

AIR QUALITY PROGRESS REPORT 2010

Presentation to General Issues Committee

Brian McCarry
Chair, Clean Air Hamilton
June 13, 2011



Clean Air Hamilton

- Initiated as implementation committee to act on recommendations in 1997 HAQI Reports.
- Community-based initiatives directed at:
 - Researching air quality and health issues
 - Developing policies that affect air quality in Hamilton
 - Encouraging emission reductions
 - Educating the public on air quality improvements
- Stakeholders include:
 - MOE, Environment Canada, Health Canada, ArcelorMittal Dofasco, US Steel Canada, Green Venture, McMaster University, Citizens of Hamilton, City Staff (Planning, Health & Public Works), Horizon Utilities, Hamilton Industrial Environmental Assn., Environment Hamilton, Rotek Environmental.

Clean Air Hamilton Strategic Plan 2010-2013

- Public Health Protection
- Active and Sustainable Transportation
- Smart Driver
- Air Monitoring
- Air Quality Communication
- Climate Change
- Emissions Reductions
- Energy Conservation
- Land Use Planning
- Tree-planting Programs

See details of plans in [Appendix A](#)

Clean Air Hamilton

- City provides programming support of \$80,000 per year, 0.5 FTE staff position and 0.5 FTE co-op student.
- Leverages expert volunteer support.
- Leverages funding from various sources.
- Programs include:
 - Upwind/Downwind Conferences every two years
 - Mobile monitoring of urban pollutants →
 - Hamilton Air Monitoring Network
 - Public health protection programs
 - Sustainable transportation solutions
 - Climate change and air quality advice
 - Energy conservation and urban planning solutions
 - Emissions reductions and land use planning



Air Quality Activities in 2010

- Promoted linkages between air quality and health to public.
- Provided air quality trends in Hamilton in relation to other Ontario cities and cities across Canada and around world.
- Participated in neighbourhood mobile air monitoring studies.
- Published mobile monitoring data in scientific papers.
- Performed monitoring in Red Hill Valley and neighbourhoods.
- Helped develop communications for community smog advisories.
- Participated in various transportation initiatives:
 - Car Share, Totally Transit, EcoDriver, Smart Commute, Smart Driver programs (in partnership with Green Venture)
- Participated in various air quality and climate change consortia and initiatives across GTA.

2010 Clean Air Hamilton Report

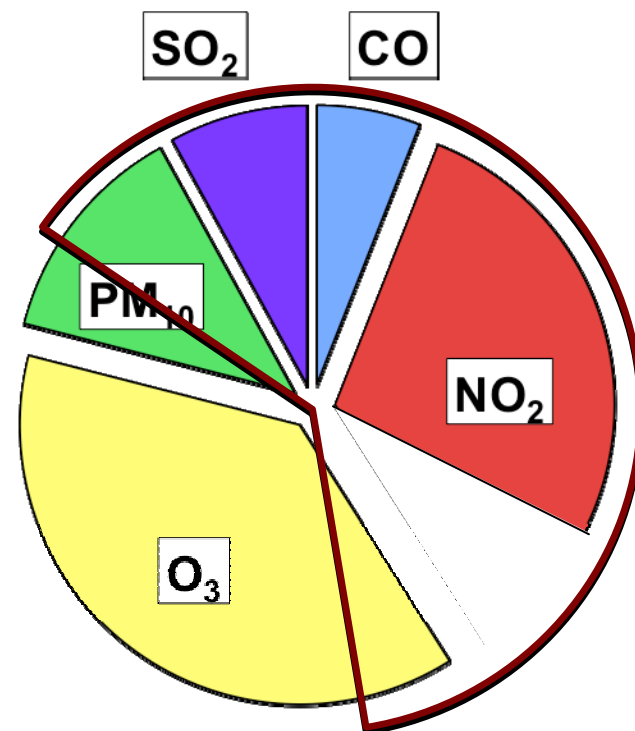
- Health impacts of air pollution
- AQHI – pilot study in Hamilton
- Trends in air quality data in Hamilton, in Ontario and worldwide.
- Mobile monitoring study outcomes
- Urban Planning – Linkages to Air Quality
- 2010 and 2012 Upwind/Downwind Conferences
- Plans for the future and recommendations

Hamilton Air Quality Health Assessment, 2003

5 Key Air Pollutants result in health effects outcomes in Hamilton each year of:

- >100 premature deaths
- >620 respiratory & cardiovascular hospital admissions
- Primary focus of CAH efforts is reductions in human exposures to:
 - Particulate material (PM₁₀ and PM_{2.5})
 - Nitrogen oxides (NO_x)
 - Ground level ozone (O₃)

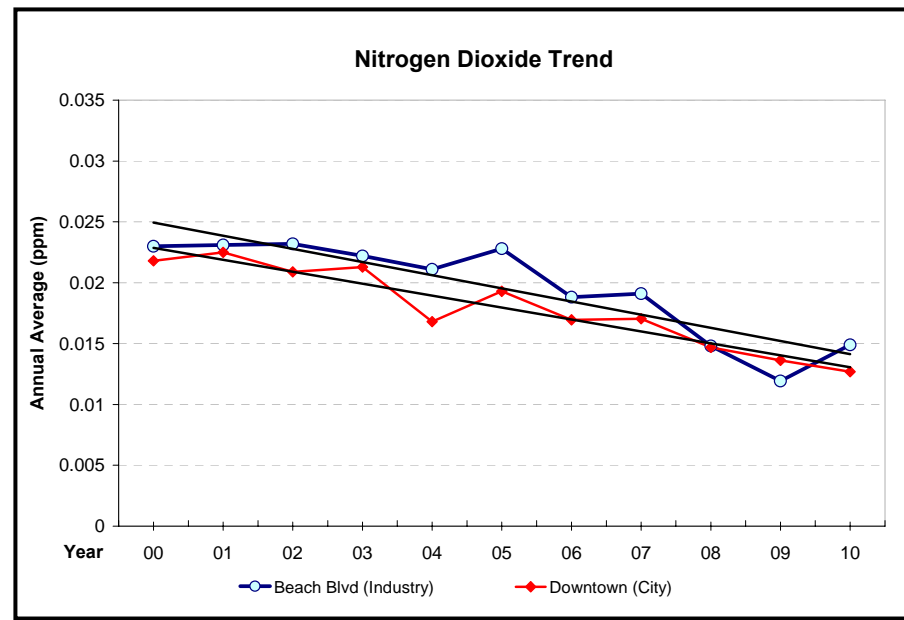
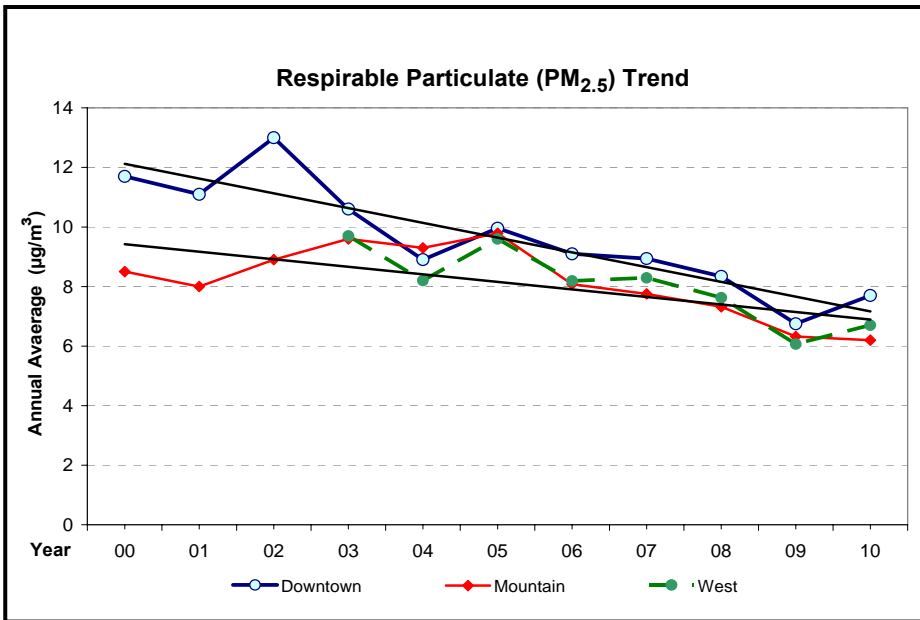
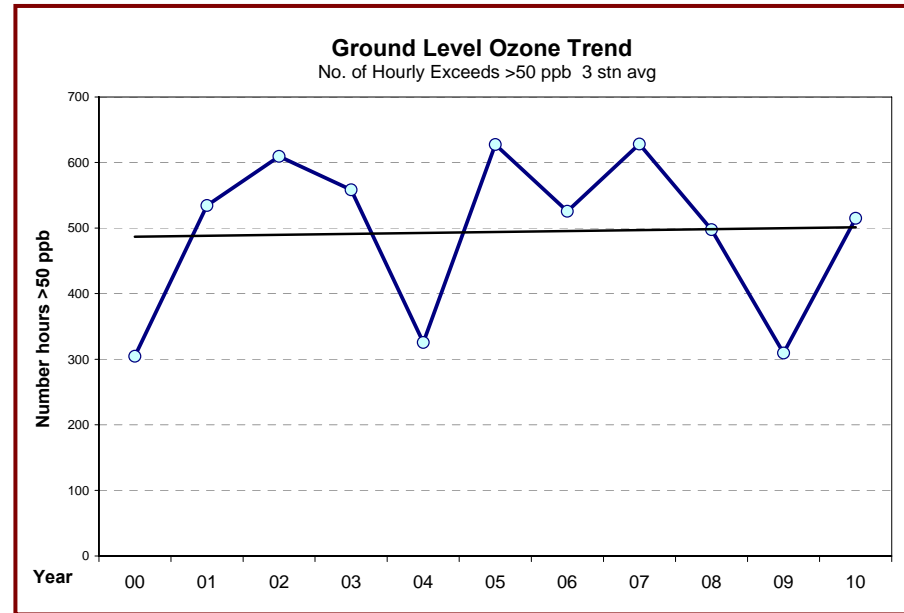
We are in the process of a comprehensive review of health effects of air pollutants; this review will be included in the 2011 CAH Report.



Hamilton responsible for about 50% of locally measured air pollutants

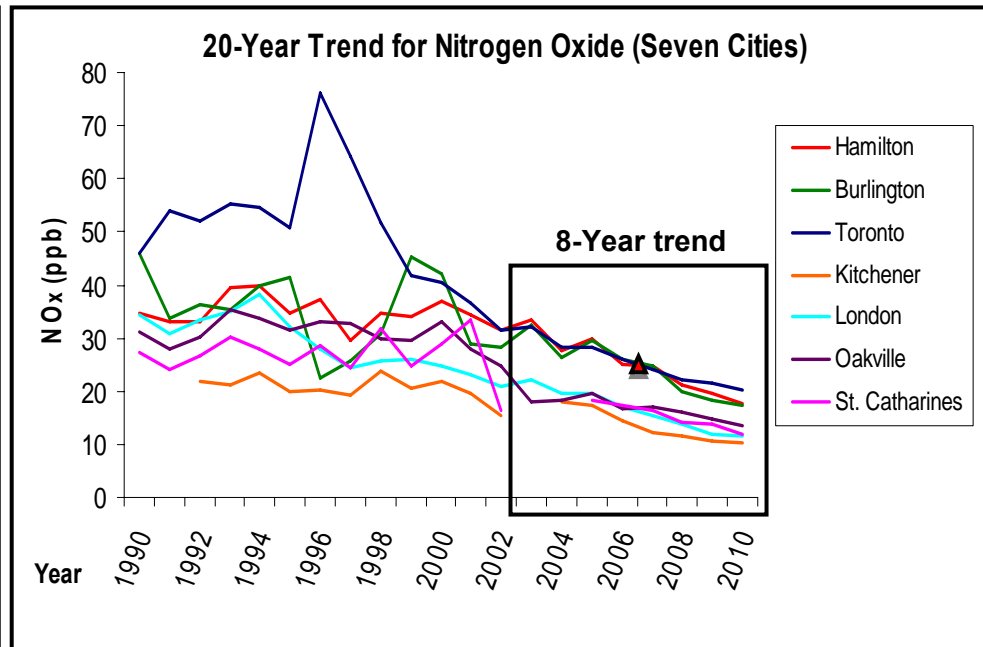
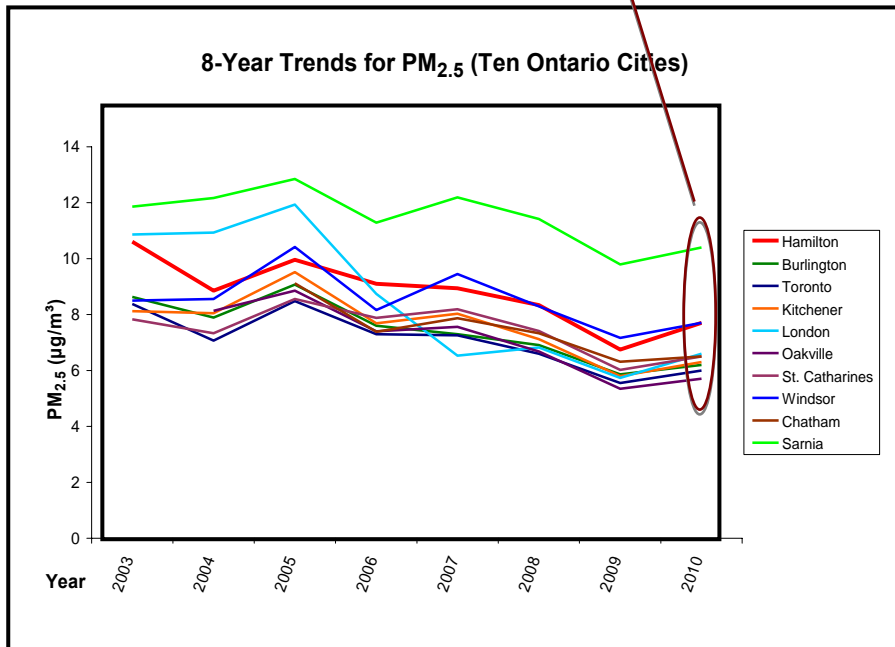
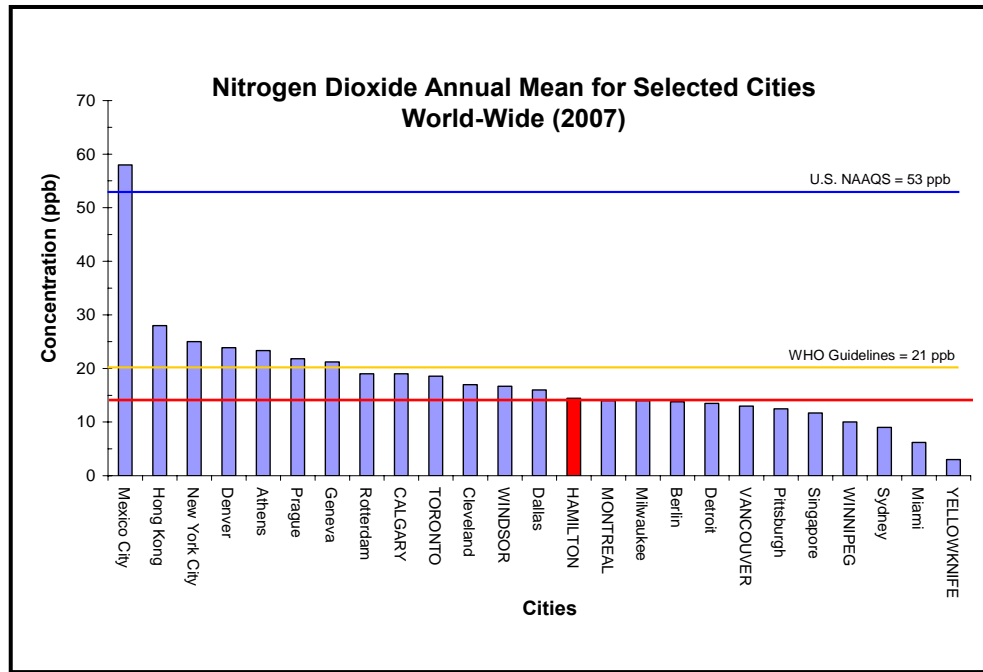
Air Quality Information:

Decreases of 35-50% in Levels of Major Air Pollutants (except Ozone) over Past Decade



Air Quality Information: Comparisons of Hamilton's Air Quality to some Ontario Cities and Cities around the World

All cities showed 'upturn'
in $PM_{2.5}$ in 2010



Hamilton Air Monitoring Network








- HAMN: Network of 17 air monitoring stations funded by 17 companies.
- Air quality data available at www.HAMNair.ca going back three years.
- HAMN reports to MOE and to Clean Air Hamilton.
- Network is a model for Ontario and Canada.

AQI (Air Quality Index) vs. AQHI (Air Quality Health Index)

The **AQI** is an air pollution scale developed by the Ontario MOE while the **AQHI** is a health-driven metric developed by Health Canada.

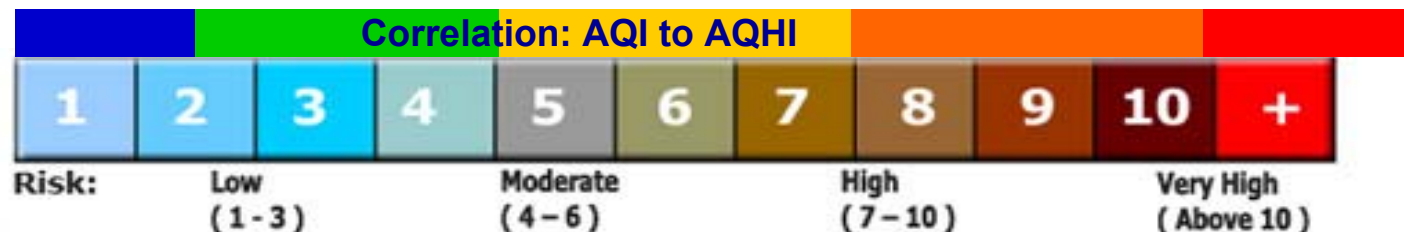
AQI Scale:
based on highest single air parameter.

<u>Air Quality Index (AQI) Categories</u>	
AQI Ranges and Categories	Colour
0-15 Very Good	
16-31 Good	
32-49 Moderate	
50-99 Poor	
100+ Very Poor	

Air pollution impacts increase uniformly, not in 'steps'.

AQHI conveys continuous nature of impacts better than AQI.

AQHI Scale:
based on three air parameters.



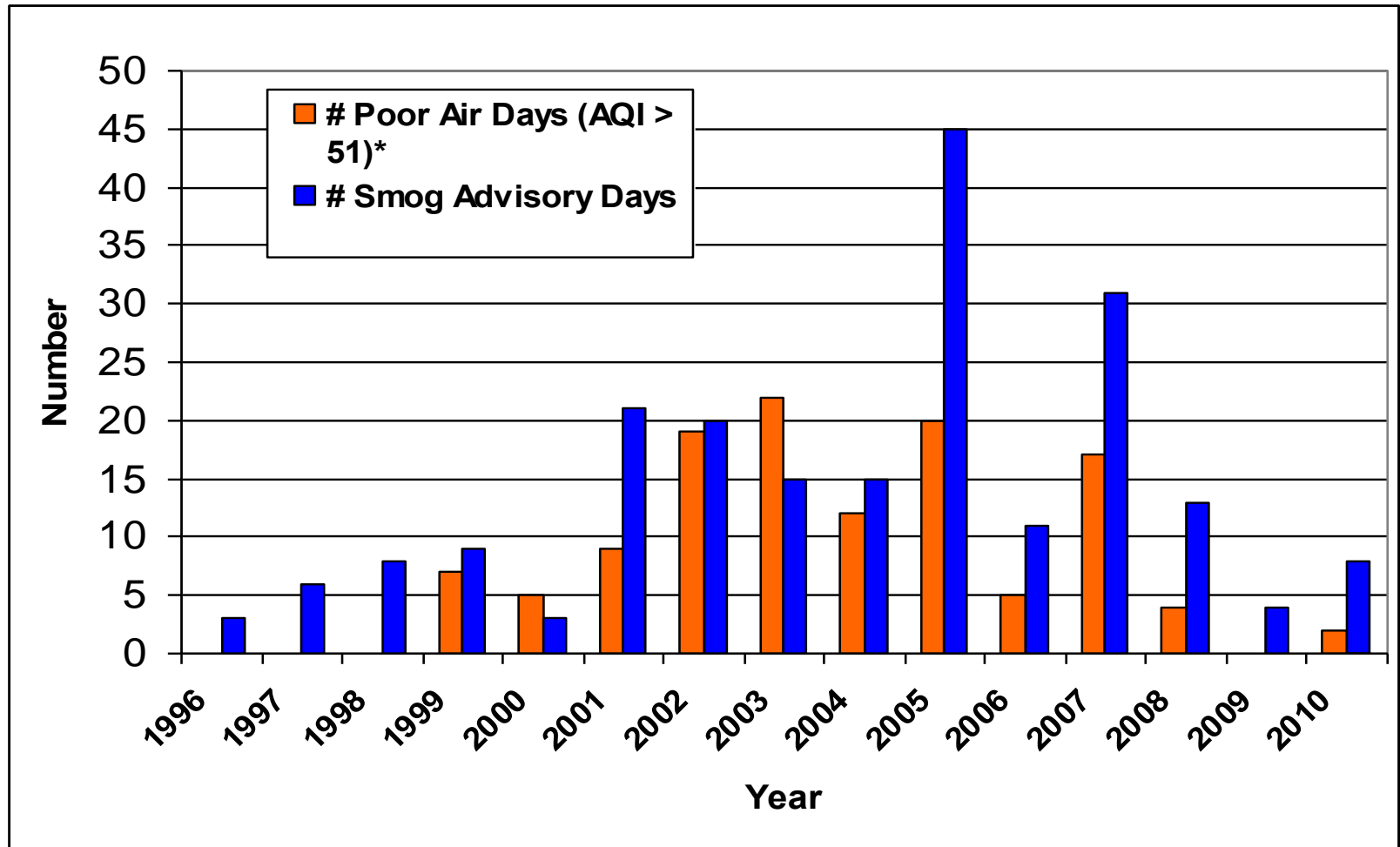
AQHI - Air Quality Health Index

The AQHI will come to Hamilton this month! The AQHI provides a linkage between index value and health effects. People will calibrate themselves to AQHI values as they do with the UV Index.

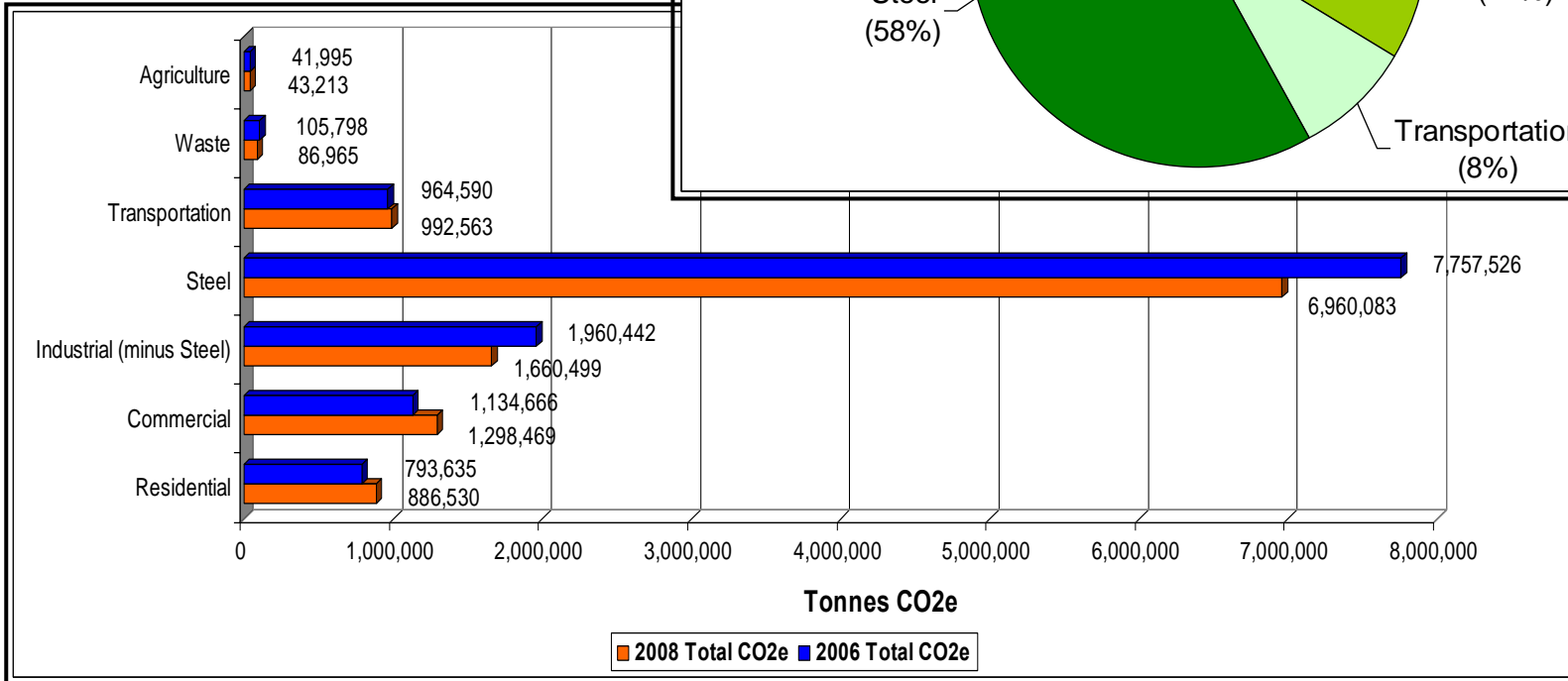
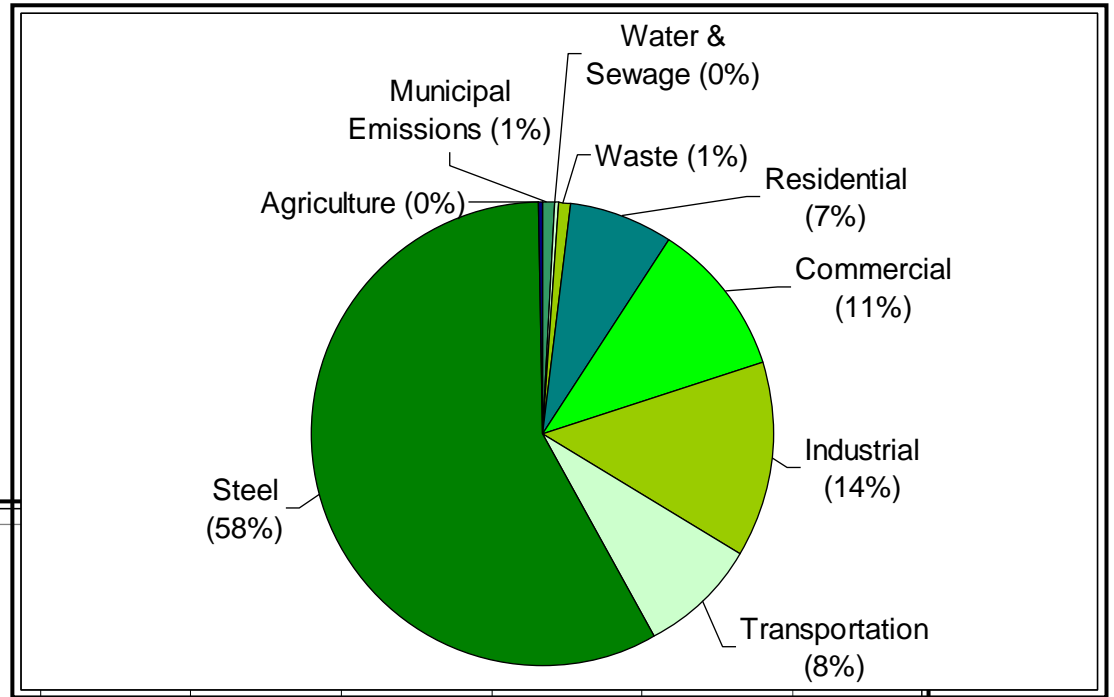


Health Risk	Air Quality Health Index	Health Messages	
		At Risk Population*	General Population
Low	1 - 3	Enjoy your usual outdoor activities.	Ideal air quality for outdoor activities.
Moderate	4 - 6	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High	7 - 10	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High	Above 10	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation

Poor Air Days and Smog Advisory Days



Climate Change and Greenhouse Gases in Hamilton



Chapter 6 - Urban Planning Linkages to Air Quality

- Clean Air Hamilton recognizes that strong linkages exist between planning decisions and the resulting air quality in cities.
- Planning decisions have long-term consequences affecting urban form, walkability, sustainability and ultimately, public health.
- The planning acts and policies were not drafted with explicit environmental outcomes in mind.

Sections of Chapter 6 in Report

- Hamilton Urban Planning History
- The Land Use Compatibility Guidelines
- Policy Development
- Planning Act Administration
- Emerging Considerations
- Emerging Issues

Upwind/Downwind Conferences 2010 and 2012

- 2010 Conference Theme: 'Air Knows No Boundaries.'
- Monday, February 22, 2010 (Convention Centre).
- Report on 2010 conference in Appendix B.
- Planning soon underway for 2012 conference.
- Sub-committee examined format of previous conferences and has recommended a number of changes for 2012.

Actions Needed within City

- Recognize the importance of transportation-based pollutants on public health.
- Take steps to factor transportation planning into urban design to mitigate exposures to pollutants.
- Work with local industries and the MOE to mitigate emissions from point sources and area sources of air particulate pollution, particularly dusts from roads and open yards.
- Promote active lifestyles for all citizens by developing safe bike corridors and providing sidewalks/walkways to promote walking.
- Encourage Hamiltonians to reduce transportation-based emissions through the use of transportation alternatives including public transit, bicycles, hybrid vehicles, etc.

Actions Needed within City

- Encourage physicians to caution patients with respiratory or cardiac difficulties to avoid areas of higher air pollution.
- Encourage physicians to warn patients to take special precautions on smog days and smog advisory days.
- Continue to reduce fugitive dusts in industrial sectors by encouraging local site operators to develop best practices to reduce fugitive emissions and track-out.
- Continue to take a broad suite of actions to improve local air quality and to increase the level of dialogue with community groups on health impacts of poor air quality.

CAH's Plans for the Future

Ten strategic issues have been identified as areas for air quality and climate change actions for the next 3 years:

1. Promote public health protection re air quality (AQHI).
2. Continue mobile monitoring in city.
3. Develop a real-time air quality health map for Hamilton.
4. Promote active and sustainable transportation.
5. Encourage emission reductions strategies.
6. Communicate air quality issues to public - web site/conferences.
7. Promote climate change and energy conservation actions.
8. Monitor climate change progress.
9. Encourage land-use planning policies that factor air quality into decision-making.
10. Continue tree-planting programs.



THANK YOU

On behalf of ***Clean Air Hamilton***

