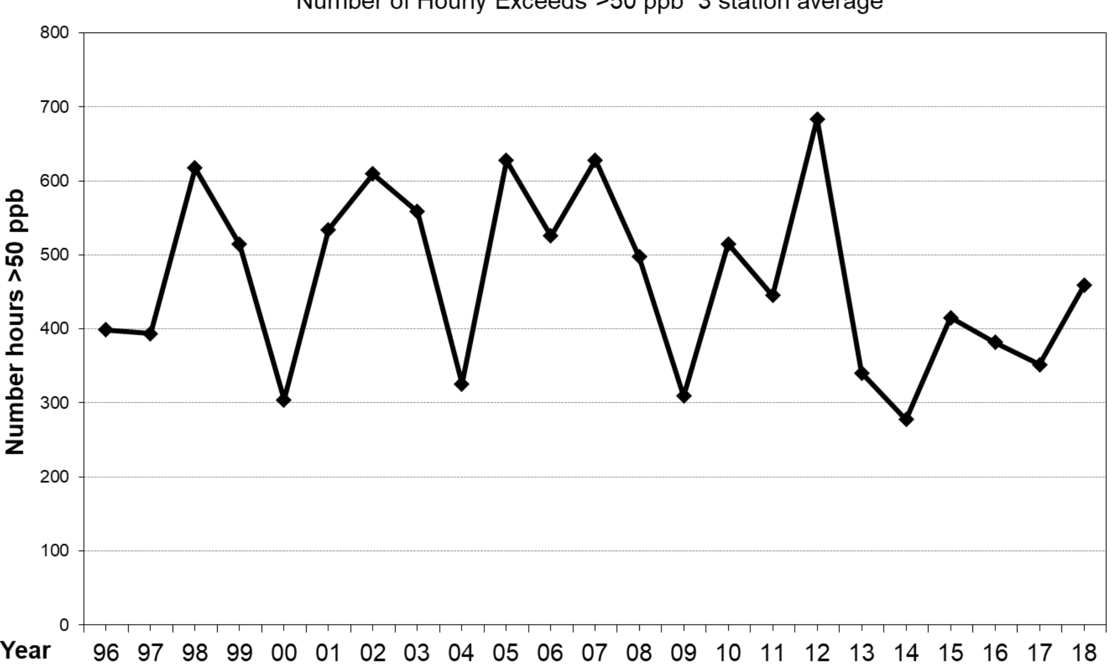

Sulphur Dioxide Trend
Annual Average (ppb)
25
20
15
10
5
0
Note: The annual objective for SO_2 has been updated to 4 ppb
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
1 Industry Site
Downtown (City)


11-Year Trends for Sulphur Dioxide (Seven Cities)
SO_2 (ppb)
10
8
6
4
2
0
Hamilton
Windsor Downtown
Sarnia
Toronto West
Ottawa Downtown
Sault Ste Marie
Annual Objective
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Year

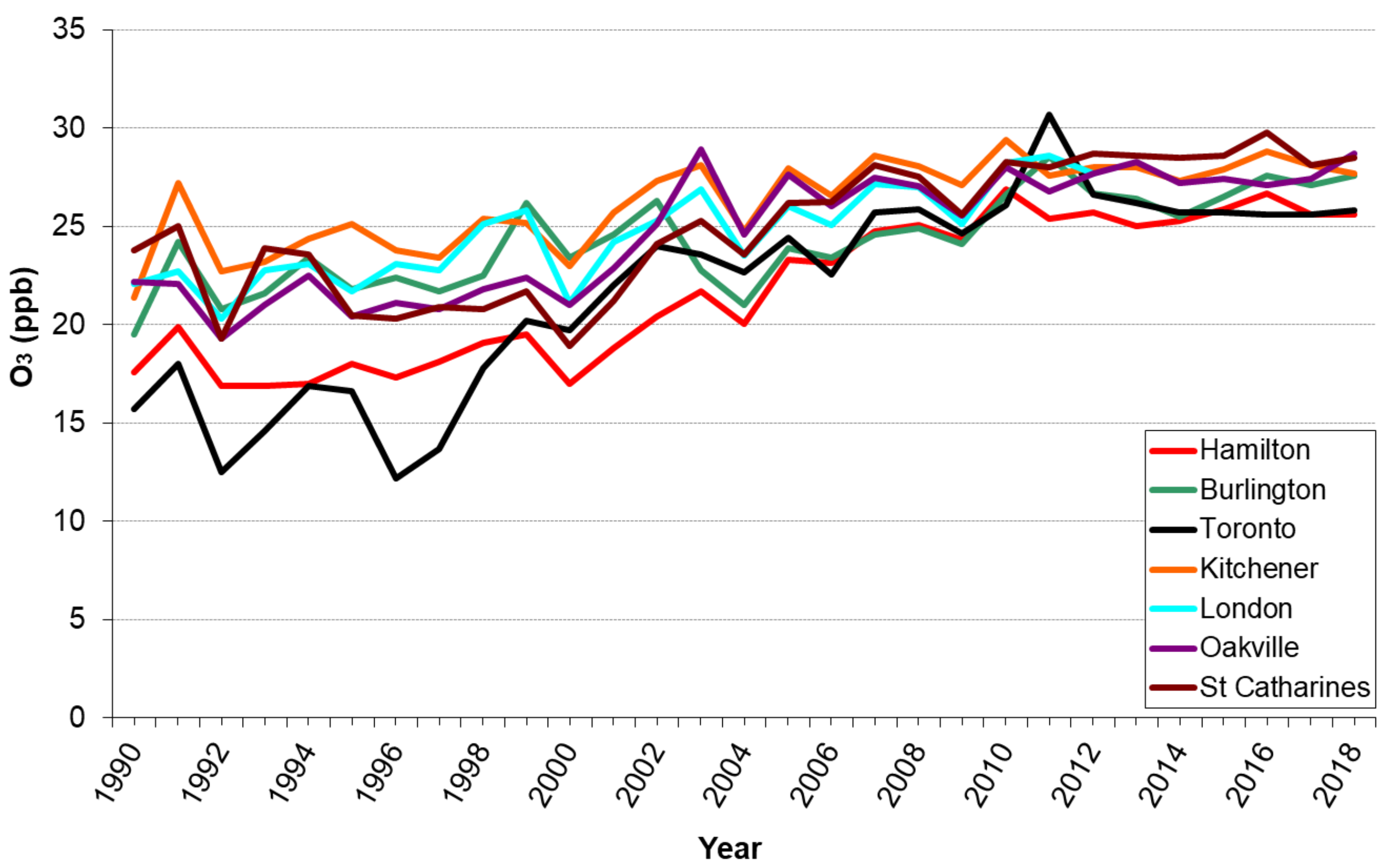
Appendix "A" - Air Quality Trends 2018 Cont.

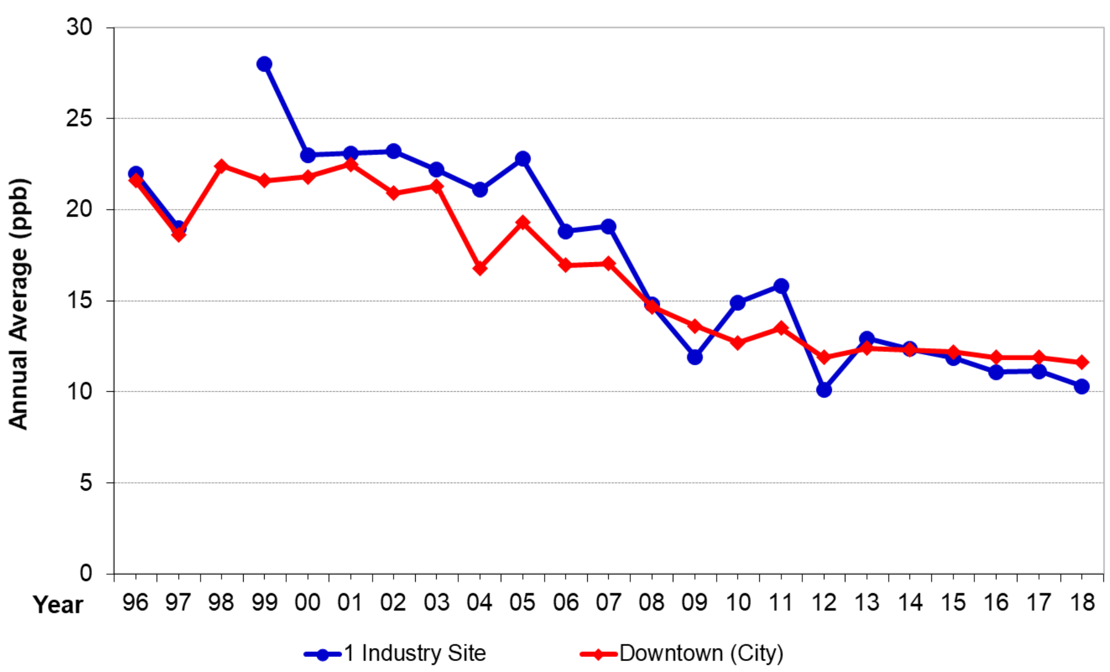


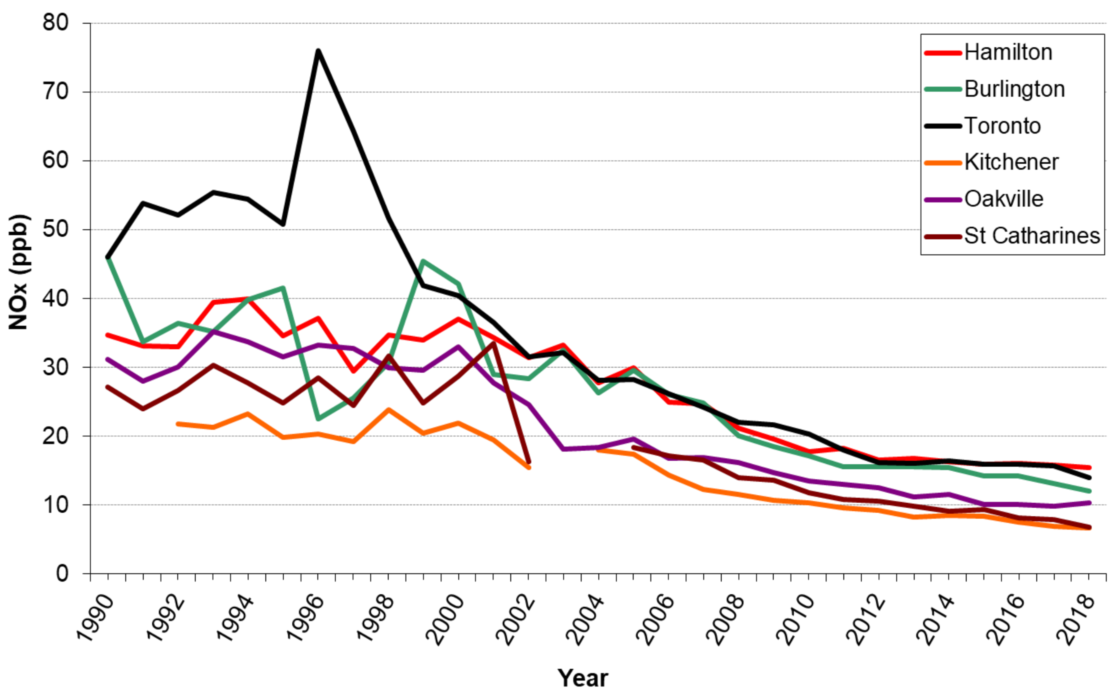

Ground Level Ozone Trend
29000
29114
29118
Average
Ozone Concentration (ppb)
45
40
35
30
25
20
15
10
5
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


Ground Level Ozone Trend
Number of Hourly Exceeds >50 ppb 3 station average
Number hours >50 ppb
800
700
600
500
400
300
200
100
0
Year
96
97
98
99
00
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17
18

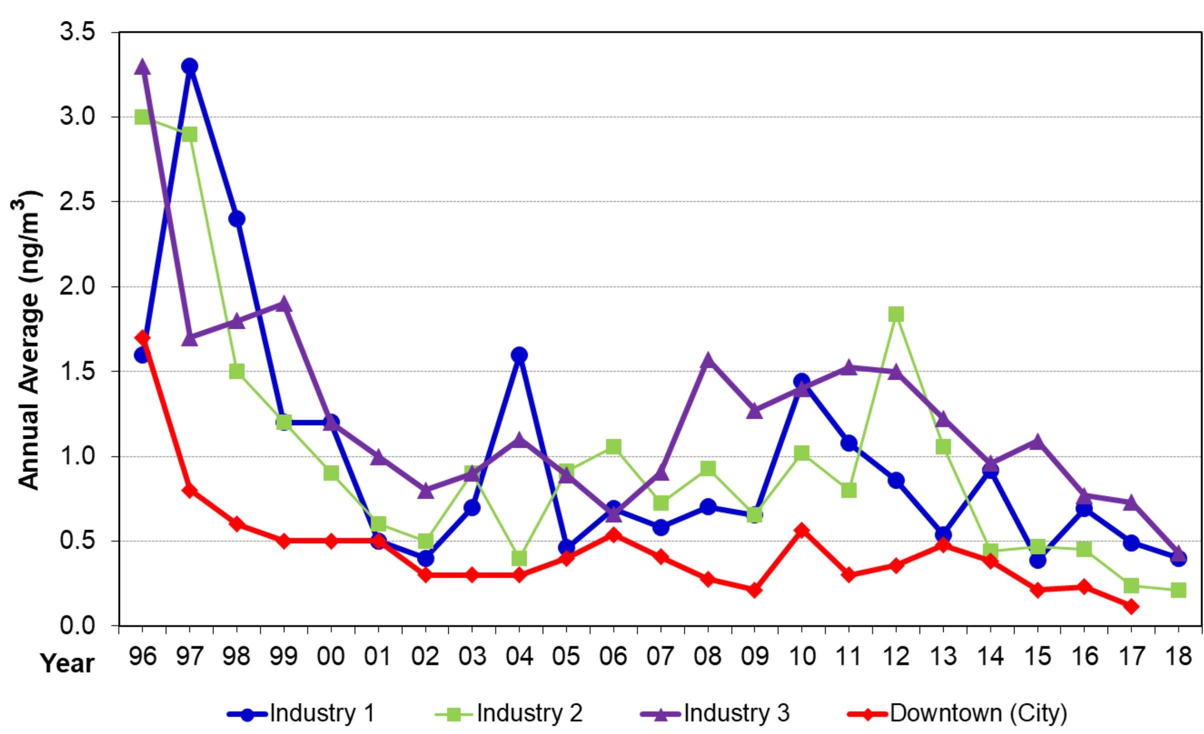
Appendix “A” - Air Quality Trends 2018 Cont.

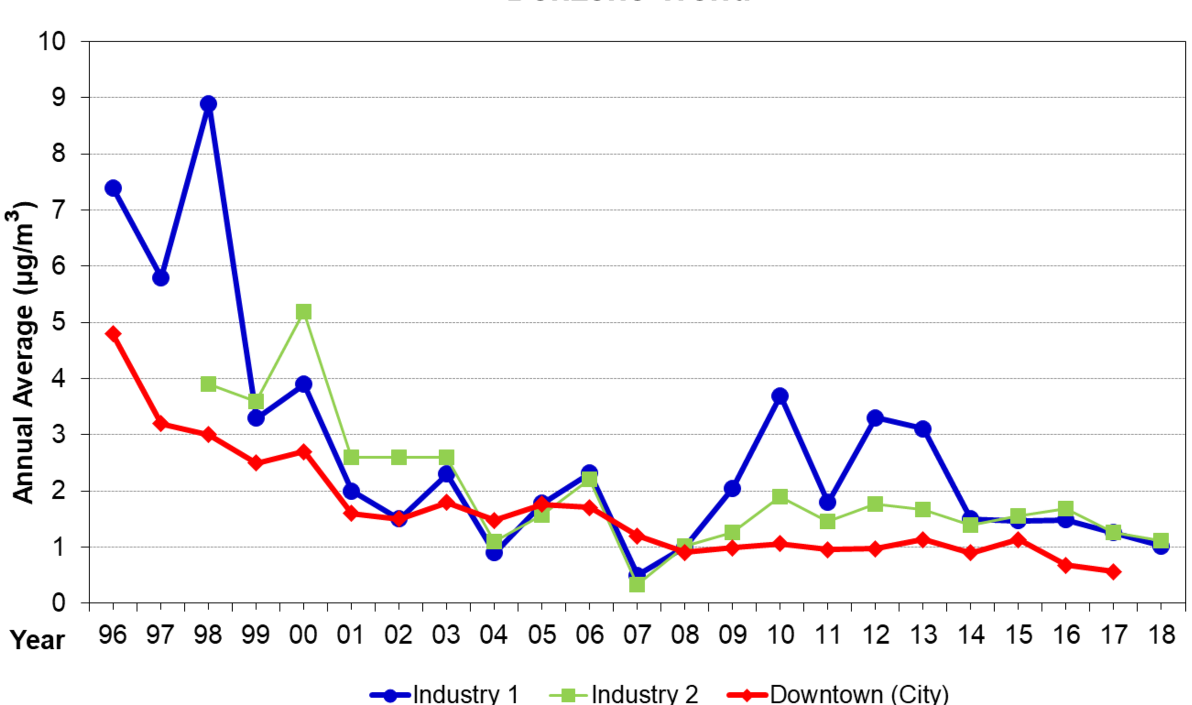


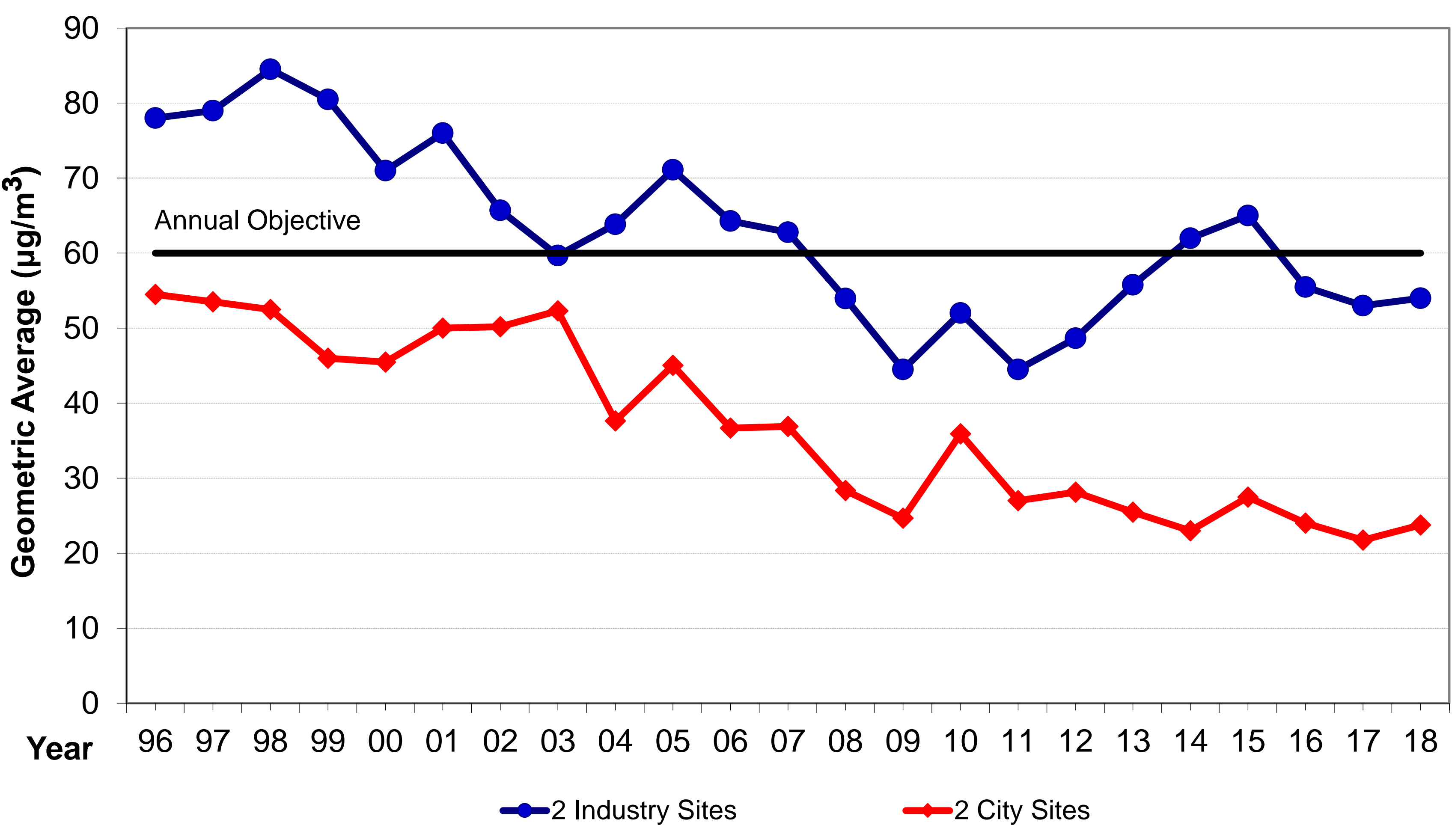

Nitrogen Dioxide Trend
Annual Average (ppb)
30
25
20
15
10
5
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
1 Industry Site
Downtown (City)

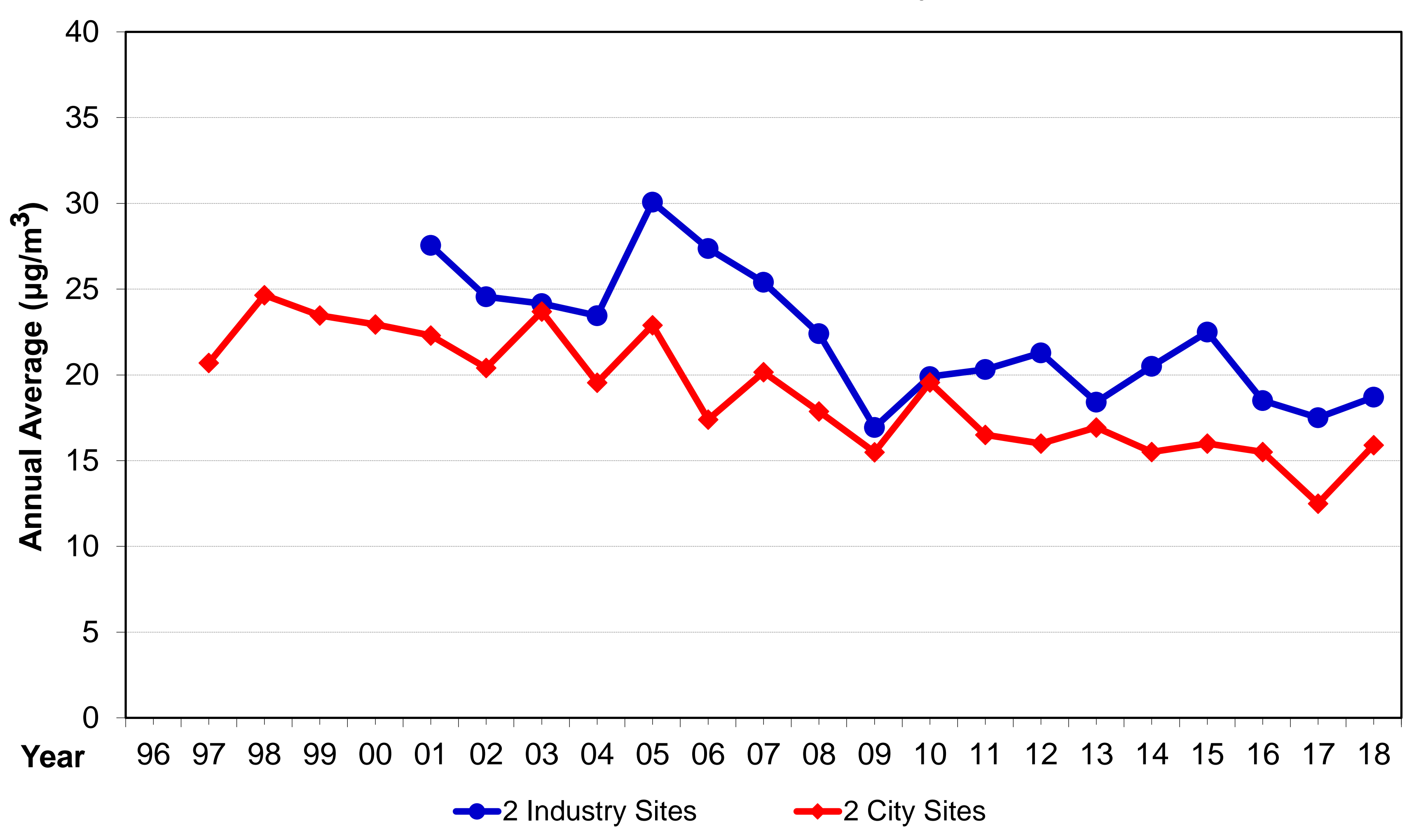

28-Year Trends for Nitrogen Oxides (Seven Cities)
NOx (ppb)
80
70
60
50
40
30
20
10
0
Hamilton
Burlington
Toronto
Kitchener
Oakville
St Catharines
1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Year

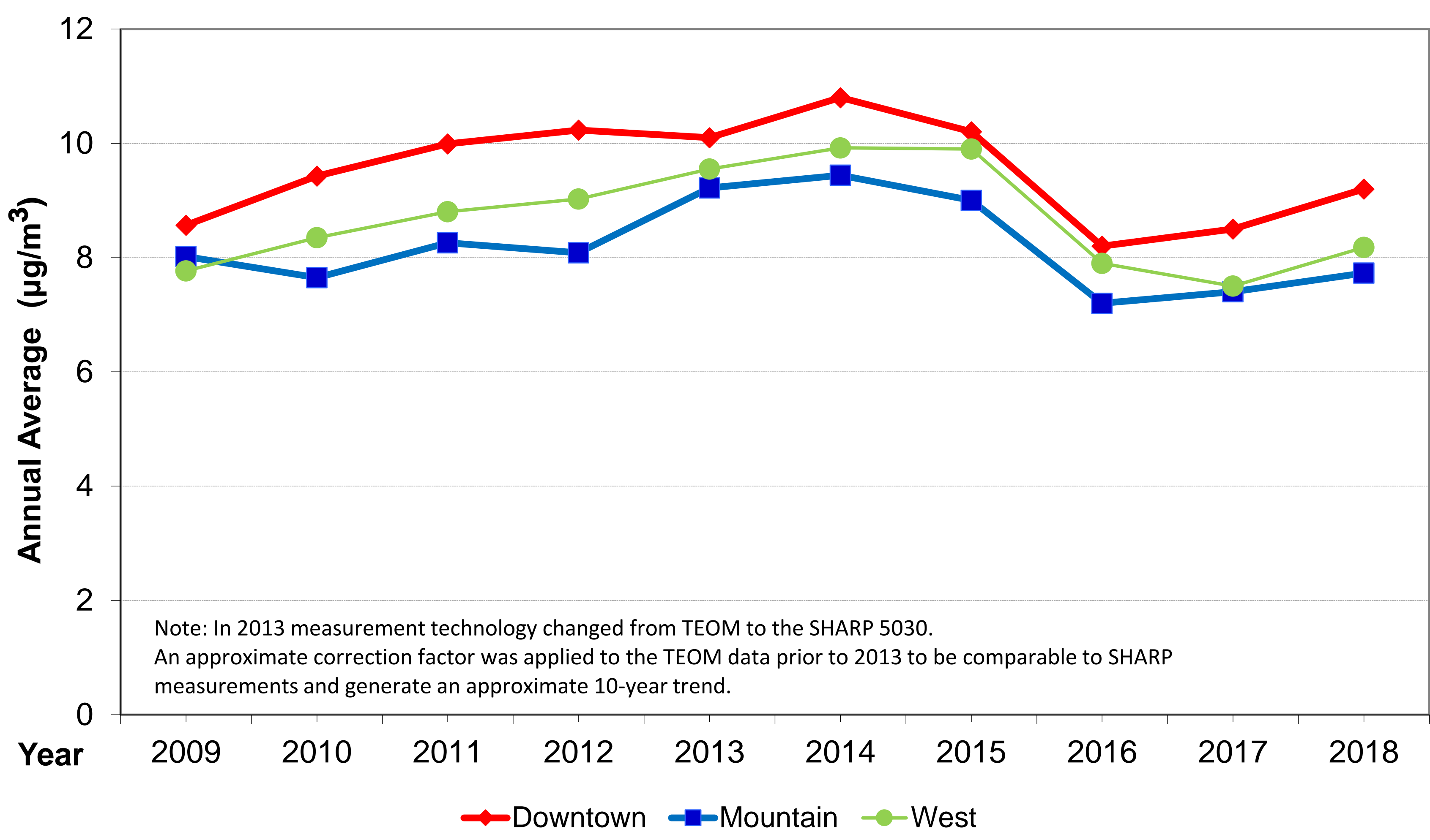
Appendix "A" - Air Quality Trends 2018 Cont.

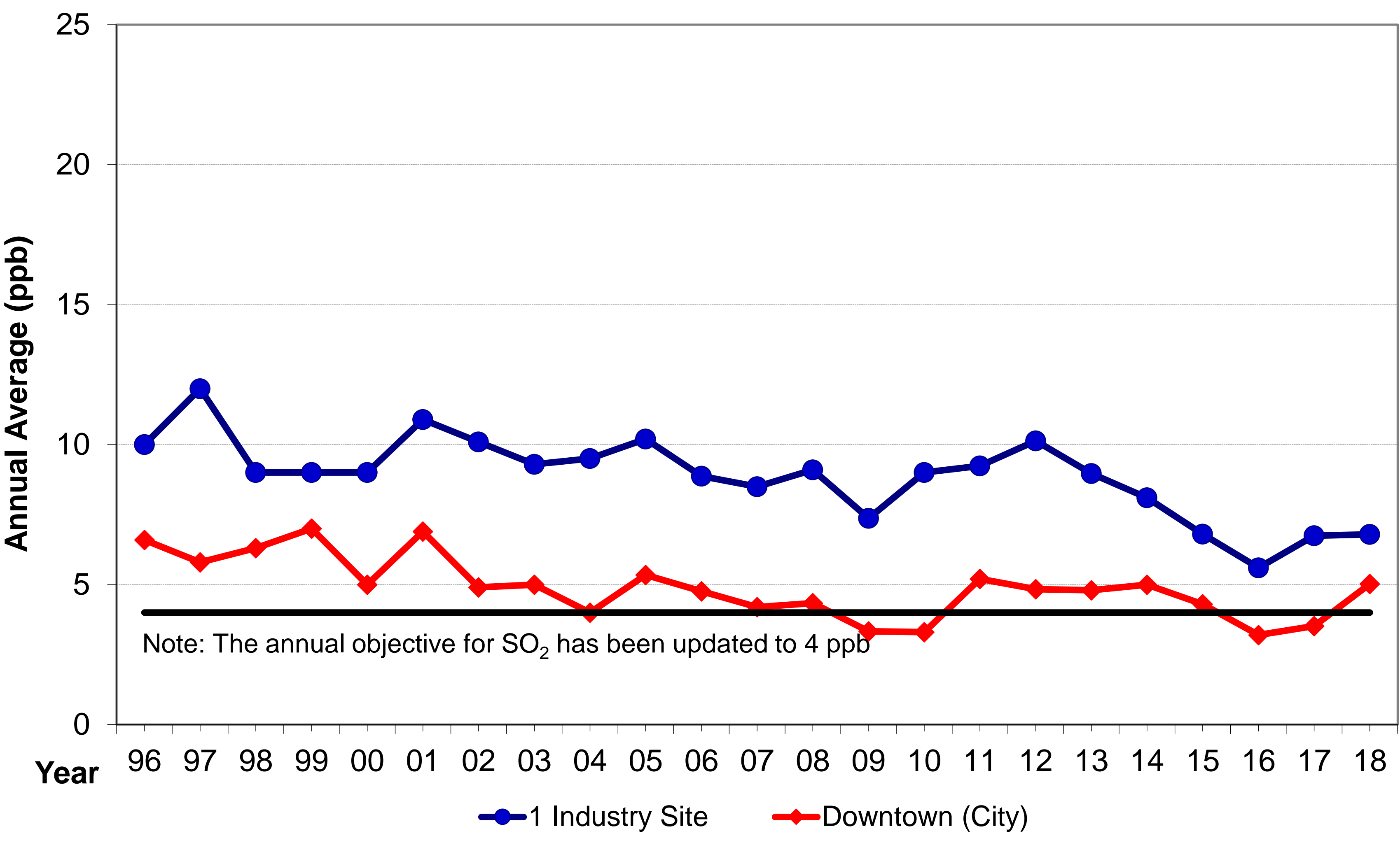


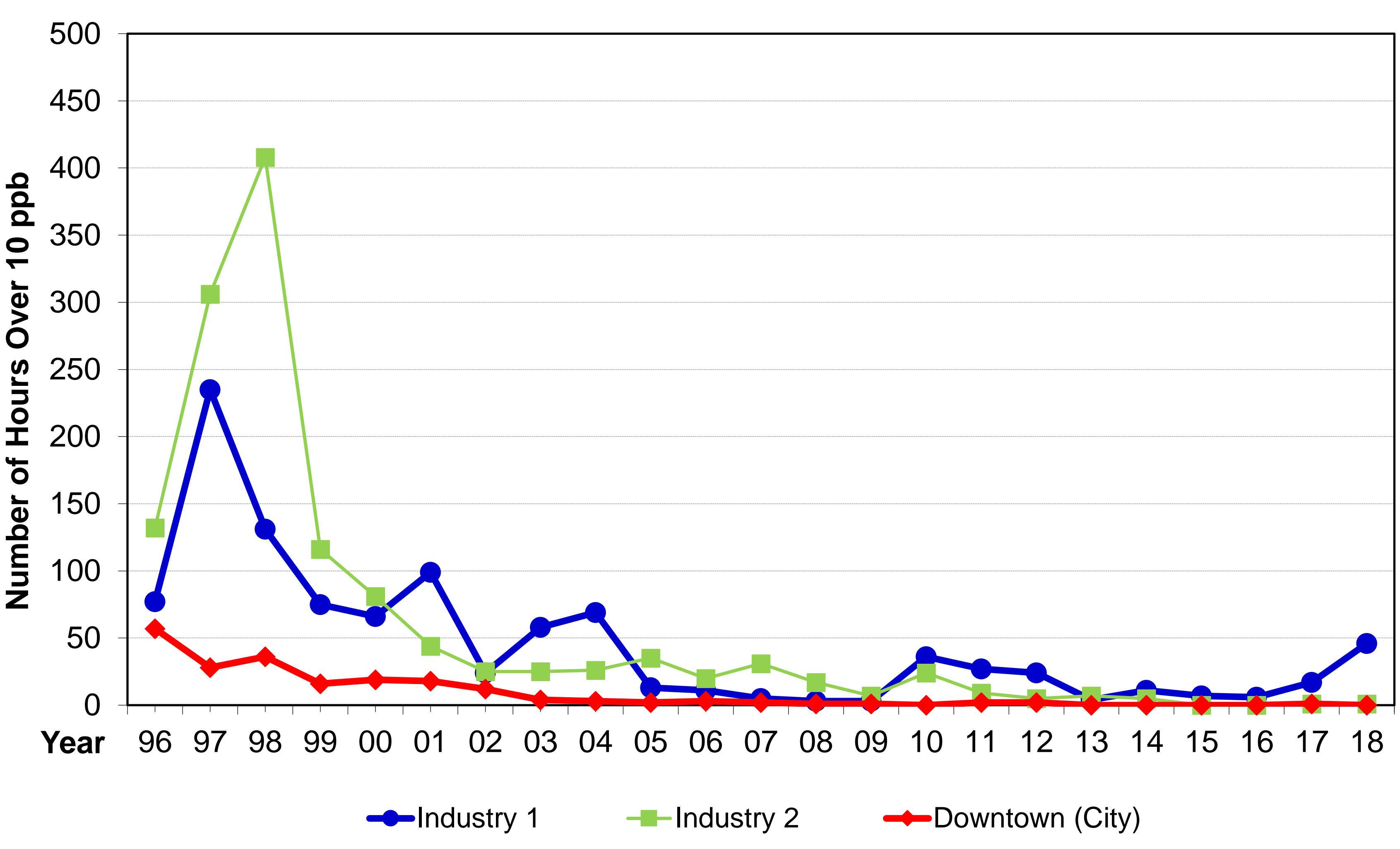


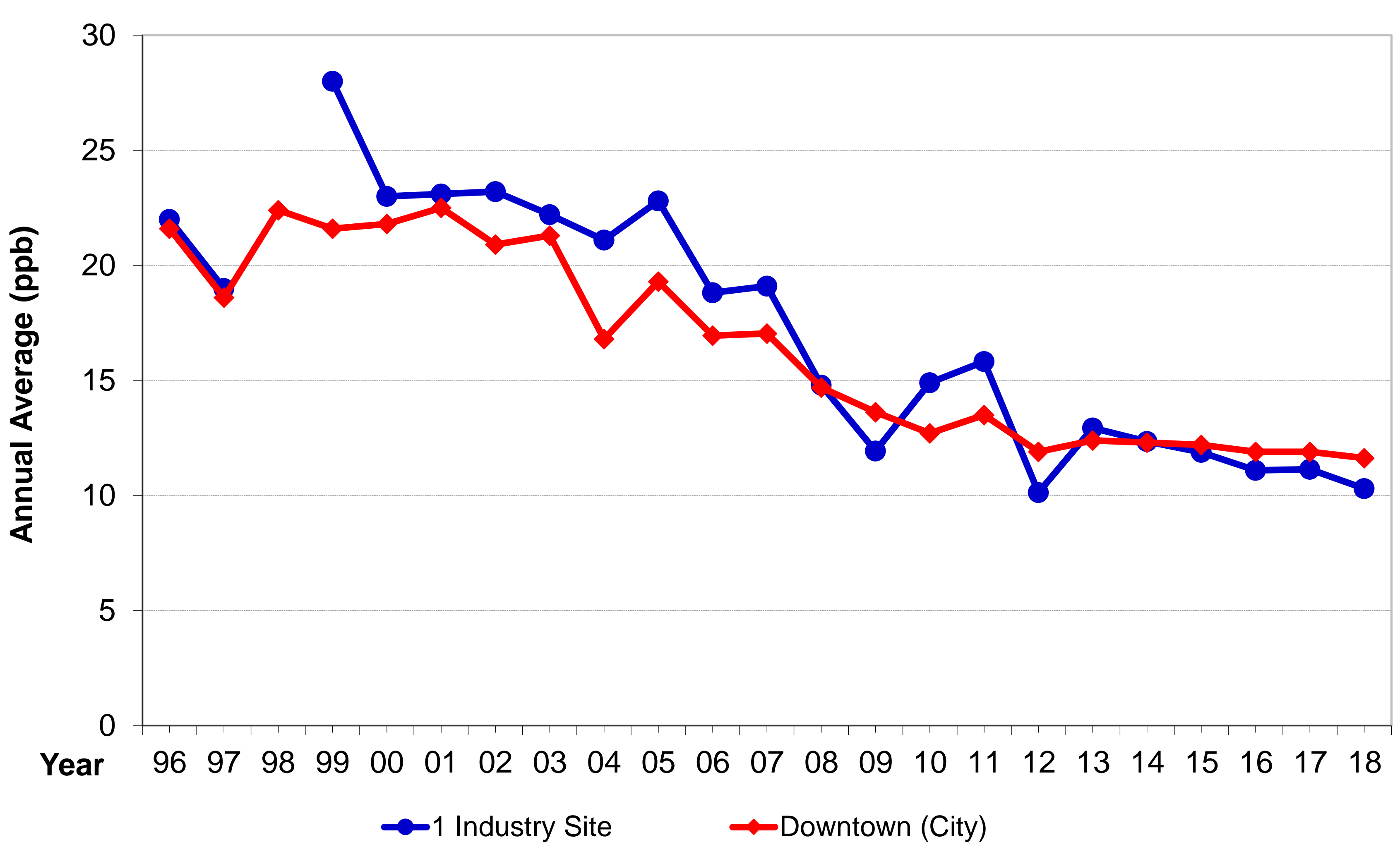

Total Suspended Particulate (TSP) Trend
Geometric Average (µg/m³)
Annual Objective
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
0 10 20 30 40 50 60 70 80 90
2 Industry Sites
2 City Sites

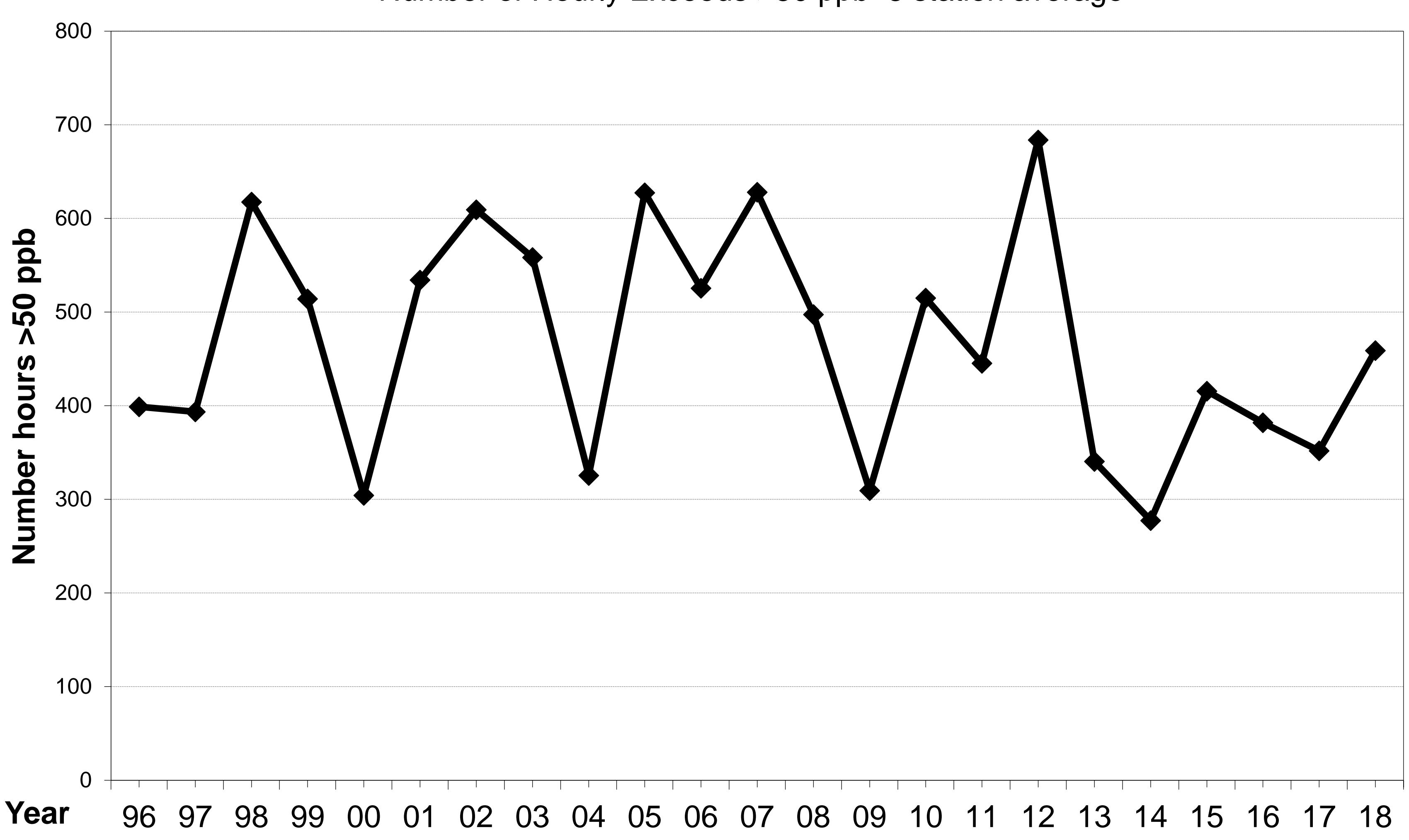

Inhalable Particulate (PM10) Trend
Annual Average (µg/m3)
40
35
30
25
20
15
10
5
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
2 Industry Sites
2 City Sites

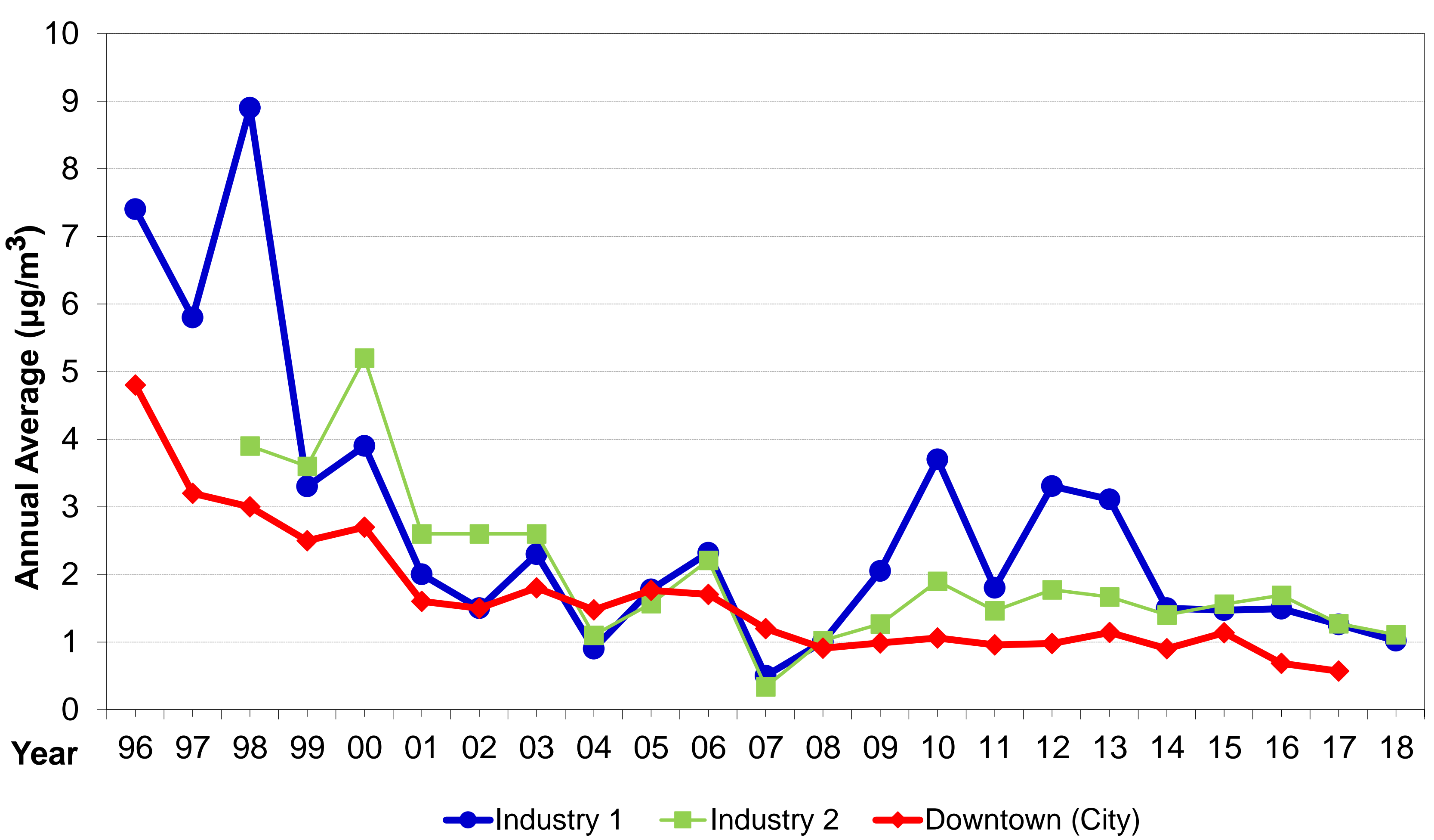

Respirable Particulate ($PM_{2.5}$) Trend
Annual Average (µg/m^3)
12
10
8
6
4
2
0
Year
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Note: In 2013 measurement technology changed from TEOM to the SHARP 5030.
An approximate correction factor was applied to the TEOM data prior to 2013 to be comparable to SHARP measurements and generate an approximate 10-year trend.
Downtown
Mountain
West

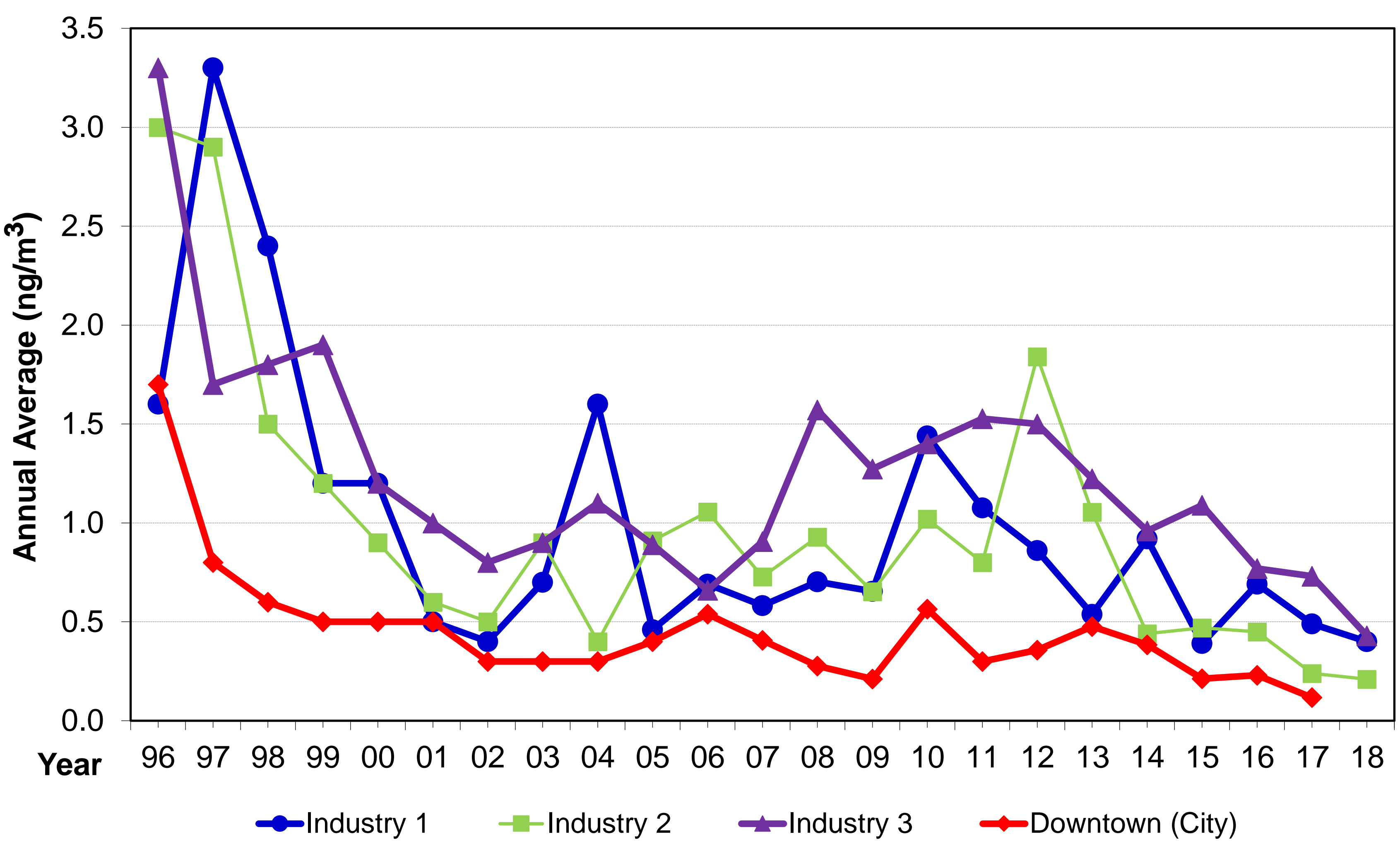

Sulphur Dioxide Trend
Annual Average (ppb)
25
20
15
10
5
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
Note: The annual objective for SO_2 has been updated to 4 ppb
1 Industry Site
Downtown (City)

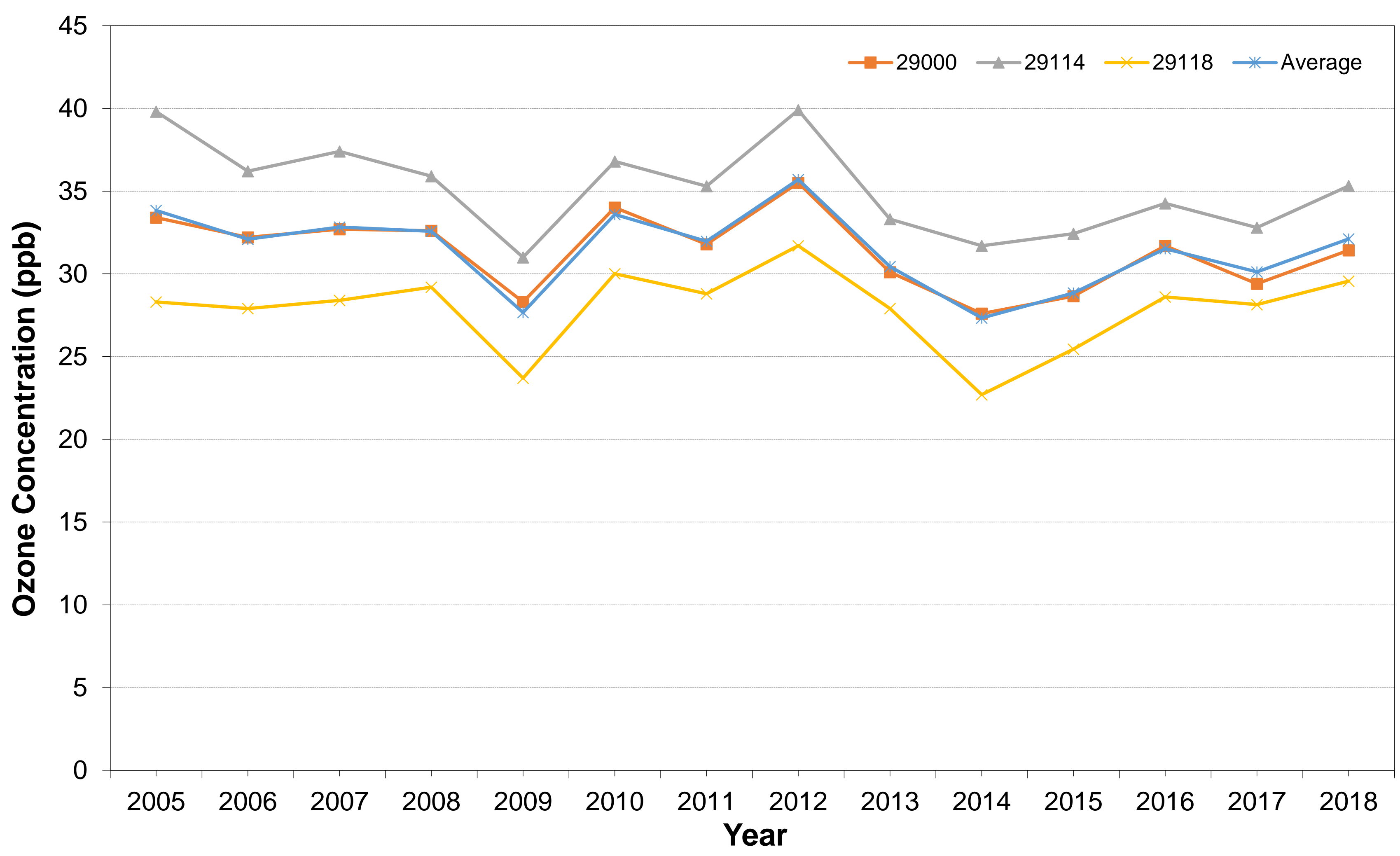

Total Reduced Sulphur Trend
Hours Over 10 ppb Odour Threshold
Number of Hours Over 10 ppb
500
450
400
350
300
250
200
150
100
50
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
Industry 1
Industry 2
Downtown (City)

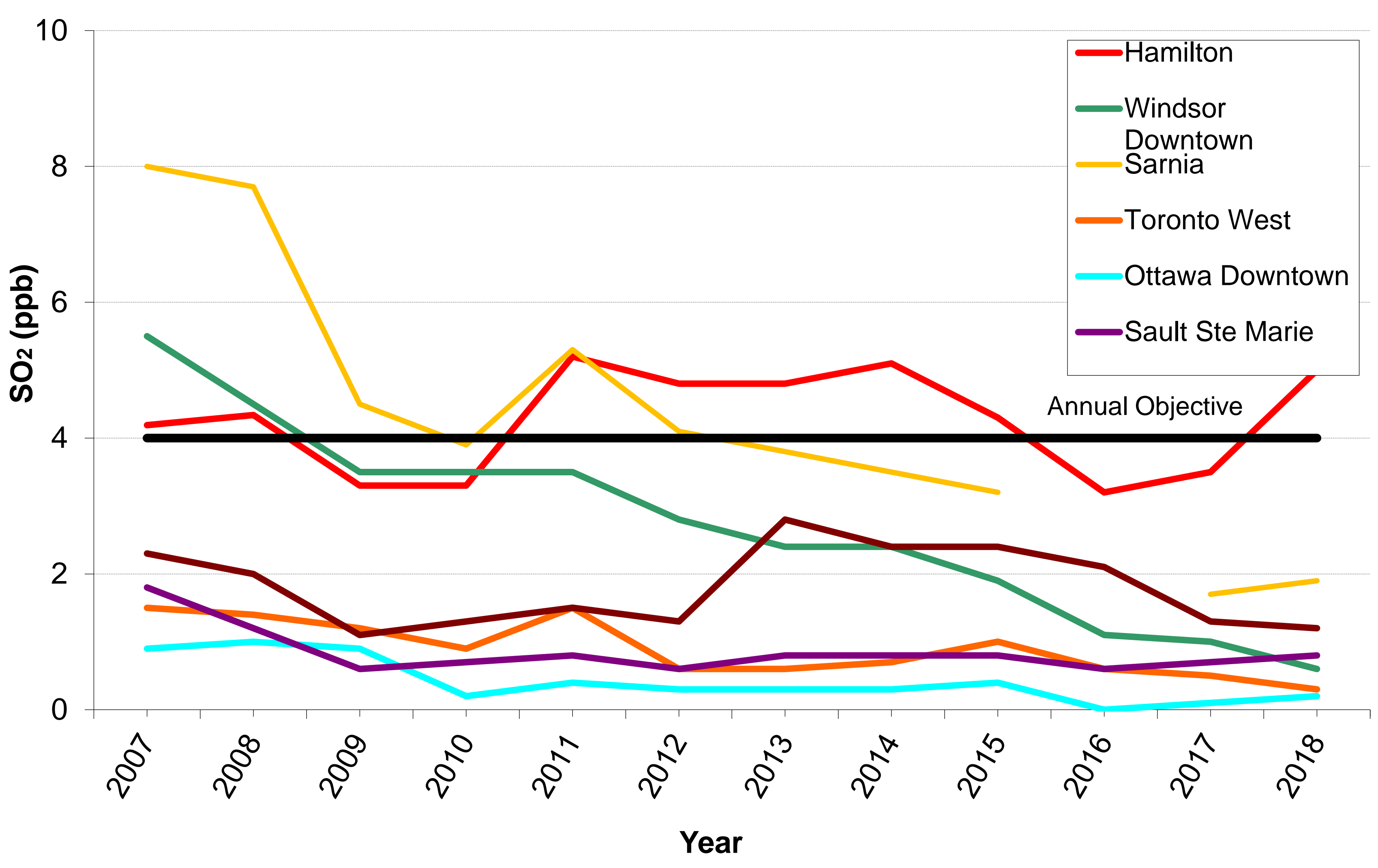

Nitrogen Dioxide Trend
Annual Average (ppb)
30
25
20
15
10
5
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
1 Industry Site
Downtown (City)

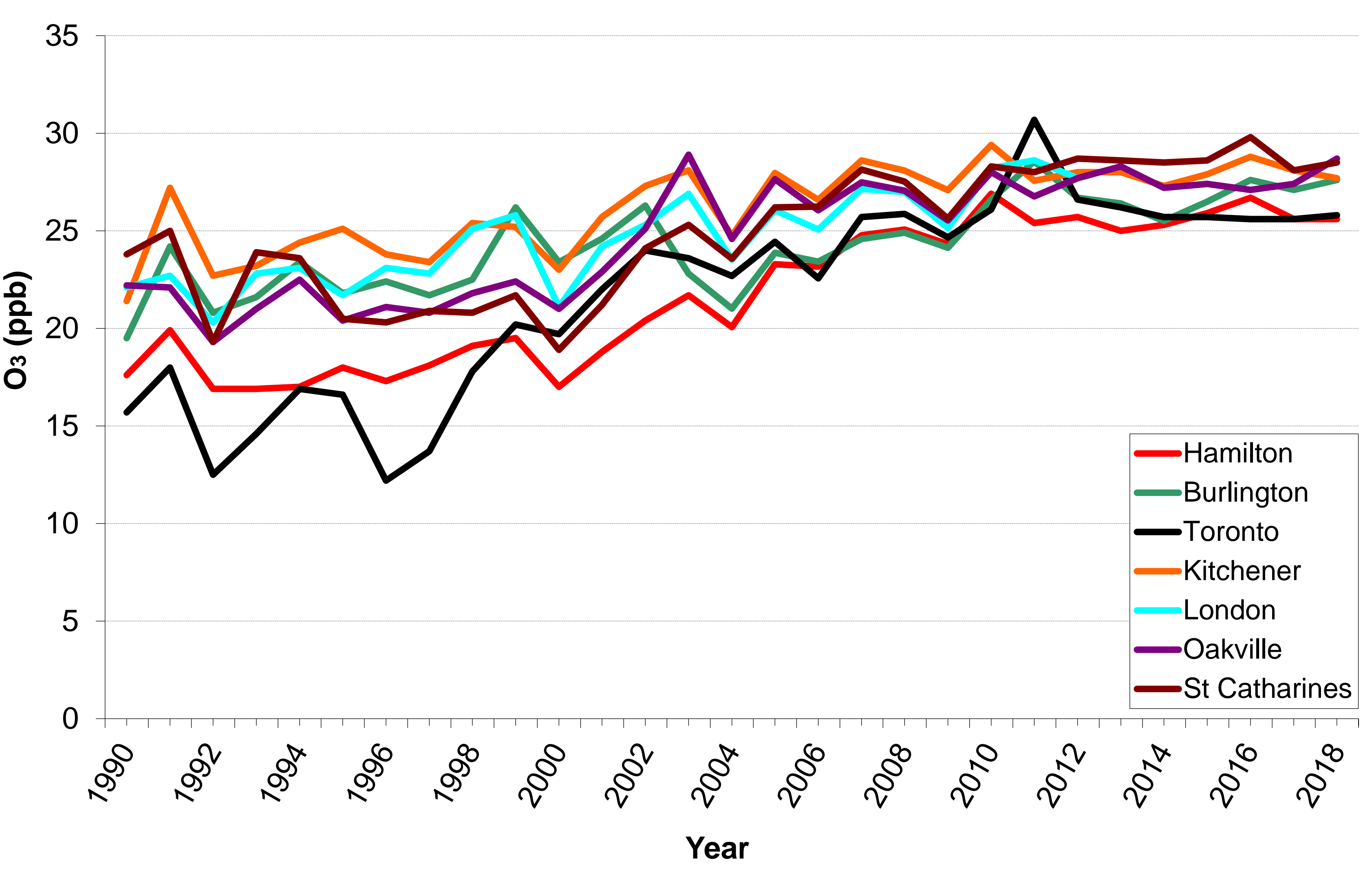

Ground Level Ozone Trend
Number of Hourly Exceeds >50 ppb 3 station average
Number hours >50 ppb
800
700
600
500
400
300
200
100
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18

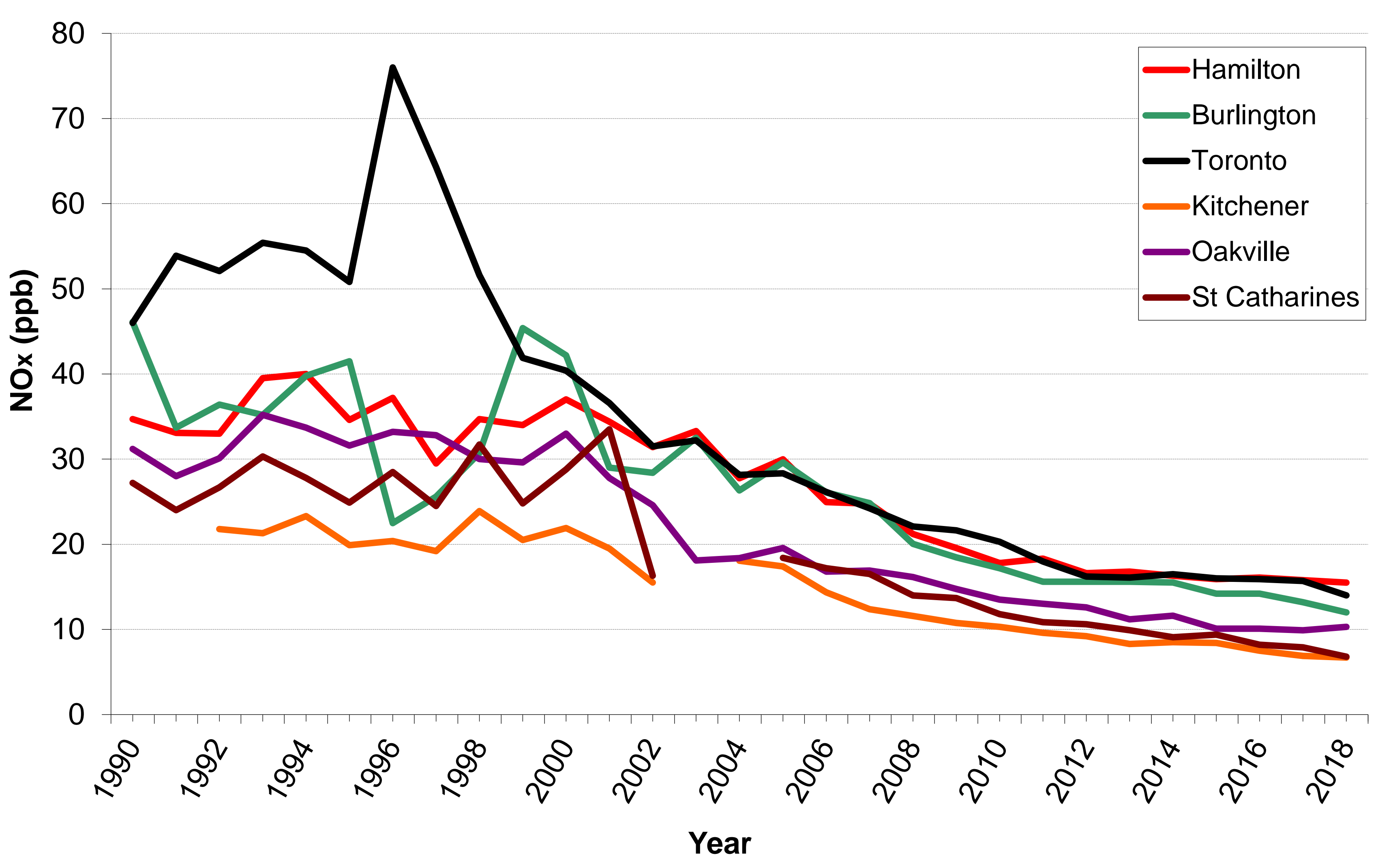

Benzene Trend
Annual Average (µg/m3)
10
9
8
7
6
5
4
3
2
1
0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
Industry 1
Industry 2
Downtown (City)

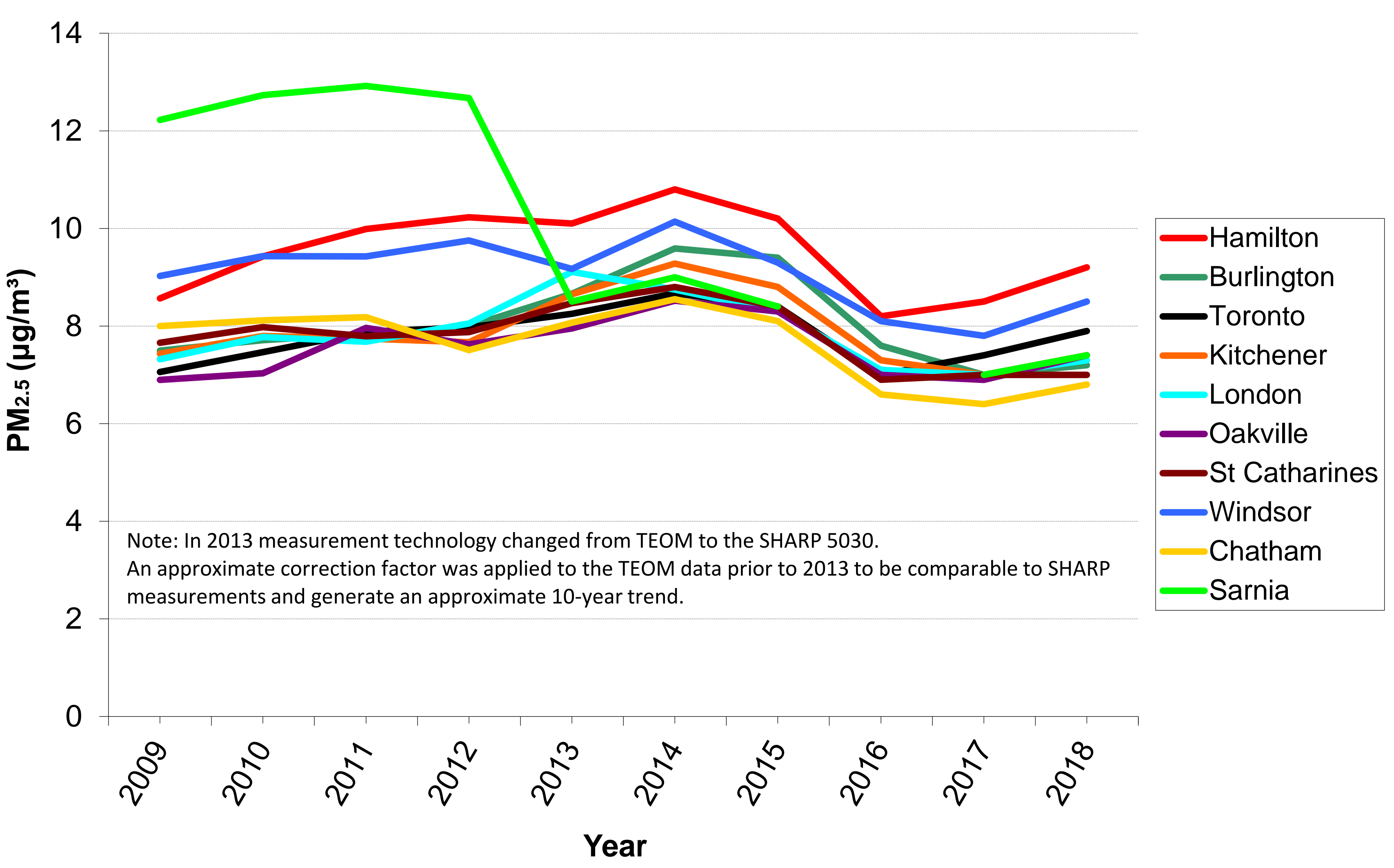

Benzo(a)pyrene Trend
Annual Average (ng/m3)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Year
96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18
Industry 1
Industry 2
Industry 3
Downtown (City)

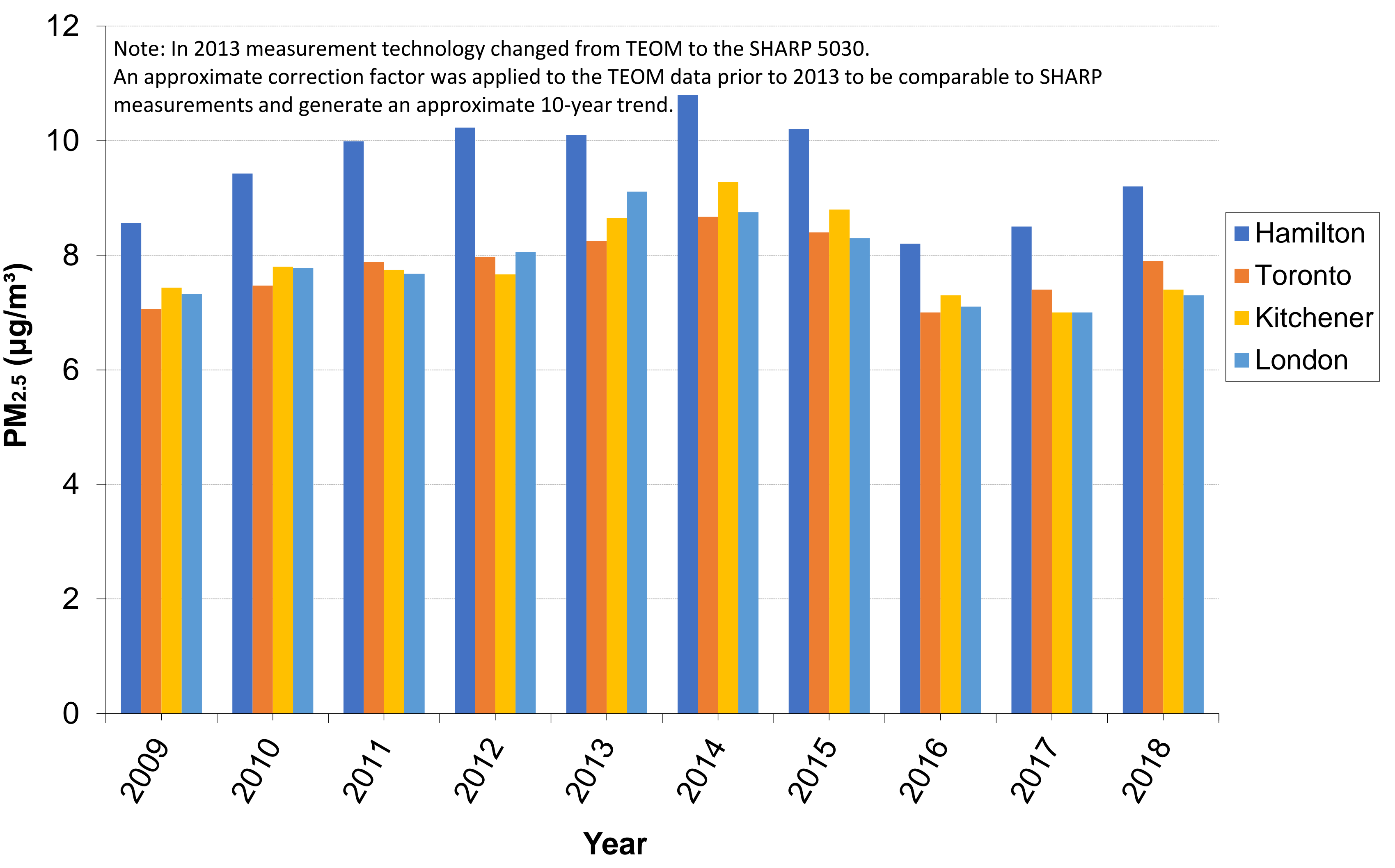

Ground Level Ozone Trend
29000
29114
29118
Average
Ozone Concentration (ppb)
45
40
35
30
25
20
15
10
5
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


11-Year Trends for Sulphur Dioxide (Seven Cities)
10
8
6
4
2
0
SO2 (ppb)
Hamilton
Windsor Downtown
Sarnia
Toronto West
Ottawa Downtown
Sault Ste Marie
Annual Objective
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year


28-Year Trends for Ozone (Seven Cities)
35
30
25
20
15
10
5
0
O3 (ppb)
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
Year
Hamilton
Burlington
Toronto
Kitchener
London
Oakville
St Catharines


28-Year Trends for Nitrogen Oxides (Seven Cities)
NOx (ppb)
0
10
20
30
40
50
60
70
80
Year
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
Hamilton
Burlington
Toronto
Kitchener
Oakville
St Catharines


10-Year Trends for PM2.5 (Ten Ontario Cities)
PM2.5 (µg/m³)
14
12
10
8
6
4
2
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year
Hamilton
Burlington
Toronto
Kitchener
London
Oakville
St Catharines
Windsor
Chatham
Sarnia
Note: In 2013 measurement technology changed from TEOM to the SHARP 5030.
An approximate correction factor was applied to the TEOM data prior to 2013 to be comparable to SHARP measurements and generate an approximate 10-year trend.


10-Year Trends for PM2.5 (Four Ontario Cities)
Note: In 2013 measurement technology changed from TEOM to the SHARP 5030.
An approximate correction factor was applied to the TEOM data prior to 2013 to be comparable to SHARP measurements and generate an approximate 10-year trend.
PM2.5 (µg/m³)
0
2
4
6
8
10
12
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Year
Hamilton
Toronto
Kitchener
London

Hamilton Airshed Modelling System: Sub-Regional Analysis

Anthony Ciccone Ph.D., P. Eng. And Janya Kelly Ph.D.

26 November, 2018

CITY OF HAMILTON

Acknowledgements

Golder would gratefully like to acknowledge the following contributors to the project:

- Jim Wilkinson, Ph.D.
- Barron Henderson, Ph.D.
- Environment and Climate Change Canada
- Stakeholder Advisory Committee
    - HIEA
    - Public Health
    - Community Stakeholders

Project Objectives

Challenges: The Hamilton Airshed Puzzle

- Who? What? Where? and How much contributes to air quality?
- Are levels different in different parts of the City?
- How much is local?
- What is the influence of the USA or outside geographies on Hamilton?

Solution: Hamilton Airshed Modelling System (HAMS)

- Built on understanding of the current state of the science
- Relies on local data as well as transboundary (e.g. land use, roadways, trains, industry, agriculture)
- Handles complex meteorology (e.g. lake effects and escarpment)
- Considers atmospheric chemistry – important part of the puzzle
- Needs a Big computer

Hamilton Airshed Modelling System

Boundary Conditions

Initial Conditions

Meteorological Modelling

Emissions Modelling

Air Quality Modelling

HAMS

Concentration of Compounds

Compounds of Interest

Studied Compounds*	
Acrolein	Ozone
Ammonia	Volatile Organic Carbons
Benzene	Benzo(a)pyrene
Butadiene 1,3	Cadmium
Carbon Monoxide	Chromium (III)
Formaldehyde	Chromium (VI)
Nitrogen Oxides (NO_2 and NO)	Lead
Sulphur Dioxide	Manganese
PM_{10}	Mercury
$PM_{2.5}$	Nickel

**Please note additional species, including precursors, are available but were not studied*

Presented Compounds*
$PM_{2.5}$
PM_{10}
Nitrogen Oxides
Sulphur Dioxide
Ozone
Benzene
Benzo(a)pyrene

** Selected by the Stakeholder Advisory Committee*

Grid Density: All Tiers

Tier
Tier I (36 km)
Tier II (12 km)
Tier III (3 km)
Tier IV (1.33 km)

Selected Urban Regions

Regions	Influence
IC = industrial core	Industry, port, rail, roads
WL = west lower	Road, non-road
EL = east lower	Industry, road, non-road
WU = west upper	Road
EU = east upper	Road

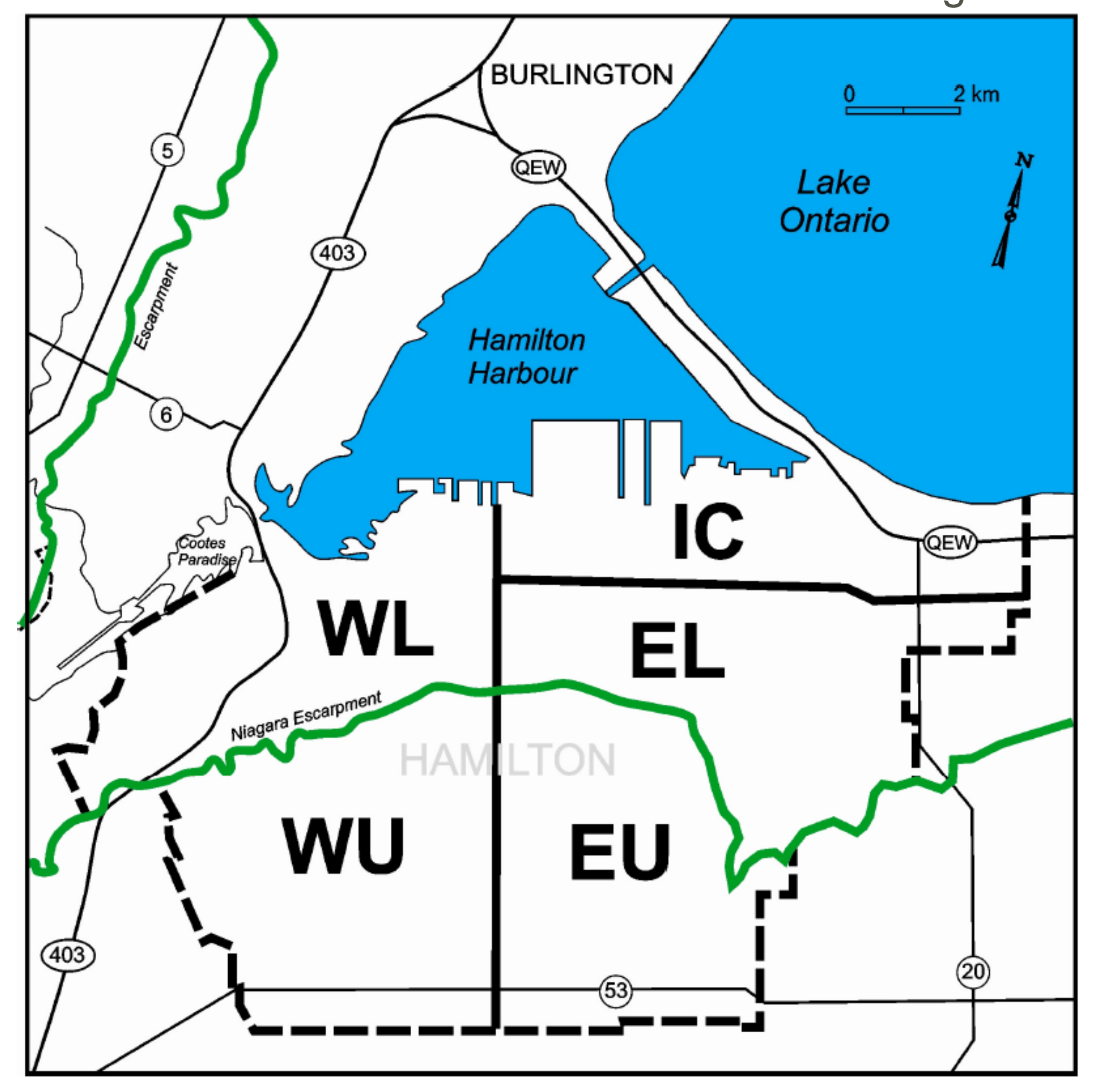


Figure 1 in Radisic,S., Newbold, K. B., Eyles, J. and Williams, A. (2016). Factors influencing health behaviours in response to the air quality health index: a cross-sectional study in Hamilton, Canada. *Environmental Health Review, Volume 59(1), 17-29*. DOI: 10.5864/d2016-002

Model Verification

Source: https://en.wikipedia.org/wiki/File:HamiltonOntarioSkylineC.JPG, licensed under https://creativecommons.org/licenses/by-sa/3.0/

Model Verification

MODEL PERFORMANCE EVALUATION SUMMARY

- The results meet published benchmarks which provides confidence in the results of the modelling simulations.
  - Meteorology benchmarks met for temperature, mixing ratio, wind speed and wind direction
  - Particulate matter met performance criteria
    - PM_{10} is under-predicted likely due to unaccounted for fugitive dust source
  - All compounds are predicted within a factor of 2
    - Performing within expectations of the modelling community
  - Transboundary NO_2 emissions are overstated leading to model over-prediction
  - Metrics for benzene and B(a)P could be impacted by lack of observations (compared to other species)
- Hamilton Airshed Modelling System provides conservative and reliable results with a strong degree of confidence

Emissions Inventory Results

Source: https://en.wikipedia.org/wiki/File:HamiltonOntarioSkylineC.JPG, licensed under https://creativecommons.org/licenses/by-sa/3.0/

Emissions Inventory Sources

GRIDDED, HOURLY EMISSION ESTIMATES BY TIER

Emission Classification	Type	Definition	Source	
			Tier I	Tiers II – IV
Industrial	Point (all tiers)	Elevated stacks from industrial activities	2006 Canadian National Emissions Inventory (NEI) 2011 US NEI	2012 NPRI, 2011 US NEI
	Area	Industrial activities		2012 NPRI, 2011 US NEI
Commercial	Point (Tier I, US Only) Area	Natural gas usage, auto-body shops, dry cleaners, commercial solvents		2012, ChemTRAC (scaled by population), 2012 Stats Can population data, 2011 US NEI
Residential	Area	Natural gas usage, other residential heating sources		2012 natural gas consumption, 2012 Stats Canada energy use, 2011 US NEI
On-Road	Area	On-road vehicles (trucks, cars, motorcycles)		2012 MOVES, 2012 MTO traffic data, 2011 US NEI
Non-Road	Point (Tier I, US Only) Area	Airport, marine, rail and lawn mowers,		2006 Canadian NEI, 2012 NRCAN data, 2011 US NEI
Biogenic / Agricultural	Area	E.g., natural, farmland	2012 MEGAN, 2006 Canadian NEI, 2011 US NEI	2012 MEGAN, 2012 NONROAD

Total Hamilton Emissions Profile – All Tiers

18%
28%
1%
6%
4%
44%

- Industrial
- Commercial
- Residential
- Agriculture
- On-Road
- Non-Road

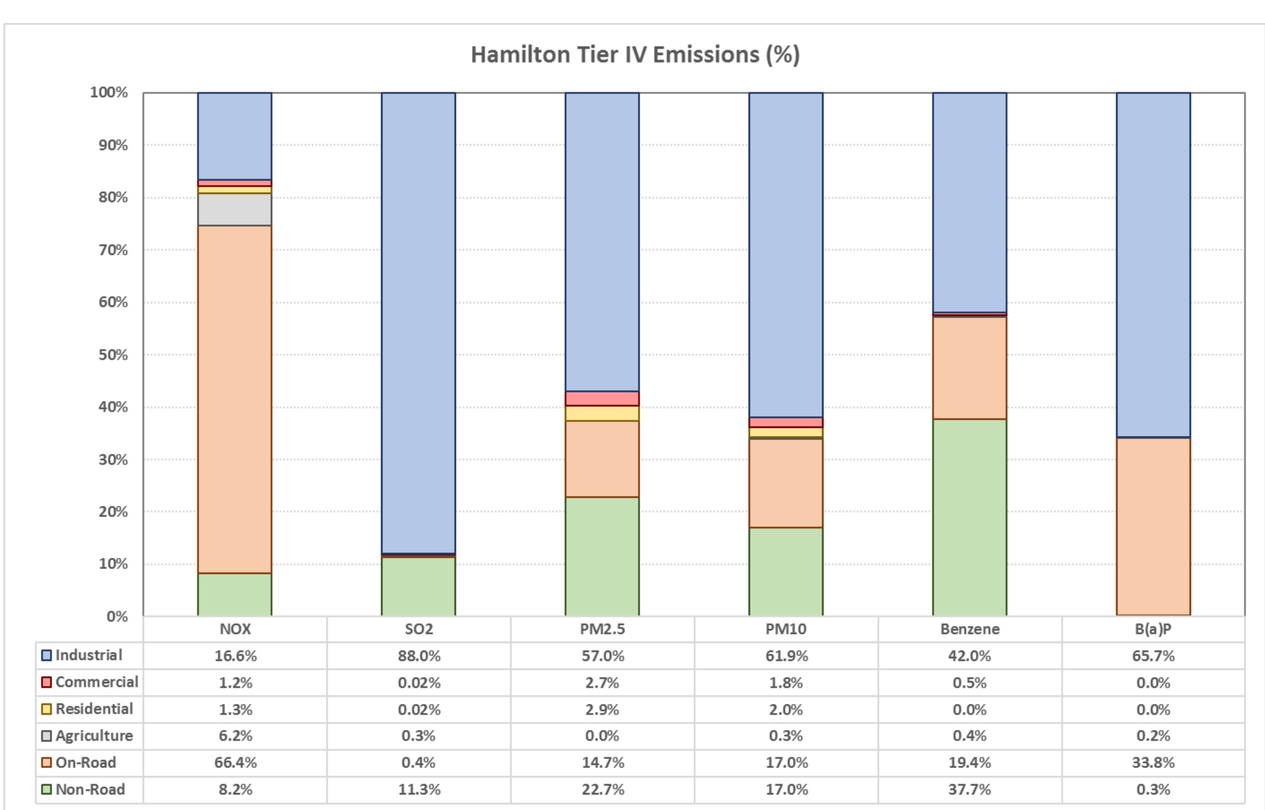
Total Hamilton Emissions Profile – Tier IV

21.4%
0.5%
0.5%
2.9%
40.5%
34.2%

Industrial
Commercial
Residential
Agriculture
On-Road
Non-Road

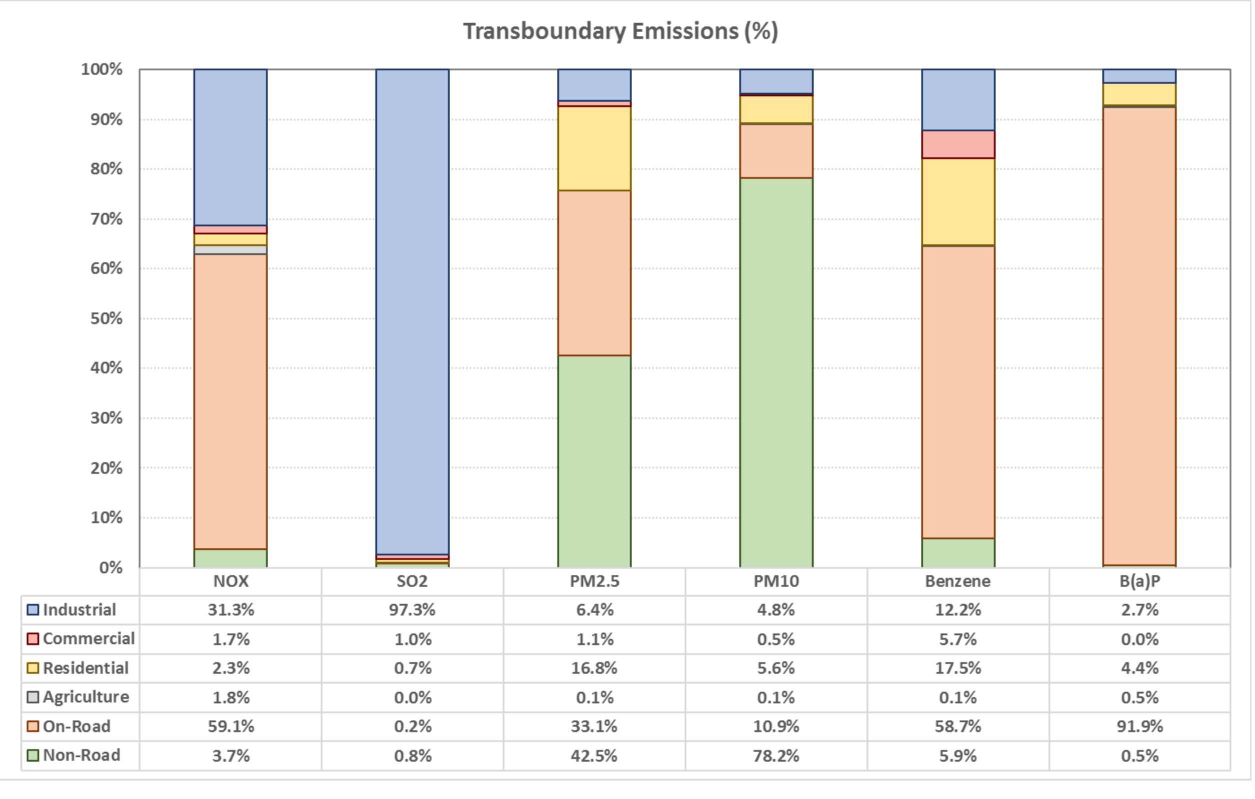
Hamilton & Transboundary Emissions Profiles

HAMILTON EMISSIONS (%)



	NOX	SO2	PM2.5	PM10	Benzene	B(a)P
Industrial	16.6%	88.0%	57.0%	61.9%	42.0%	65.7%
Commercial	1.2%	0.02%	2.7%	1.8%	0.5%	0.0%
Residential	1.3%	0.02%	2.9%	2.0%	0.0%	0.0%
Agriculture	6.2%	0.3%	0.0%	0.3%	0.4%	0.2%
On-Road	66.4%	0.4%	14.7%	17.0%	19.4%	33.8%
Non-Road	8.2%	11.3%	22.7%	17.0%	37.7%	0.3%

TRANSBOUNDARY EMISSIONS (%)



	NOX	SO2	PM2.5	PM10	Benzene	B(a)P
Industrial	31.3%	97.3%	6.4%	4.8%	12.2%	2.7%
Commercial	1.7%	1.0%	1.1%	0.5%	5.7%	0.0%
Residential	2.3%	0.7%	16.8%	5.6%	17.5%	4.4%
Agriculture	1.8%	0.0%	0.1%	0.1%	0.1%	0.5%
On-Road	59.1%	0.2%	33.1%	10.9%	58.7%	91.9%
Non-Road	3.7%	0.8%	42.5%	78.2%	5.9%	0.5%

Tier IV: NO_x Emissions

All Emissions: NOx

Area Sources

g/s

24.0
21.0
18.0
15.0
12.0
9.0
6.0
3.0
0.0

Air Quality Modelling Results: Aerial and Source Apportionment Update

Source: https://en.wikipedia.org/wiki/File:HamiltonOntarioSkylineC.JPG, licensed under https://creativecommons.org/licenses/by-sa/3.0/

Air Quality Modelling Results: $PM_{2.5}$

Annual Average Concentration: PM2.5

μg/m³

24.0
21.5
19.0
16.5
14.0
11.5
9.0
6.5
4.0

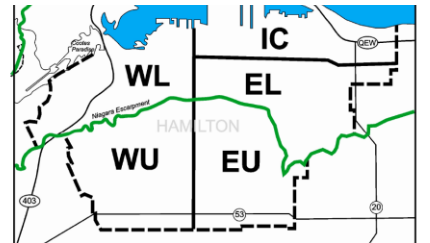
Annually Averaged Source Contribution: PM2.5

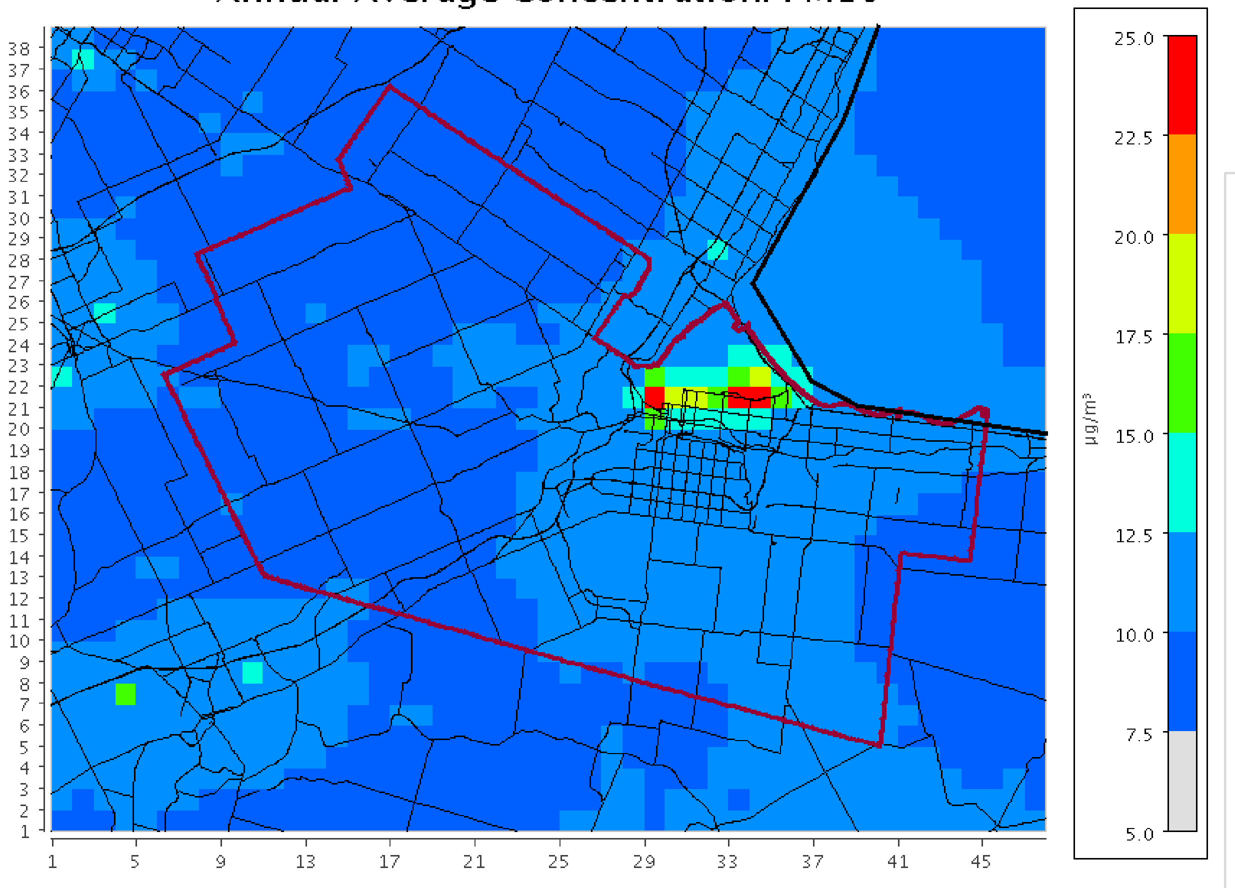
Industrial | On-Road | Non-Road | Transboundary | Other

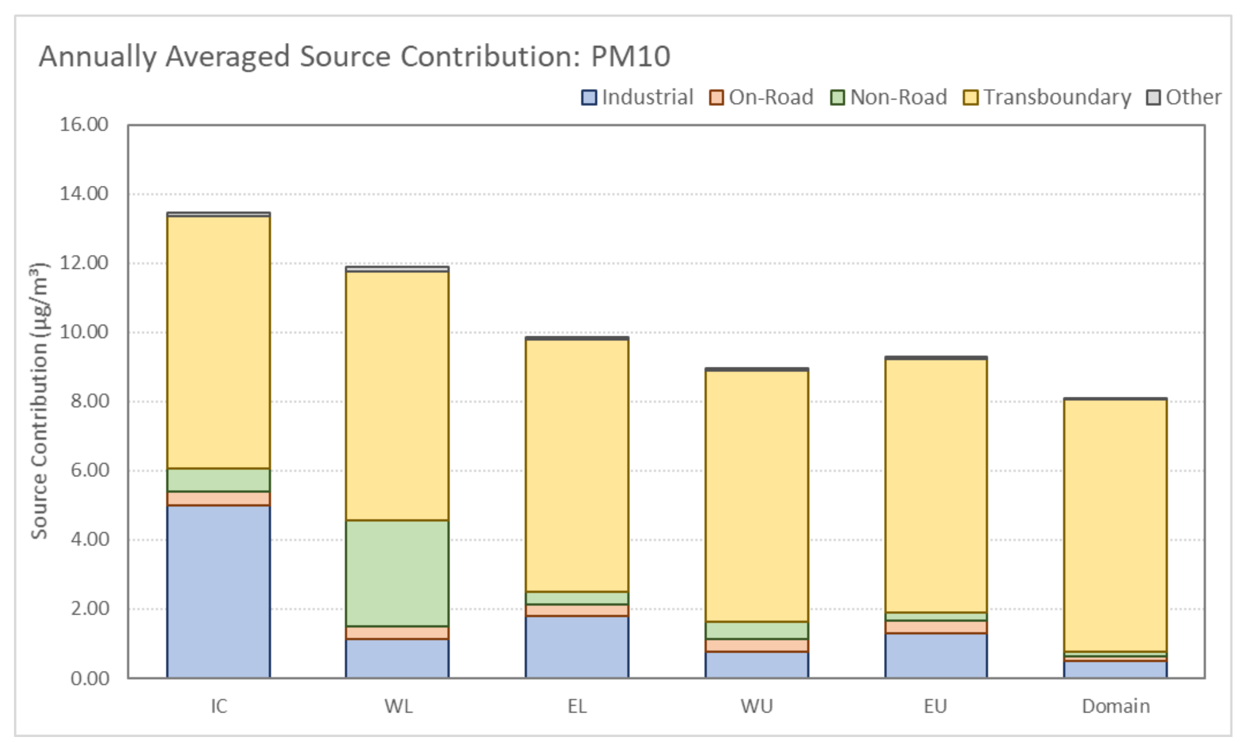
Source Contribution (μg/m³)

IC | WL | EL | WU | EU | Domain

Air Quality Modelling Results: PM_{10}







Air Quality Modelling Results: O_3

Maximum Daily Concentration: O3

ppbV

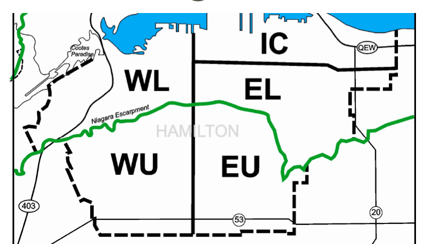
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0

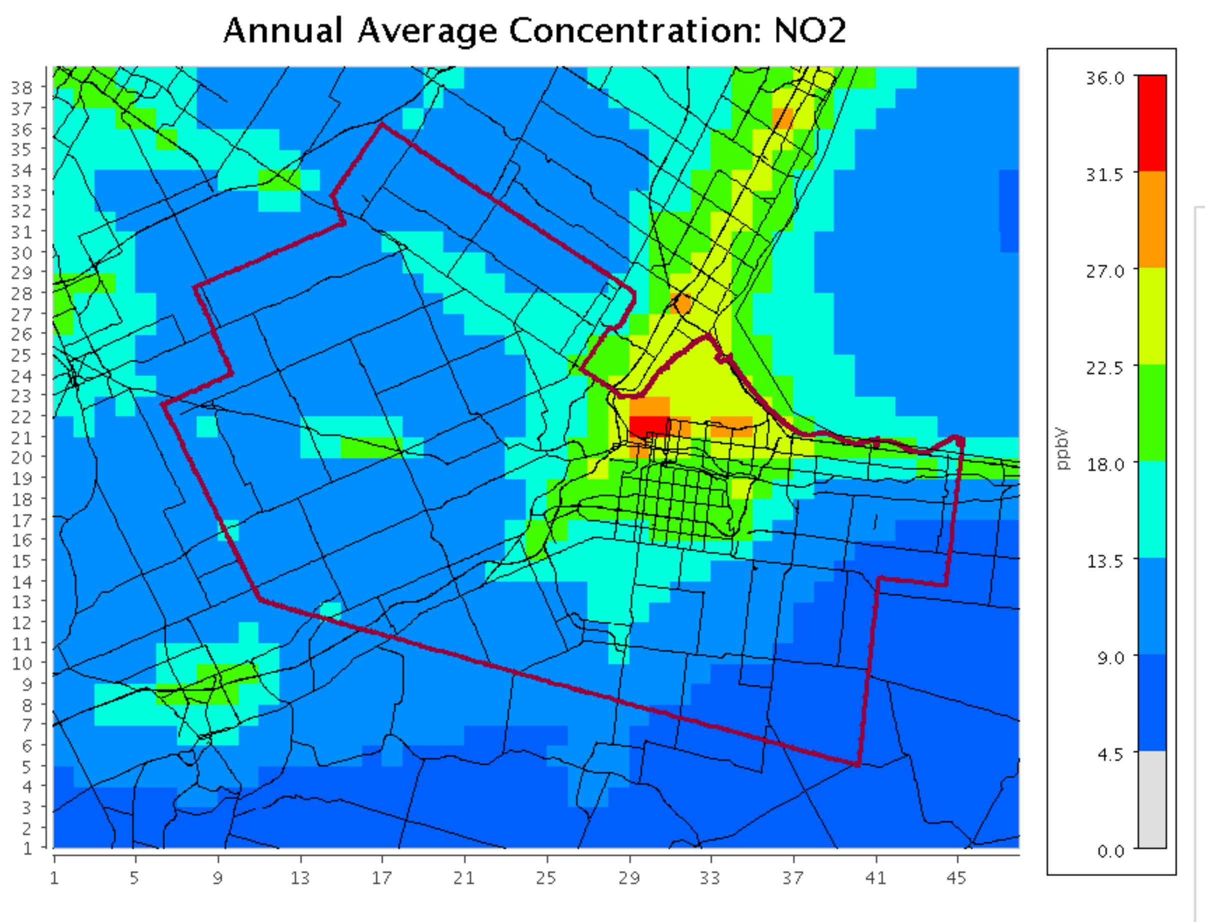
Annual Average Concentration: O3

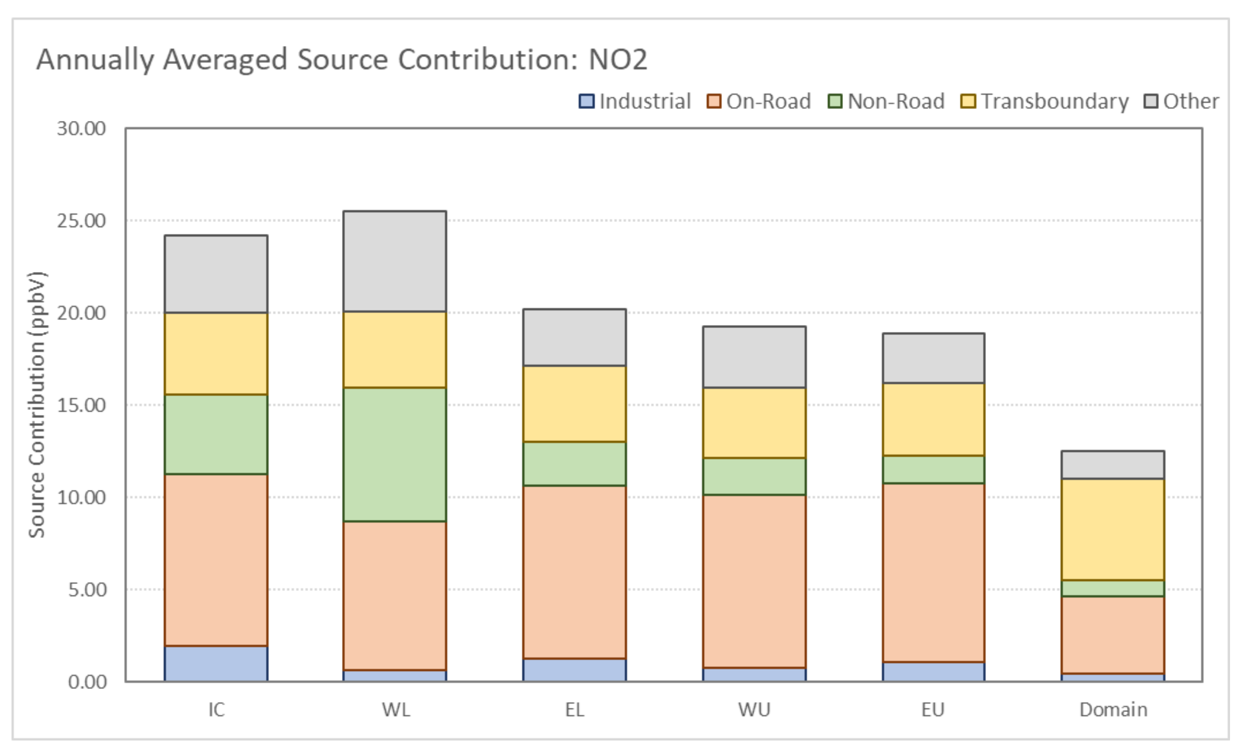
ppbV

35.00
31.25
27.50
23.75
20.00
16.25
12.50
8.75
5.00

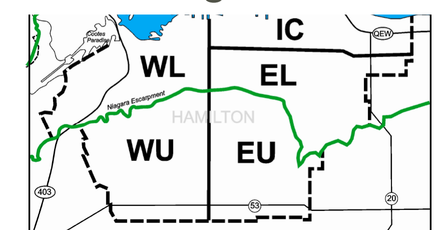
Air Quality Modelling Results: NO_2

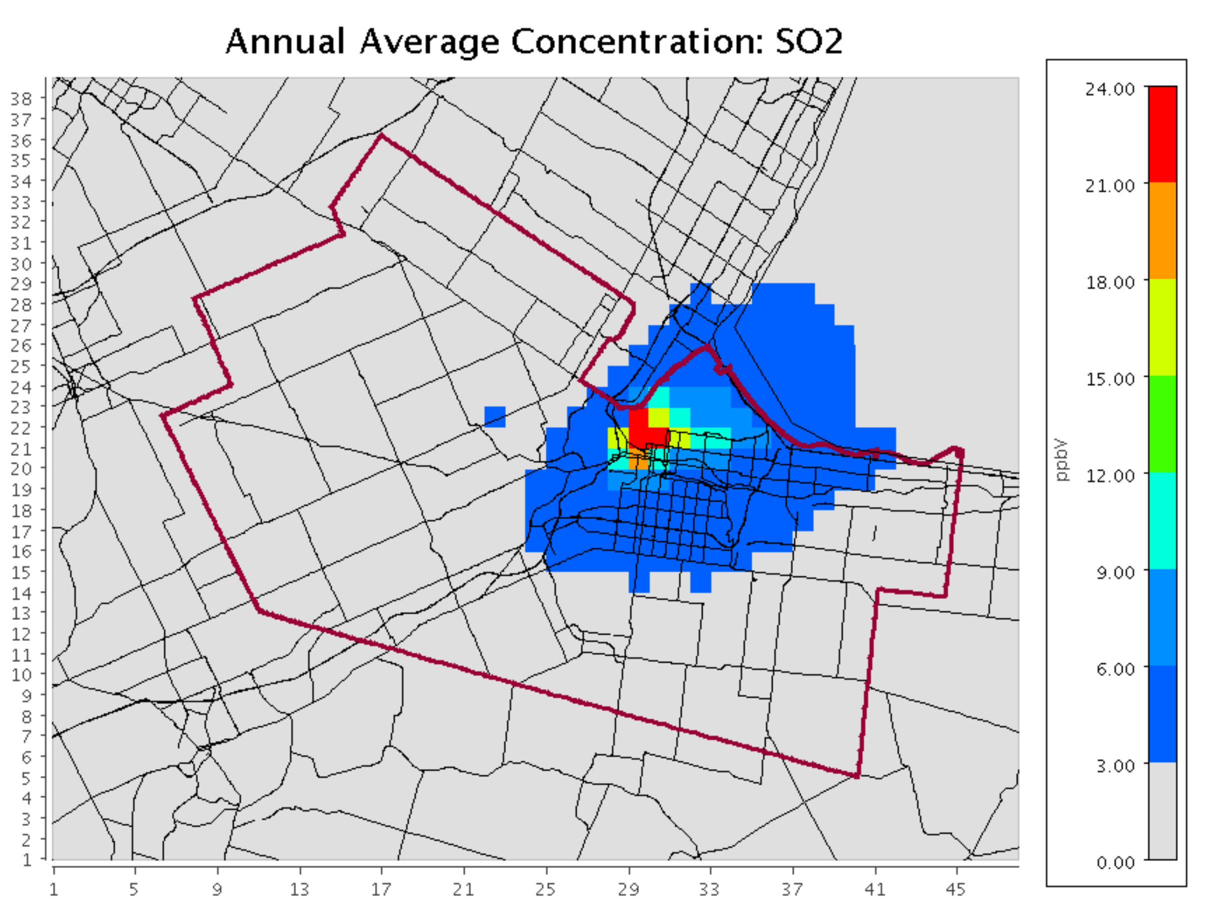


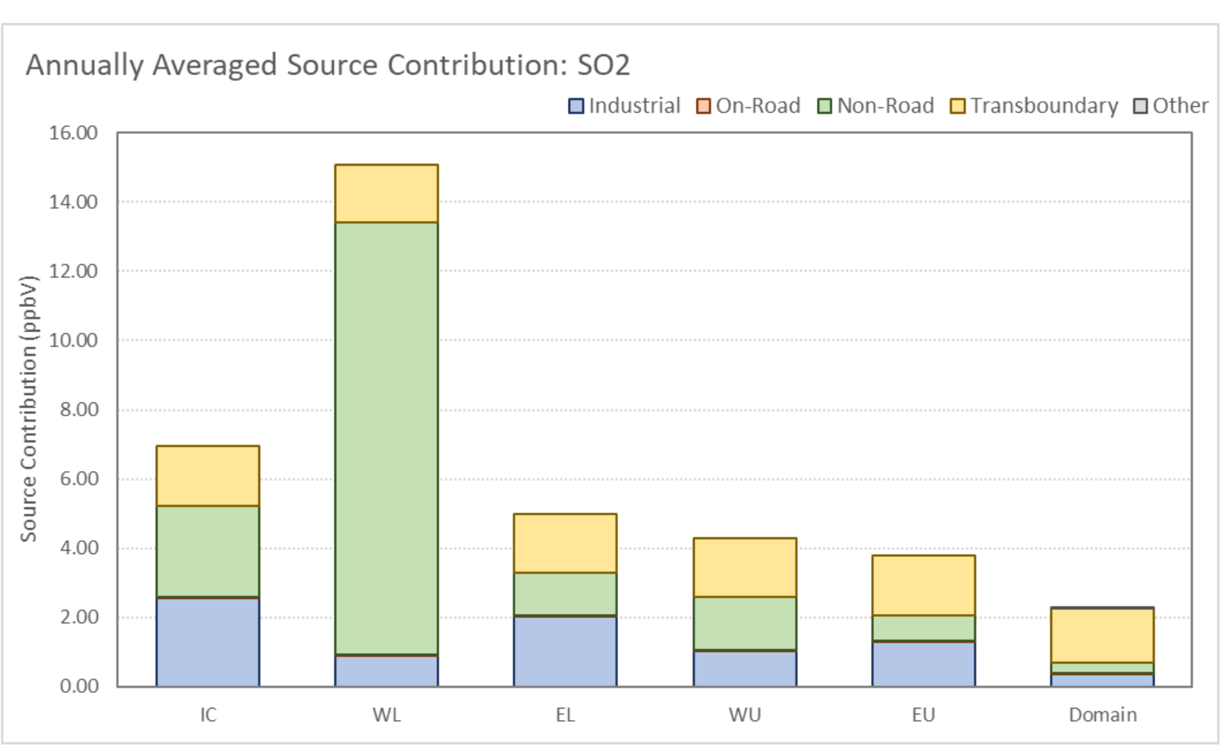




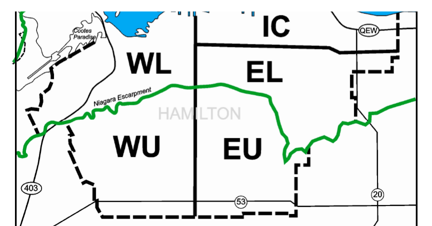
Air Quality Modelling Results: SO_2

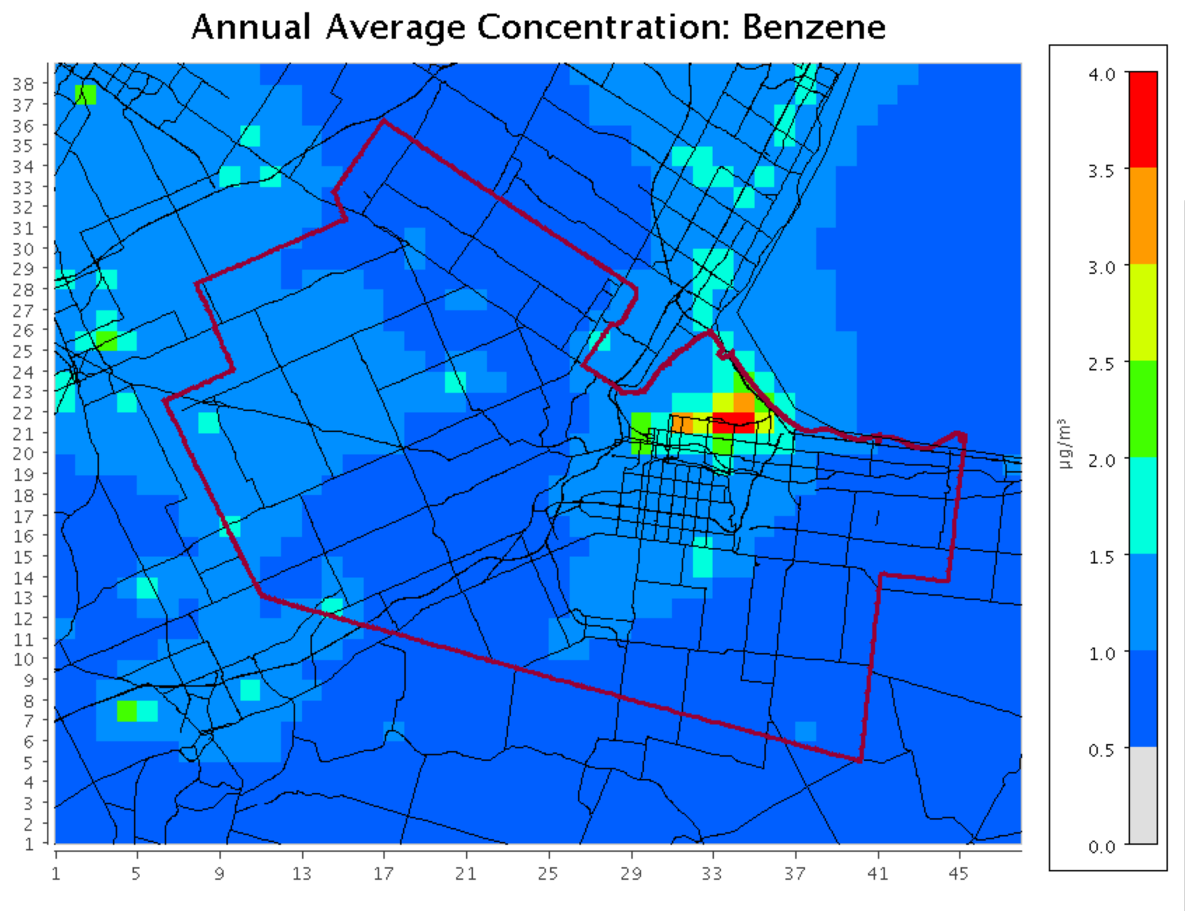


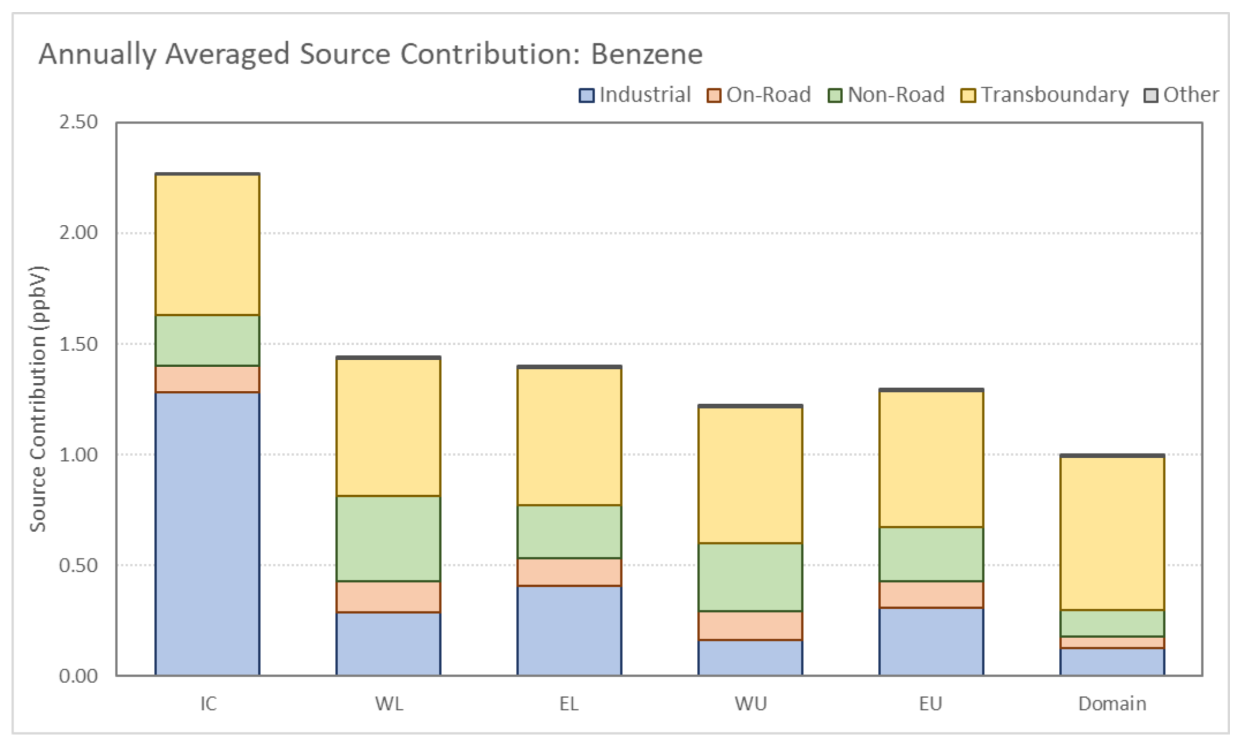




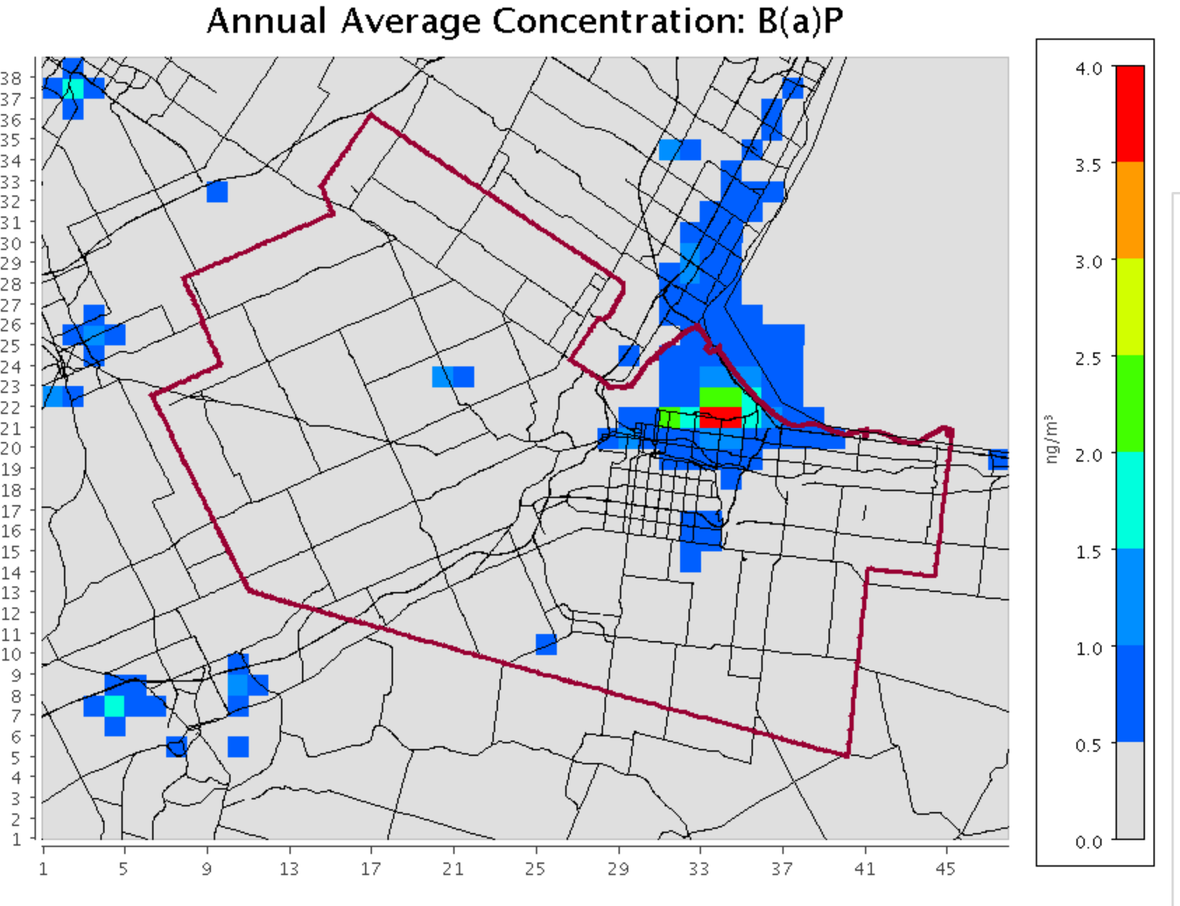
Air Quality Modelling Results: Benzene

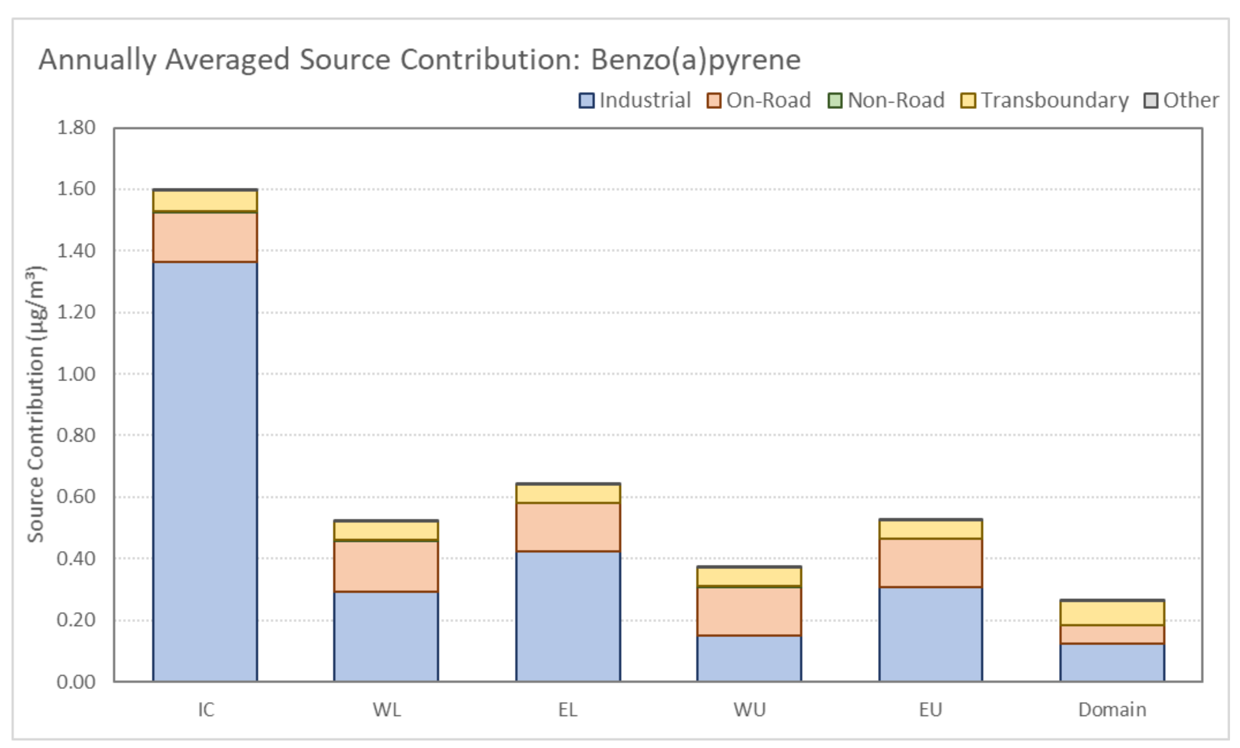






Air Quality Modelling Results: B(a)P





Conclusions

WHAT HAVE WE LEARNED FROM THE HAMILTON AIRSHED MODELLING SYSTEM?

- Source contribution varies according to geographic location (i.e. domain average different from industrial core)
- The industrial core (IC) and western lower (WL) regions consistently experience the highest concentration of pollutants, much higher than the domain average
- Compared to the domain average, transportation related activities are more significant
- Strong transboundary contribution to $PM_{2.5}$ and PM_{10} remains
- On-road NO_2 sources have a higher contribution than other sources but controlling NO_2 locally will impact the ozone concentrations
- Rail emissions dominant contributor to SO_2 levels in WL region
- Outside of IC, industrial contribution to air quality shows a significant drop for benzene and B(a)P

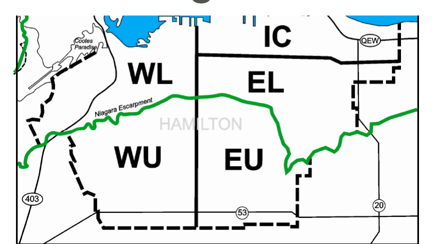
Thank you.

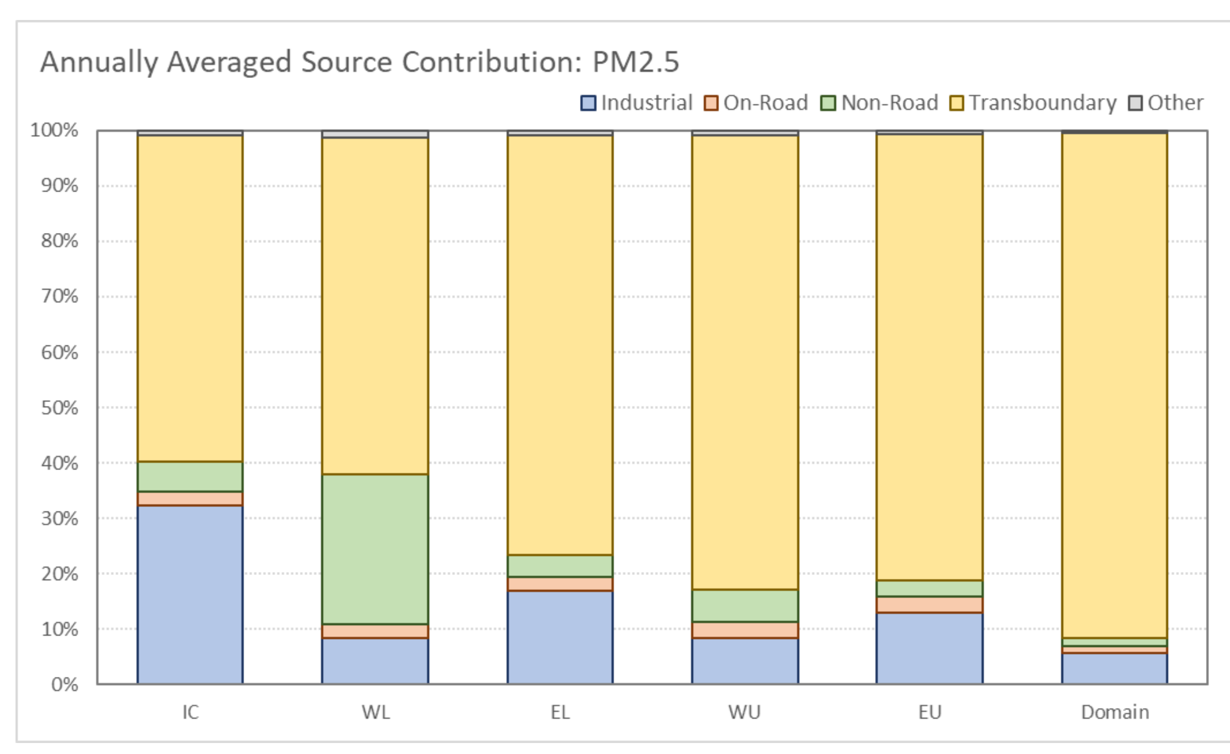
Anthony_Ciccone@Golder.com
Janya_Kelly@Golder.com

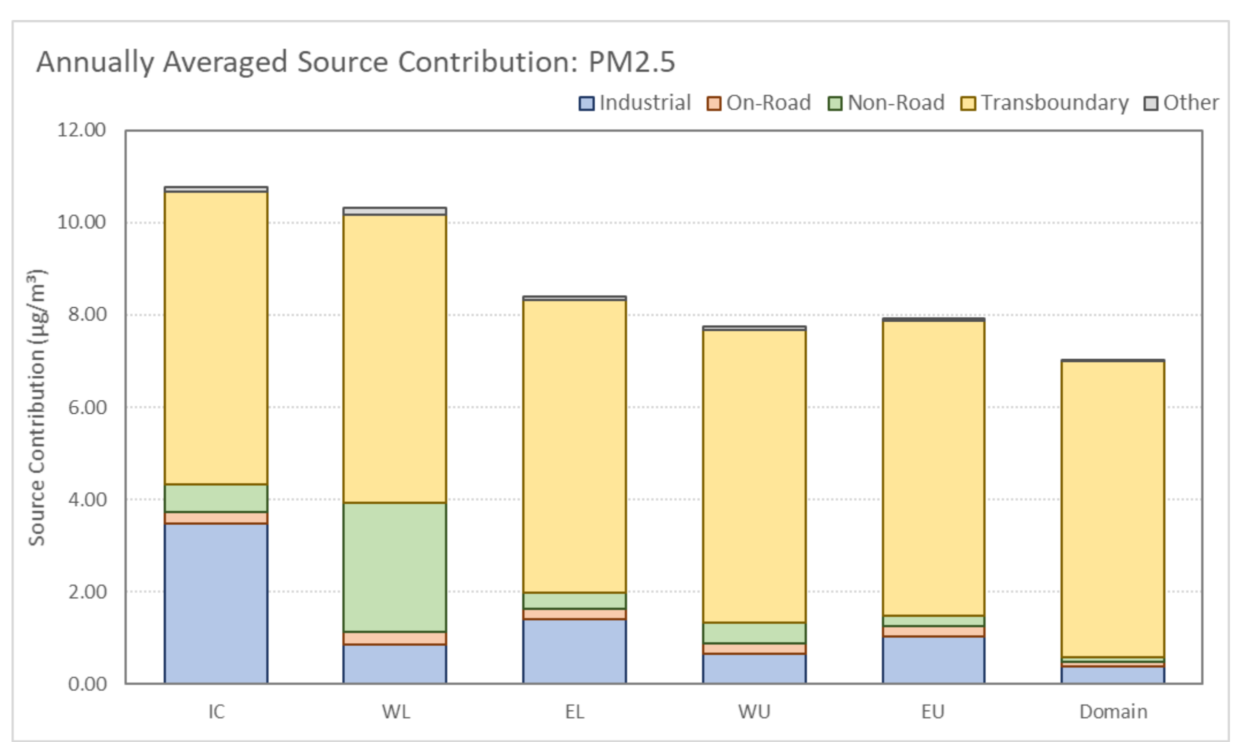
Additional Information:

Source: https://en.wikipedia.org/wiki/File:HamiltonOntarioSkylineC.JPG, licensed under https://creativecommons.org/licenses/by-sa/3.0/

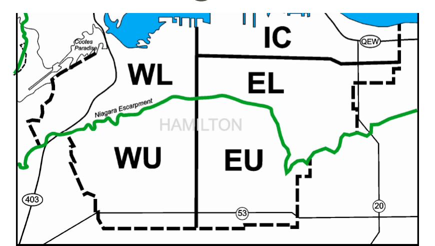
Air Quality Modelling Results: $PM_{2.5}$

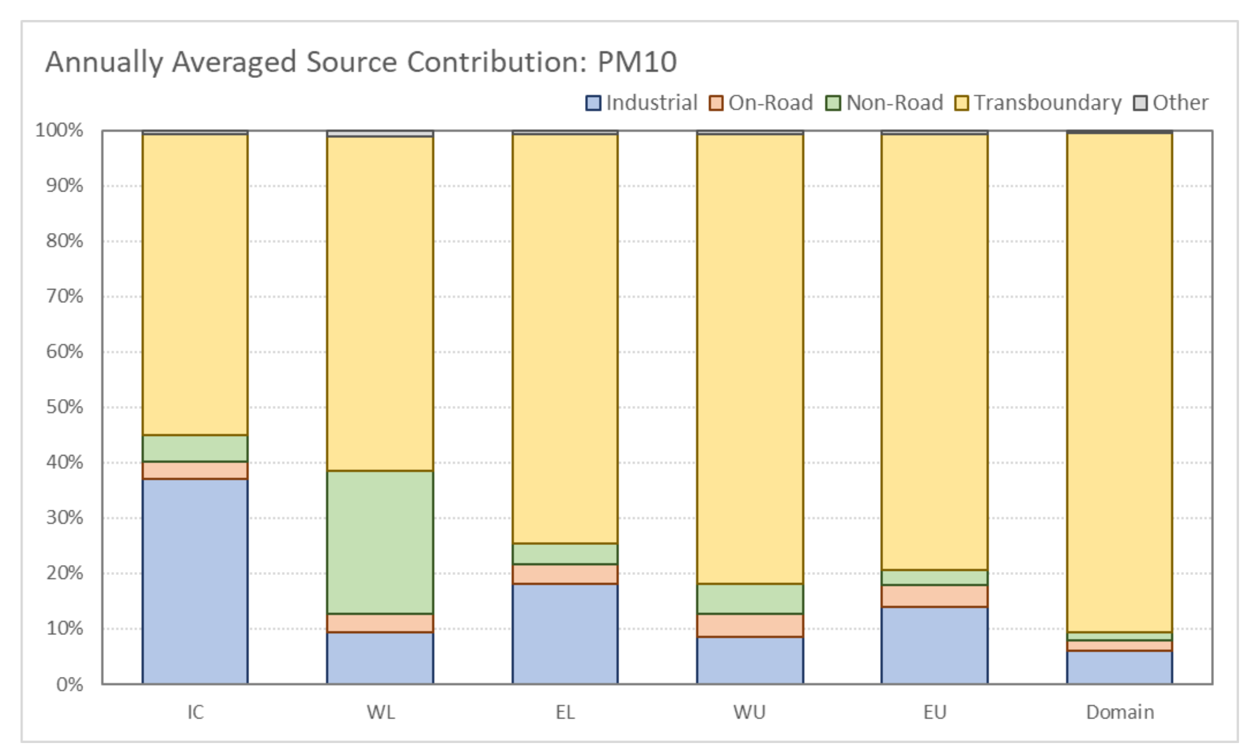


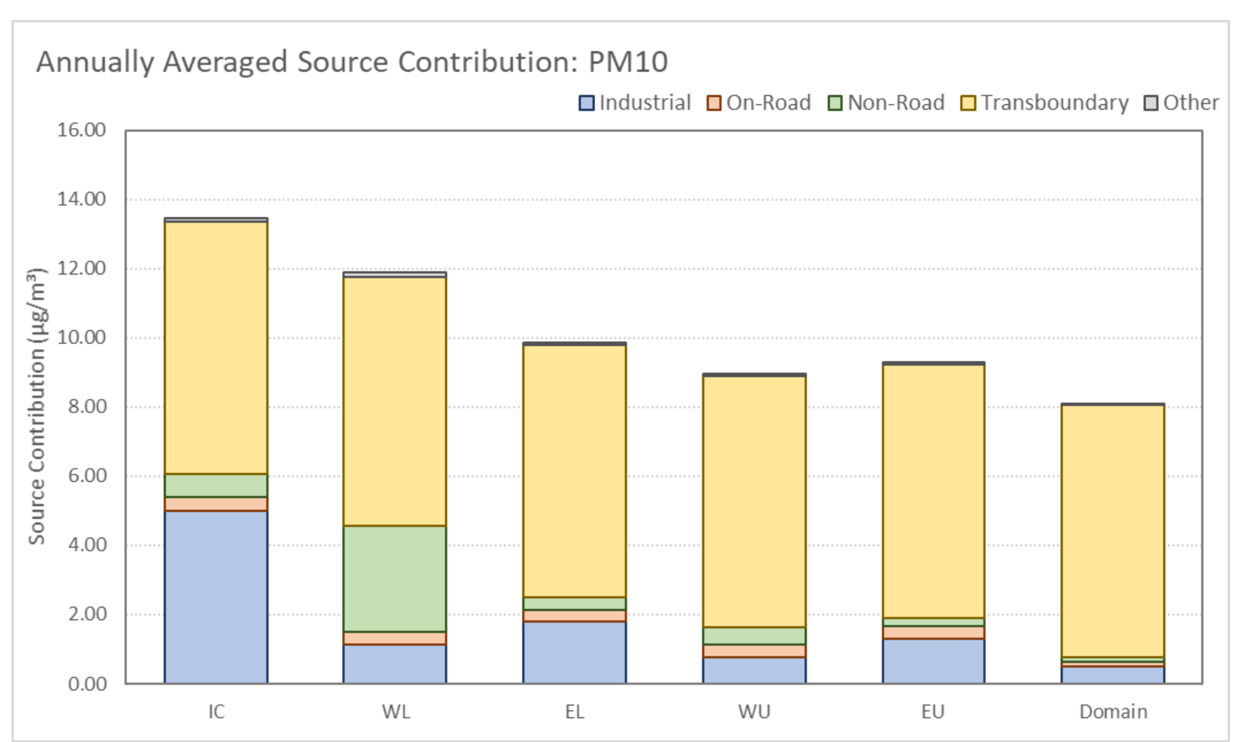




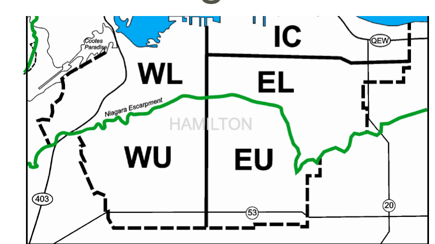
Air Quality Modelling Results: PM_{10}

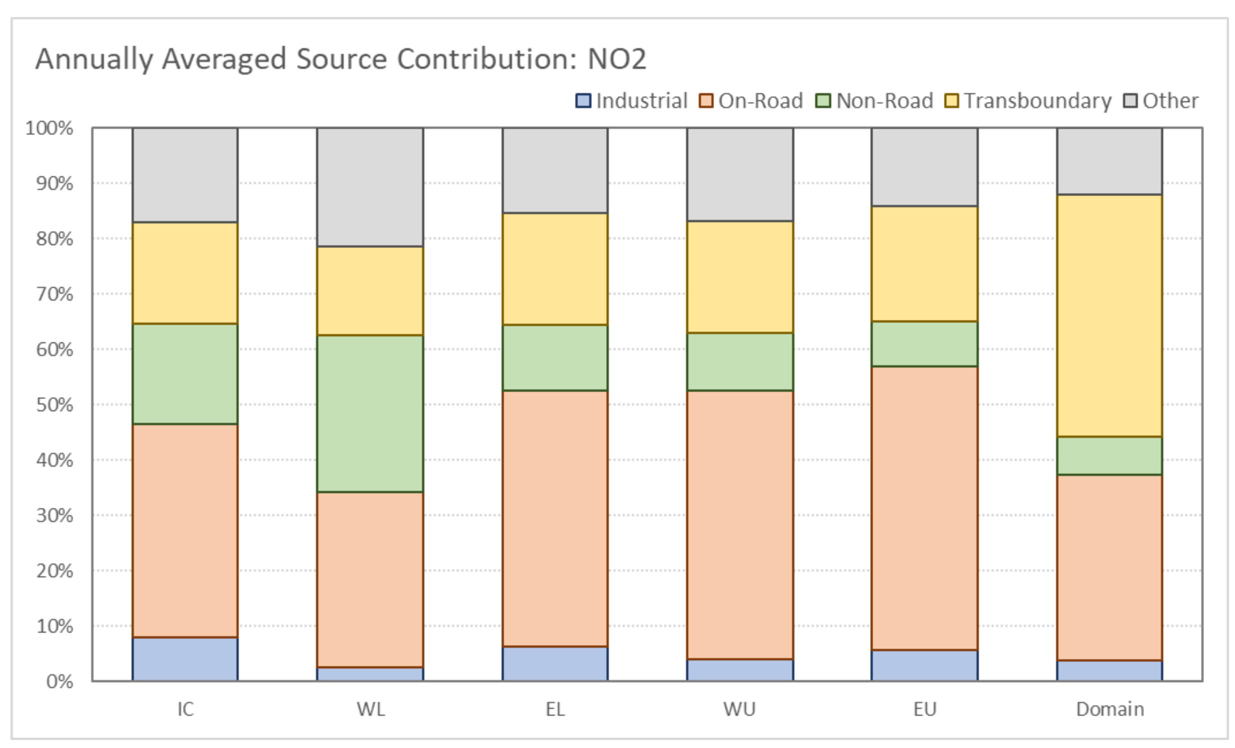


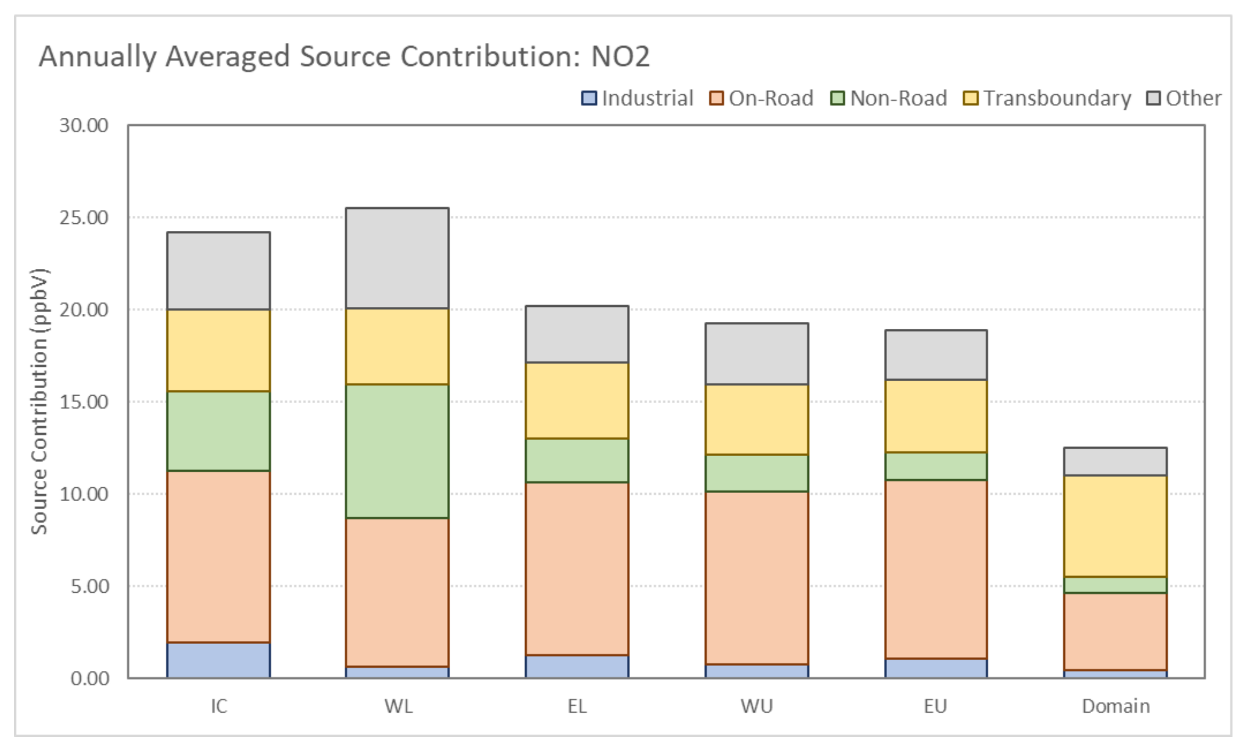




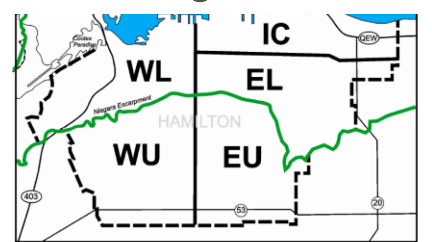
Air Quality Modelling Results: NO_2

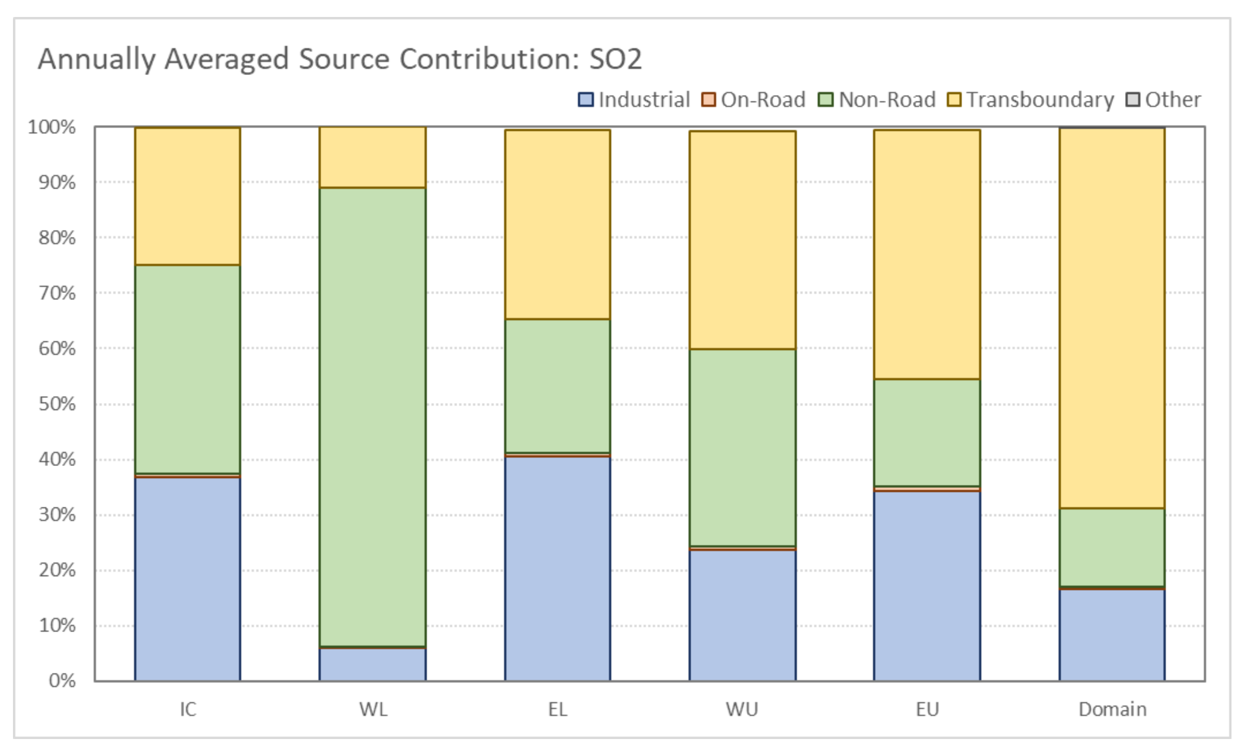


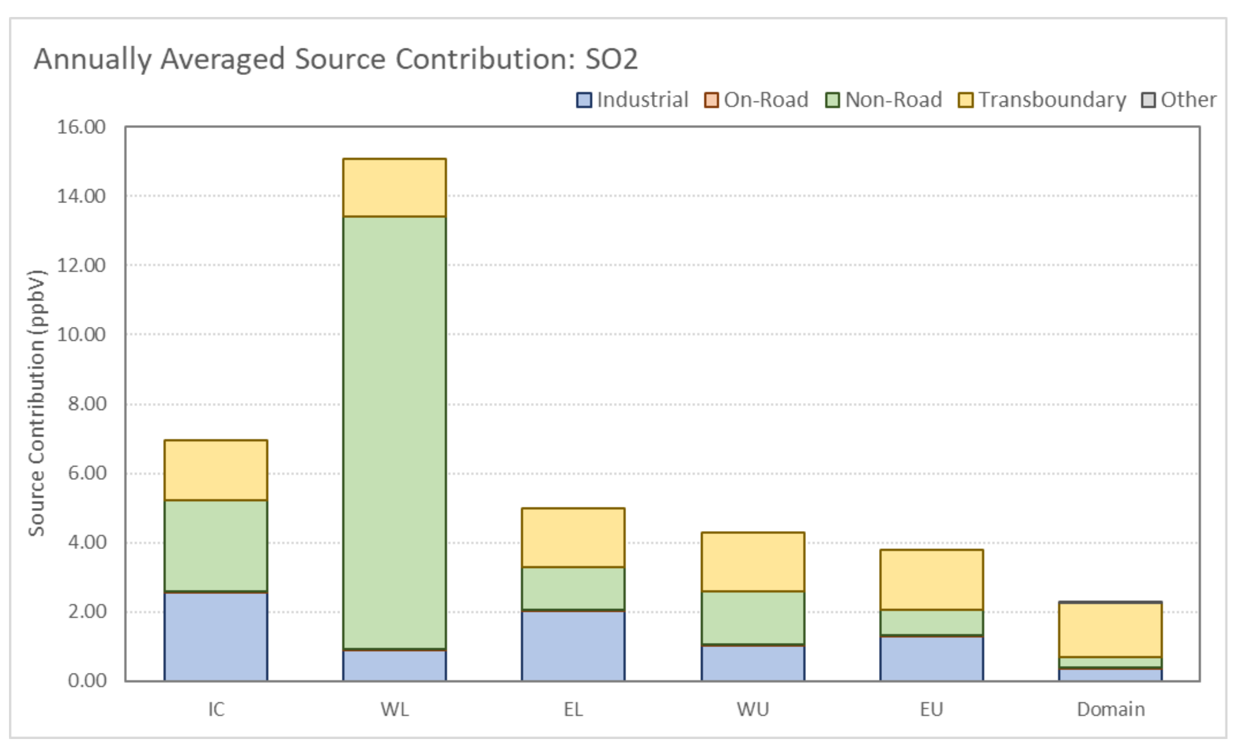




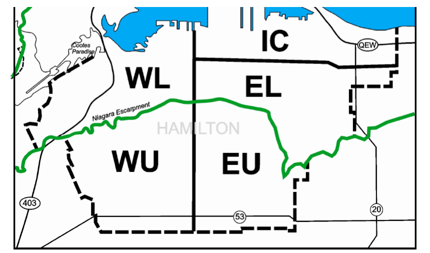
Air Quality Modelling Results: SO_2

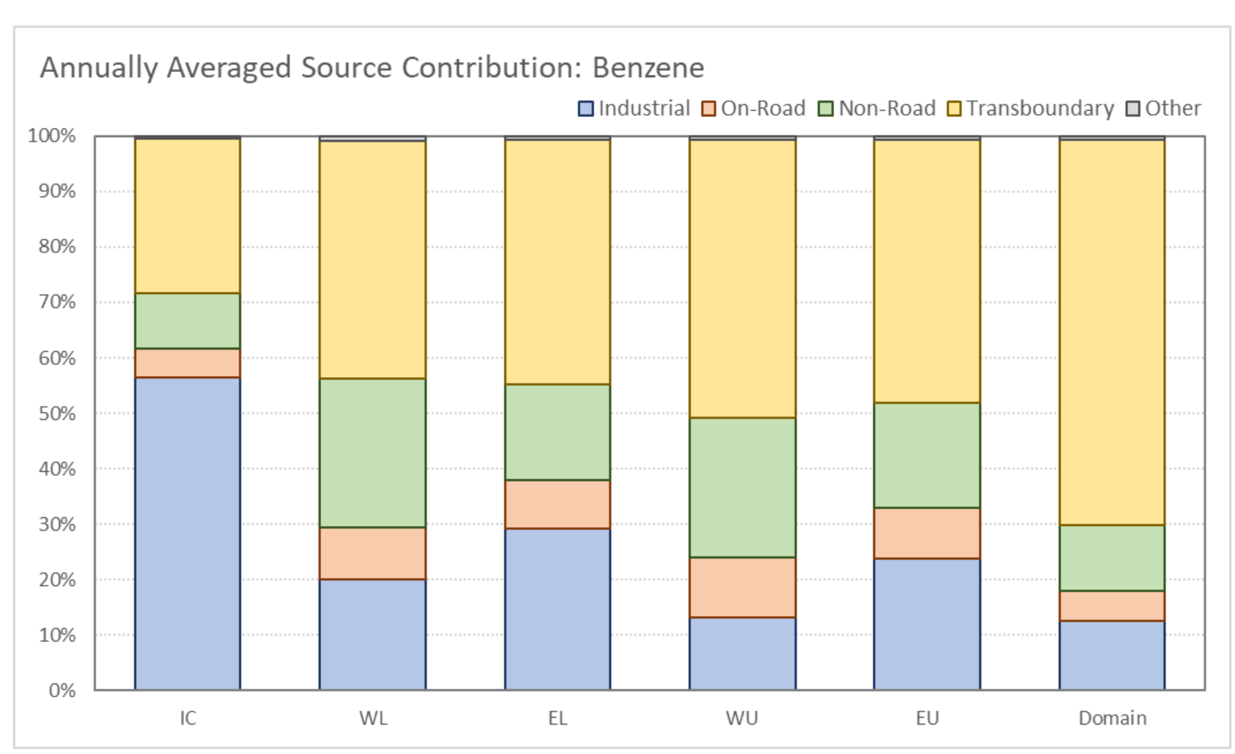


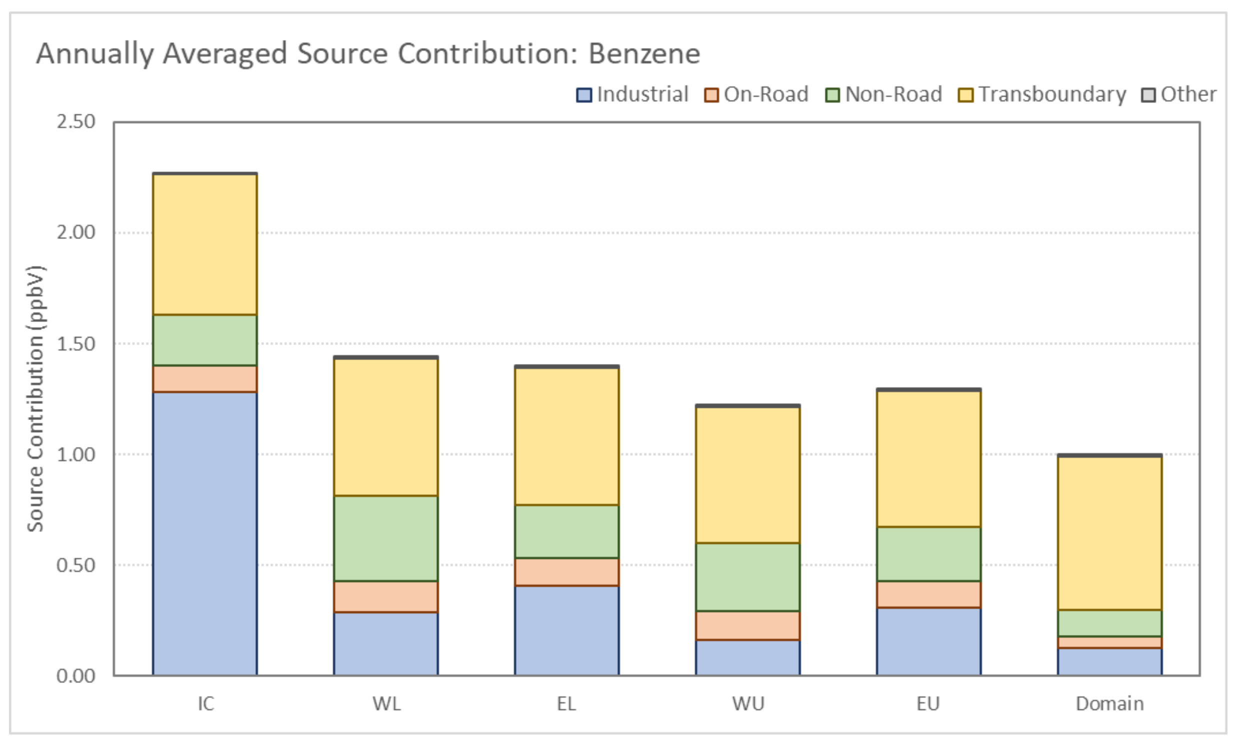




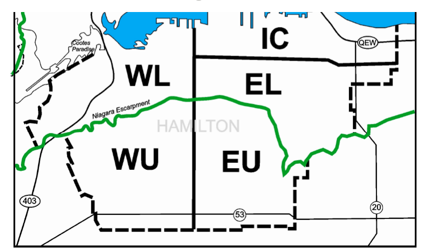
Air Quality Modelling Results: Benzene

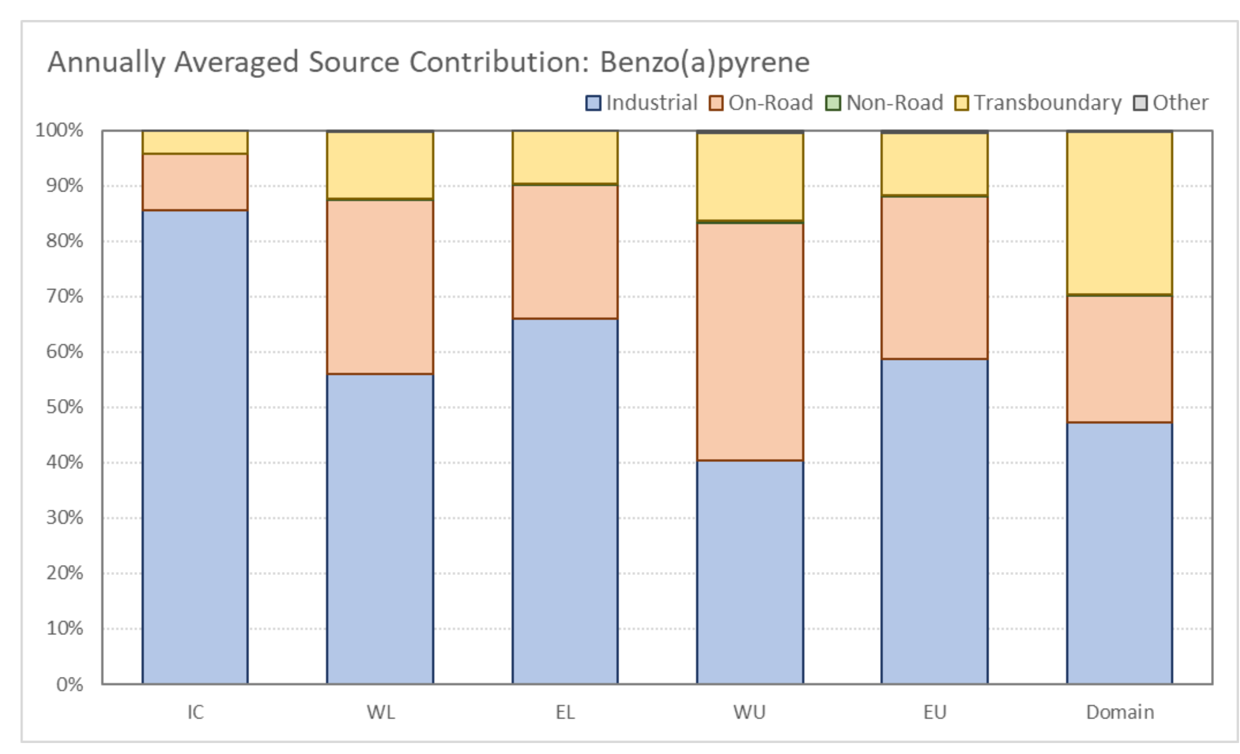


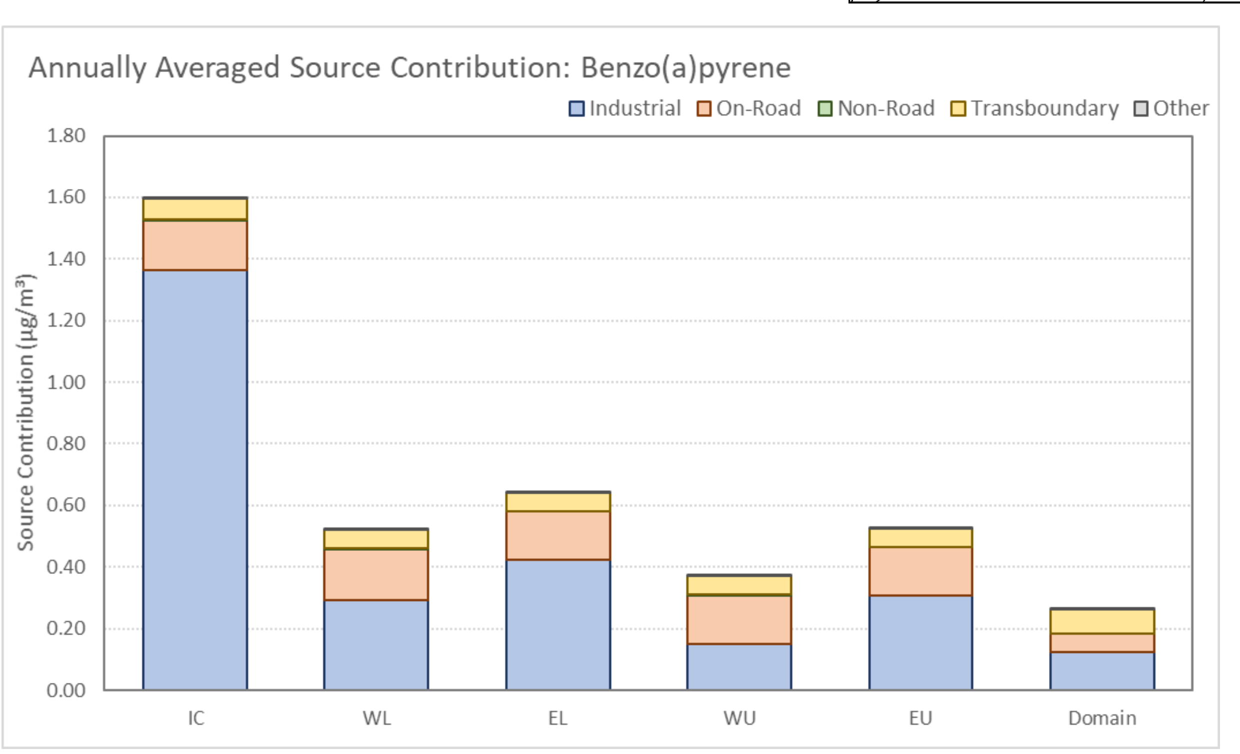




Air Quality Modelling Results: B(a)P







Air Quality Modelling Results: $PM_{2.5}$

Maximum Daily Average: PM2.5

µg/m³

60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0

Annual Average Concentration: PM2.5

µg/m³

24.0
21.5
19.0
16.5
14.0
11.5
9.0
6.5
4.0

Air Quality Modelling Results: PM_{10}

Maximum Daily Concentration: PM10

Annual Average Concentration: PM10

Air Quality Modelling Results: O_3

Maximum Daily Concentration: O3

ppbV: 100.0, 90.0, 80.0, 70.0, 60.0, 50.0, 40.0, 30.0, 20.0

Annual Average Concentration: O3

ppbV: 35.00, 31.25, 27.50, 23.75, 20.00, 16.25, 12.50, 8.75, 5.00

Air Quality Modelling Results: NO_2

Maximum Daily Concentration: NO2

ppbV: 0.0, 10.0, 20.0, 30.0, 40.0, 50.0, 60.0, 70.0, 80.0

Annual Average Concentration: NO2

ppbV: 0.0, 4.5, 9.0, 13.5, 18.0, 22.5, 27.0, 31.5, 36.0

Air Quality Modelling Results: SO_2

Maximum Daily Concentration: SO2

Annual Average Concentration: SO2

Air Quality Modelling Results: Benzene

Maximum Daily Concentration: Benzene

µg/m³: 0.0, 1.5, 3.0, 4.5, 6.0, 7.5, 9.0, 10.5, 12.0

Annual Average Concentration: Benzene

µg/m³: 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

Air Quality Modelling Results: B(a)P

Maximum Daily Concentration: B(a)P

ng/m³: 0.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0

Annual Average Concentration: B(a)P

ng/m³: 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

Results Across Domain: Tier IV

Compounds	Symbol	Units	Annual Average	Maximum Daily
Acrolein	C_3H_4O	ppb	0.0069	0.64
Ammonia	NH_3	ppb	0.12	2.60
Benzene	C_6H_6	µg/m^3	1.00	18.00
1,3 Butadiene	C_4H_6	ppb	0.0088	0.57
Carbon Monoxide	CO	ppb	220	1100
Formaldehyde	CH_2O	ppb	1.40	16
Nitrogen Dioxide	NO_2	ppb	12	110
Particulate Matter less than 10 µm in diameter	PM_{10}	µg/m^3	10	100
Particulate Matter less than 2.5 µm in diameter	$PM_{2.5}$	µg/m^3	8.80	91
Sulphur Dioxide	SO_2	ppb	2.40	200
Volatile Organic Carbons (Anthropogenic/Biogenic)	VOCs	ppbC	130	1500
Ozone	O_3	ppb	27	100
Benzo (a) pyrene	B(a)P	ng/m3	0.27	17
Lead	Pb	µg/m^3	0.0024	0.10
Cadmium	Cd	µg/m^3	0.0031	0.10
Chromium (III)	Cr(III)	µg/m^3	0.00015	0.016
Chromium (VI)	Cr(VI)	µg/m^3	0.000039	0.0082
Nickel	Ni	µg/m^3	0.00028	0.012
Mercury	Hg	ppb	0.00026	0.0063
Manganese	Mn	µg/m^3	0.00093	0.080

CITY OF HAMILTON
PUBLIC HEALTH SERVICES
Epidemiology, Wellness, and Communicable Disease Control Division

TO:	Mayor and Members Board of Health
COMMITTEE DATE:	December 2, 2019
SUBJECT/REPORT NO:	Alcohol, Drug & Gambling Services and Mental Health and Street Outreach Program Budgets (BOH19025) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Susan Boyd (905) 546-2424 Ext. 2888
SUBMITTED BY: **SIGNATURE:**	Michelle Baird Director, Epidemiology, Wellness and Communicable Disease Control Division Public Health Services

RECOMMENDATION

(a) That the 2019-2020 Alcohol, Drug and Gambling Services, Choices and Changes program budget, funded by the Ministry of Children, Community and Social Services be approved, including the reduction of a 0.05 social worker position FTE, and, that the Medical Officer of Health or delegate be authorized and directed to receive, utilize, report and execute all Service agreements and contracts, in a form satisfactory to the City Solicitor, required to give effect to the 2019-2020 Alcohol, Drug and Gambling Services Choices and Changes program budget;

(b) That the 2019-2020 Alcohol, Drug and Gambling Services, Other Funding Grants program budget be approved, including the increase of a 0.2 social worker position FTE, and, that the Medical Officer of Health or delegate be authorized and directed to receive, utilize, report and execute all service agreements and contracts, in a form satisfactory to the City Solicitor, required to give effect to the 2019-2020 Alcohol, Drug and Gambling Services Other Funding Grants programs budget; and,

(c) That the 2019-2020 Mental Health and Street Outreach Program, Mental Health Good Shepherd program budget be approved, including the increase of a 0.1

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.

social worker position FTE, and, that the Medical Officer of Health or delegate be authorized and directed to receive, utilize, report and execute all Service agreements and contracts, in a form satisfactory to the City Solicitor, required to give effect to the 2019-2020 Mental Health and Street Outreach Program Mental Health Good Shepherd program budget.

EXECUTIVE SUMMARY

Alcohol, Drug and Gambling Services (ADGS) and the Mental Health and Street Outreach Program (MHSOP) are two programs within Public Health Services that provide services to individuals experiencing homelessness, mental health, and/or addiction concerns. The programs are managed together and share some staffing positions across programs to effectively provide service.

Both ADGS and MHSOP have multiple funding components supporting the delivery of services. The programs receive funding from the Hamilton Niagara Haldimand Brant – Local Health Integration Network (HNHB-LHIN) which supports core service functions. Due to timelines for funding submission, the HNHB-LHIN funding has been previously approved (BOH19001). MHSOP also receives Community Homelessness Prevention Initiative funding that has been previously approved.

The purpose of this report is to approve the funding for the budgets named here. Although there is slight change in FTE (increase of 0.25 FTE total) and budget across the different funding sources there is no impact on service delivery as a result of these changes.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The Choices and Changes Program 2019-2020 budget will decrease by $2,780.00. The Other Funding Grants Budget will increase by $98,410.00. The Mental Health Good Shepherd budget is increasing by $4,210.00. There is no net levy impact from the changes in either program.

Funding Source	Annual Budget 2019/2020	Annual Budget 2018/2019	FTE 2019/2020	FTE 2018/2019	Change in FTE
Choices and Changes, Ministry of Children, Community and Social Services	$126,920	$129, 700	1.15	1.20	(0.05) FTE
Other Funding Grants	$295,850*	$197,440	3.9	3.7	0.2 FTE**
Mental Health Budget	$107,530***	$103,320***	0.1	0	0.1 FTE
Total FTE			5.15	4.90	0.25 FTE

*Revenue for Other Funding Grants: Cost Recovery revenues for Remedial Measures, Hamilton Family Health Team $1,200/month, Towards Recovery Centre (TRC) invoice actuals/month, and Hamilton Health Sciences Corporation $9,567.92/month
**1.0 FTE will remain which was previously funded through ASI, which ended July 31,2019, therefore, only require additional 0.2 FTE
***includes external contract workers

Staffing: There will be a reduction of 0.05 social worker FTE in Choices and Changes. This will not impact service delivery.

There will be an increase of 0.2 social work FTE in the Other Funding Grants Budget. Although there is a 1.2 social work FTE increase related to the HHSC initiative, there has been a reduction of 1 social work FTE from the Ontario Works – Addictions Services Initiative program ending July 31st 2019 (budget for this position was previously held in the Ontario works budget), resulting in the small 0.2 social work FTE increase.

There will be an increase of 0.1 social work FTE in the Mental Health Good Shepherd Budget.

These changes have no significant impact on staffing.

Legal: Not Applicable.

HISTORICAL BACKGROUND

ADGS provides comprehensive assessment, outpatient counselling and referrals for treatment. ADGS receives multiple funding components to support program delivery. Funding components include: HNHB-LHIN funding; Ministry of Children, Community and Social Services (MCCSS) funding; and The Other Funding Grants programs budget revenue. Many of these funding components allow ADGS to offer collaborative service delivery with other community agencies, targeting specific service needs.

The HNHB-LHIN ADGS funding supports service delivery of assessment, outpatient counselling, and referrals for individuals 23 years and older who are experiencing either a substance use issue or a problem gambling issue. This budget is approved separately due to timelines required by the HNHB-LHIN.

The Choices and Changes Program, funded by the MCCSS, helps to ease waiting times for clients involved in child welfare. ADGS provides services onsite at both Children's Aid Societies to address the needs of people who experience parenting issues combined with substance use problems. The program continued to successful in meeting targets in 2018-2019. Other Funding Grants program budget includes the following programs: Back on Track Remedial Measures program providing assessment, treatment and education groups for individuals convicted of driving while impaired; HFHT partnership providing early opioid intervention and addiction counselling within primary care practices; Towards Recovery Clinic partnership providing addiction counselling on-site; and a new initiative in 2019-2020 with Hamilton Health Sciences Corporation to provide addiction services to individuals receiving care in hospital.

The Mental Health and Street Outreach Program (MHSOP) provides mental health case management services and street outreach services for individuals experiencing homelessness. MHSOP also receives multiple funding components including: HNHB - LHIN funding; Community Homelessness Prevention Initiative funding; and revenue from the Mental Health Good Shepherd budget to support collaborative service delivery.

The HNHB-LHIN MHSOP funding supports service delivery of intensive case management services for individuals experiencing severe and persistent mental illness issues and assertive outreach services for individuals experiencing absolute homelessness.

The Community Homelessness Prevention Initiative funding and the Mental Health Good Shepherd program budget both contribute to homelessness services and provide Assertive Street Outreach Services to individuals experiencing absolute homelessness. This program has remained stable with no significant changes.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The MCCS policy requires all funded programs, including Choices and Changes to submit a balanced budget to meet agreed upon targets. The Centre for Addiction and Mental Health requires that the terms of the service agreement contract for Back on Track be upheld.

RELEVANT CONSULTATION

Finance and Administration has been consulted regarding the preparation of the budget. The report was reviewed by the Business Administrator and by the Manager, Finance and Administration, who provided review of financial figures.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

Through the Choices and Changes program, Other Funding Grants programs and the Mental Health Good Shepherd program, specialized services are provided for individuals residing in Hamilton experiencing mental health, addiction and homelessness issues. Similar services are not provided in the Hamilton area and there is an ongoing need to provide these services, therefore, budget approval and reporting authorization to maintain funding is recommended.

ALTERNATIVES FOR CONSIDERATION

Not Applicable.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

APPENDICES AND SCHEDULES ATTACHED

Not Applicable.

10.2

Ministry of Health

Discussion Paper:

Public Health Modernization

November 2019

Purpose

At the Ministry of Health, we are committed to ending hallway health care and ensuring the people of Ontario have access to high quality services, both now and in the future. To meet this goal, changes are needed to create strong, sustainable foundations for our health system. As an integral part of this system, we need to consider how we are delivering public health services to ensure these services continue to meet the evolving needs of people across Ontario.

Following the introduction of the government's proposals, we clearly heard and responded to the need for more extensive consultations across the province on how best to move forward. This discussion paper is intended to frame a meaningful conversation on how we can update and improve public health in Ontario. We are asking for your input and advice on specific key issues for the sector, both through the responses to the questions posed in this paper and in upcoming in-person consultations with public health and municipal stakeholders.

We look forward to hearing from you.

Introduction

The Ontario government is transforming the whole health care system to improve patient experience and strengthen local services. This means a connected health care system through the establishment of Ontario Health Teams, and a new model to integrate care and funding that will connect health care providers and services focused on patients and families in the community. These changes will strengthen local services, making it easier for patients to navigate the system and transition among providers. Changes will also include the integration of multiple provincial agencies into a single agency – Ontario Health – to provide a central point of accountability and oversight for the health care system.

While the broader health care system undergoes transformation, a clear opportunity has emerged to transform and strengthen the role of public health as a foundational partner in improving the health of all Ontarians.

This comes at a time when there are many challenges facing today's world that require a coordinated public health sector that is resilient and responsive to the province's evolving health needs. This includes the unpredictable nature of infectious diseases that seldom respects geographic boundaries, recognition that disease risk factors are related to a multitude of social conditions, and the rise of unprecedented emergencies such as opioids, vaping and vaccine hesitancy. A modernized public health system that is not only well-coordinated, but also integrated with other sectors, is imperative to addressing these challenges.

As we transform and strengthen the role of public health, we will work toward the following outcomes:

- Better consistency and equity of service delivery across the province;
- Improved clarity and alignment of roles and responsibilities between the province, Public Health Ontario and local public health;
- Better and deeper relationships with primary care and the broader health care system to support the goal of ending hallway health care through improved health promotion and disease prevention; and
- Improved public health delivery and the sustainability of the system.

As the system modernizes, it is also important that the strengths of public health are harnessed as they are critical elements to the success of a modern public health system. Key strengths of the current public health sector include a focus on health protection, health promotion, and health equity, as well as its local presence, relationship with municipalities, highly trained workforce, relationships outside the health care system, and an in-depth understanding of, and capacity to, assess population-level health. Public health can broker relationships among health care, social services, municipal governments, and other sectors to create healthier communities. We will maintain and expand these key strengths.

Public Health in Ontario

The work of public health is focused on the health of populations and is embedded in the daily lives of the people of Ontario. Public health interventions have made the food we eat

safer, protected us from infectious diseases and environmental threats to health, and created healthier environments to support and inform choices about risks, including those related to tobacco and alcohol. Public health interventions and initiatives also impact communities by developing policies to support healthier built environments, promoting social conditions that improve health, and responding to public health emergencies.

Our public health system reflects the diversity of Ontario's population. Boards of health serve populations large and small, in urban and rural settings. Each board of health has responsibility for delivering local public health programs and services within its geographic borders, defined in legislation as the "health unit." Most boards of health follow geographic boundaries aligned with municipal borders. There are currently 35 boards of health, far more than any other province in the country. For example, public health in British Columbia is delivered by five regional health authorities, and by 18 Regional Public Health Authorities in Quebec. The size of populations served by Ontario's boards of health ranges from less than 34,000 to almost 3,000,000.

The majority of boards of health in Ontario have an autonomous governance structure, meaning they are an independent corporation separate from any municipal organization. There are four other board of health governance models currently operating in Ontario, each of which have varying degrees of connection with their local municipal organization. Of the 35 current public health units, the majority have Medical Officers of Health (MOH) who also hold a Chief Executive Officer (CEO) role, while a number have a designated CEO position that is separate from the MOH.

Public Health Ontario is a key partner in the public health system. It provides scientific and technical advice and support directly to public health units and the Ministry of Health, and it conducts over 5 million public health laboratory tests for public health units, hospitals, and physicians every year.

Key Challenges

The public health system is at the frontline of delivering programs and services that keep Ontarians healthy and addressing emerging threats to the population's health. Building on the findings from several reports over the past 20 years, including Ontario's independent Auditor General, there are a number of critical challenges in the public health sector (see

section "Learning from Past Reports" for more information). The following sections identify these key challenges and include:

- Insufficient capacity;
- Misalignment of health, social, and other services;
- Duplication of effort; and
- Inconsistent priority setting.

Insufficient Capacity

Current State

All of the reports have noted that the capacity of public health units varies significantly across the province. Some boards of health have had well-documented challenges in recruiting and retaining skilled public health personnel, both in leadership and in front-line staff. This means that some public health units do not have sufficient human resources to deliver the full scope of the Ontario Public Health Standards, which are the mandated public health programs and services that public health units are required to deliver, such as food safety, infectious and communicable disease prevention and control, healthy growth and development, immunization, safe water, school health, chronic disease prevention as well as monitoring population health data and managing outbreaks. For example, in 2017 the Auditor General reported that some public health units do not have the required time and/or staff expertise to review and analyze epidemiological data and some were not evaluating or measuring the effectiveness of new programs. Both activities are requirements in the Ontario Public Health Standards. This has resulted in **inequities** across the province with some Ontarians not receiving the same public health programs and services as others. It also means **parts of the province are vulnerable** when the public health unit is called on to prevent and prepare for public health threats and emergencies.

Some public health units are too small to have the minimum amount of resources, expertise and capacity needed to deliver all programs and services (critical mass) and to meet unexpected surges in demand (surge capacity). Every public health unit needs specialized staff that perform specific duties, often to fulfill statutory requirements, including epidemiology and data analysis and emergency preparedness and coordination. Public health units also need program teams that are large enough to allow for surge capacity, coverage for vacancies and vacations, development opportunities, and an adequate mix of skill sets and experiences. Some public health units are lacking these core capacity needs.

Strengths to Build On

Despite these challenges, individuals working in public health deliver core programs and services every day, and prepare for and respond to emerging threats. This is accomplished because of some of the sector's key strengths, including leveraging **strong local relationships and partnerships** that allows the work of public health to be based in and responsive to the needs of their communities. But there are opportunities to address the variations of capacity in the province that would help public health units provide a more nimble response to emerging threats and emergencies, bolster the public health workforce to meet the evolving health needs of the province and improve public health service delivery for Ontarians.

Questions for Discussion

- What is currently working well in the public health sector?
- What are some changes that could be considered to address the variability in capacity in the current public health sector?
- What changes to the structure and organization of public health should be considered to address these challenges?

Misalignment of Health, Social, and Other Services

Current State

It has also been well documented that there are **barriers to collaborating effectively** among public health, health care and social services. This locks the value of public health away in siloes and makes the work of public health harder to do by impeding progress on key public health goals. Much of what affects the health of Ontarians depends on factors outside the health sector – housing, education, working conditions and the environment all play a role. Public health units must engage with these areas to make progress on improving population health, while also playing an active role in the health system by providing immunizations, delivering sexual health services and case management and contact tracing for infectious diseases, to name a few. Furthermore, public health's prevention focus complements the functions of the health care system and has the ability to stop patients from entering the health care system in the first place, which is critical for ending hallway health care. In the current organization and structure of the public health sector, fostering action on shared goals across sectors, such as disease prevention and

health promotion, requires significant effort and resources. If action is not taken to break down these siloes, there is concern that opportunities to improve the health of Ontarians will be missed.

Strengths to Build On

Despite these challenges, one of the public health sector's strengths is as a **broker between the health system and social services**, to support individuals and communities as they engage across sectors. Public health's understanding of local health needs can help **identify top priorities for the health system** while at the same time informing health policies and services. These collaborative relationships also lend themselves to the integration of health protection and promotion interventions that can be delivered in other sectors to improve population health. These are significant opportunities that can be harnessed through the modernization of the public health sector.

Questions for Discussion

- What has been successful in the current system to foster collaboration among public health, the health sector and social services?
- How could a modernized public health system become more connected to the health care system or social services?
- What are some examples of effective collaborations among public health, health services and social services?

Duplication of Effort

Current State

Within the public health system there is duplication, unnecessary redundancies, inconsistencies and lack of coordination. For example, there is currently a disconnect amongst evidence products, policy and delivery among public health units. In 2017, the Auditor General reported that public health units are **poorly coordinated and duplicating work**. It notes, "significant inefficiencies exist across the public health units because there are limited formal systems in place to co-ordinate their activities and share best practices." Many public health units reported independently conducting research, obtaining data and reviewing the same evidence and best practices on various health promotion programs as

other public health units. Research and evidence activities that are not locally specific are being duplicated at multiple public health units when there are opportunities to leverage others in undertaking and sharing this work. As well, public health units tend to work individually to develop systems to collect data and the type of data collected differs, which is not conducive to being compared among public health units. Similar duplication was also found in the development of chronic disease programming and campaigns.

Strengths to Build On

One of the strengths of the public health sector is its **expertise in population health assessment, data and analytics** related to population level health. The public health sector provides critical information on the state of the population's health and on the health status and needs of local communities. Addressing the duplication and lack of coordination can strengthen research capacity, knowledge exchange and shared priority setting among public health units. Research, evidence and program development are all critically important to the work of public health. However, these activities can be better organized and coordinated so that information is shared among public health units and effort is not duplicated across the system, while also creating more bandwidth for individual health units to concentrate on localized research projects. There are also opportunities to leverage technology for more efficient and effective information sharing and service provision.

Questions for Discussion

- What functions of public health units should be local and why?
- What population health assessments, data and analytics are helpful to drive local improvements?
- What changes should the government consider to strengthen research capacity, knowledge exchange and shared priority setting for public health in the province?
- What are public health functions, programs or services that could be strengthened if coordinated or provided at the provincial level? Or by Public Health Ontario?
- Beyond what currently exists, are there other technology solutions that can help to improve public health programs and services and strengthen the public health system?

Inconsistent Priority Setting

Current State

At a time when there are critical public health challenges that are facing Ontario, there are inconsistencies across the province in how priorities are set and decisions made regarding public health programs and services. To address these issues, public health units need to be aligned with one another and focused in their response. Meanwhile, individual public health units must also be responsive to their own local needs and issues. The variation in public health unit's governance and leadership models may contribute to inconsistent priority setting. There are five governance models in the current system, which means that the **balance of local needs and system priorities for decision making is different across the province**. This can make it hard for the sector to take collective action on public health issues that span the province. The variation in leadership models also means that organizational decision making and accountability within public health units is inconsistent, which presents challenges in how public health units collaborate among themselves and other sectors to address societal challenges that impact population health.

Strengths to Build On

Public health units are **embedded in their local communities** and deeply aware of the issues and opportunities that can affect their population's health. This is one of the key assets of public health. As the public health sector modernizes, it needs to be grounded in strong leadership and governance structures that preserve the local relationship and expertise of the public health units. In addition, there may be opportunities to shift responsibility for certain public health activities, programs and service delivery to different organizations within the system, particularly those that address province-wide issues.

Questions for Discussion

- What processes and structures are currently in place that promote shared priority setting across public health units?
- What should the role of Public Health Ontario be in informing and coordinating provincial priorities?
- What models of leadership and governance can promote consistent priority setting?

Figure 1: Overview of the current challenges and path to a modern public health system.

	Current Challenges	What We Want to Achieve
Insufficient Capacity	Challenges retaining and recruiting skilled public health personnel resulting in inequities in service delivery across Ontario Insufficient critical mass and surge capacity in some smaller public health units resulting in lack of capacity for public health response	Highly-skilled public health workforce and improved access to professional resources available in all parts of Ontario Nimble response to emerging public health threats and emergencies
Misalignment	Instances of misalignment with the broader health system and social services resulting in added complexity for collaboration and missed opportunities	Continuous local collaboration with health and social services to improve population health
Duplication of Effort	Duplication and lack of coordination resulting in disconnect between evidence products, policy and delivery	Strengthened research capacity, knowledge exchange and common evidence base to support shared priority setting
Inconsistent Priority Setting	Inconsistencies in priority setting and decision making across the province	Strong accountability, leadership, and governance capacity that balances local needs and system priorities

Leverage Existing Strengths

- Focus on health protection, health promotion and health equity
- Local presence and relationships with municipalities
- A highly trained workforce
- In-depth understanding of population level health
- Collaborative relationships outside the health care system

Indigenous and First Nation Communities

The Indigenous population in Ontario is comprised of the First Nations, Métis and Inuit peoples who may live on and off reserve, in urban, rural and remote areas, each with their own histories, languages, cultures, organizational approaches and jurisdictional realities. Both the provincial and federal governments provide public health services to Indigenous People in Ontario, including First Nations. Provincially, boards of health are required to engage in public health practice that results in decreased health inequities such that everyone has equal opportunities for optimal health and can attain their full health potential without disadvantage due to social position or other socially determined circumstances.

It has been widely recognized that Indigenous communities in Ontario (including First Nations peoples living on and off-reserve, Metis and Inuit) do not experience the same level of health status as other populations in Ontario. Historically, relationships between Indigenous communities/organizations and boards of health have varied across the province, and jurisdictional responsibilities split between the federal and provincial governments, as well as differing interpretations of the legislative responsibility of health units to form relationships with Indigenous communities and organizations, have complicated the effective delivery of public health services.

To improve the access issues currently experienced, it is fundamental to recognize that the approach to Indigenous engagement will differ across the province and within communities, depending on local culture and demographics, proposed initiatives and existing relationships. Recently, developing relationships with Indigenous communities and organizations in a culturally safe and meaningful way was added as a requirement for boards of health in the Ontario Public Health Standards. This requirement is further supported by The Relationship with Indigenous Communities Guideline, 2018 which was developed in partnership with Indigenous organizations, and provides information to support and/or build these partnerships.

There are several examples of existing initiatives where Indigenous communities and organizations have been establishing integrated public health service delivery models and/or moving towards achieving greater control and decision-making on how public health services and programs are delivered and by whom. There are also currently three formal agreements in place in the province where First Nation communities have agreed to

purchase services from their local public health unit (as per section 50, under the *Health Protection and Promotion Act*).

Any changes made to modernize public health across Ontario must build on these initiatives and consider ways of enhancing opportunities for partnerships in a meaningful and respectful way.

Questions for Discussion

- What has been successful in the current system to foster collaboration among public health and Indigenous communities and organizations?
- Are there opportunities to strengthen Indigenous representation and decision-making within the public health sector?

Francophone Communities

While the French Language Services Act (FLSA) does not currently apply to boards of health, the Ontario Public Health Standards address the needs of the Francophone populations and state that "boards of health should bear in mind that in keeping with the FLSA, services in French should be made available to French-speaking Ontarians located in designated areas." The Ontario Public Health Standards also require boards of health to consider the needs of priority populations in the planning, delivery and evaluation of public health programs and services.

Question for Discussion

- What has been successful in the current system in considering the needs of Francophone populations in planning, delivery and evaluation of public health programs and services?
- What improvements could be made to public health service delivery in French to Francophone communities?

Learning from Past Reports

The issues outlined above (among others) have been identified and considered by many reports, some of which are listed in Table 1 below. These reports have consistently called for significant reforms to public health to strengthen the sector. Most recently in 2017, the Minister's Expert Panel on Public Health was asked to provide advice on changes to the structure, organization and governance of public health to address the lack of integration of public health with the broader health sector and improve public health capacity and delivery. Prior to this, a series of reports following both Walkerton and SARS identified critical challenges in the sector that were seen to contribute to these crises. These reports raised common issues such as a lack of capacity and critical mass, structural governance challenges and skills gaps in boards of health, misalignment of public health with other health and social services, as well as challenges with the public health workforce, including with recruitment, retention and leadership, among others. The table below outlines select findings identified in the reports that persist today, and the recommendations that were provided.

Table 1: Findings and recommendations of previous reports

Report	Findings	Recommendations
Ontario Auditor General Report (2017)	• Inefficiencies as a result of duplication of effort and inconsistencies among public health units, particularly related to research and program development • Lack of epidemiological and evaluation capacity in some public health units	• Develop a central approach to update, co-ordinate and share research and best practices • Evaluate feasibility of centralizing epidemiological expertise

Report	Findings	Recommendations
Minister's Expert Panel on Public Health (2017)	• Lack of critical mass and surge capacity and challenges recruiting and retaining public health personnel, causing inequities in service delivery • Lack of capacity of smaller health units • Wide variety of governance models, gaps in skills on some boards of health, and challenges with provincial and municipal appointments • Lack of mechanisms to coordinate across public health units and work within the health sector	• Establish fewer regional public health entities • Establish autonomous boards of health to have a consistent, independent governance structure • Establish regional public health entities with one CEO, a regional MOH, and senior public health leaders; maintain local delivery with a local MOH
Revitalizing Ontario's Public Health Capacity: The Final Report of the Capacity Review Committee (2006)	• A need to strengthen the critical capacity of public health units • A need to ensure quality governance with a province-wide public health system • A need to revitalize the public health work force, including related to recruitment, retention, and leadership	• Amalgamate certain public health units to achieve critical mass and strengthen public health capacity • Establish autonomous, locally-based boards of health that focus primarily on the delivery of public health programs and services • MOHs should be able to serve as CEOs of public health units; did not reach consensus on whether the role of CEO should be assumed by non-MOHs.

Report	Findings	Recommendations
The SARS Commission: Volume 5 SARS and Public Health Legislation, Second Interim Report (2005)	• Weak governance structures and practices in local boards of health • Medical Officers of Health require independence from political and bureaucratic pressures	• Establish qualifications for board membership, including demonstrated experience or interest in public health and board members should reflect the community to be served. • Amend legislation to state that the MOH is the CEO of the public health unit.
Reports of the Ontario Expert Panel on SARS and Infectious Disease Control (2003, 2004)	• Lack of capacity and critical mass in smaller public health units • Misalignment of public health with other health and social sector boundaries	• Consolidate the number of public health units while retaining local presence.

While a number of reports have made recommendations on these issues, there is a need to consider the challenges and potential solutions in the current context.

Questions for Discussion

- What improvements to the structure and organization of public health should be considered to address these challenges?
- What about the current public health system should be retained as the sector is modernized?
- What else should be considered as the public health sector is modernized?

Your Feedback

With the release of this paper, we are renewing our consultation process to discuss the way forward on modernizing the public health sector. We hope to receive your input on the questions in this paper. Feedback can be submitted by completing our survey. The submission deadline is Feb 10, 2020.

We will also be conducting in-person consultation sessions where we look forward to continuing the conversation about how we build a modernized public health sector.