



**2002 Progress Report  
and  
Public Health Assessment Study**

**Presentation to Committee of the Whole**

Dr. Brian McCarry, McMaster University and Chair, CAH

Brent Bullough, City of Hamilton

October 21, 2003

# Background on Clean Air Hamilton

- ✦ **CAH is a Community-based action committee with representation from:**
  - ✦ Government
  - ✦ Academia
  - ✦ Local Industries
  - ✦ Non-profit Organizations
  - ✦ Residents' Associations and Citizens
  - ✦ Environmental Firms
- ✦ **CAH advises Council on air quality issues**
- ✦ **Winner of 2000 Dubai International Award for Environmental Best Practices in Improving the Living Environment**



# Clean Air Hamilton

## On-going Activities in 2002

- ✦ 2002 Commuter Challenge
- ✦ Human Health Impacts Report
- ✦ Fleet Greening
  - ✦ 10 gas-electric hybrid vehicles purchased by City of Hamilton
- ✦ Upwind-Downwind Air Quality Conference
- ✦ Tree Planting
- ✦ Anti-idling Campaign
- ✦ Clean Air Awards

# Clean Air Hamilton

## New Activities in 2002

### ✦ **Hamilton Air Monitoring Network**

- ✦ Established in response to request from MOE
- ✦ Industries now responsible to MOE for industrial emissions monitoring – reporting done *via* network or individually
- ✦ 19 companies participate in air monitoring network
- ✦ 15 air monitoring sites part of network

### ✦ **Public Health Assessment Study**

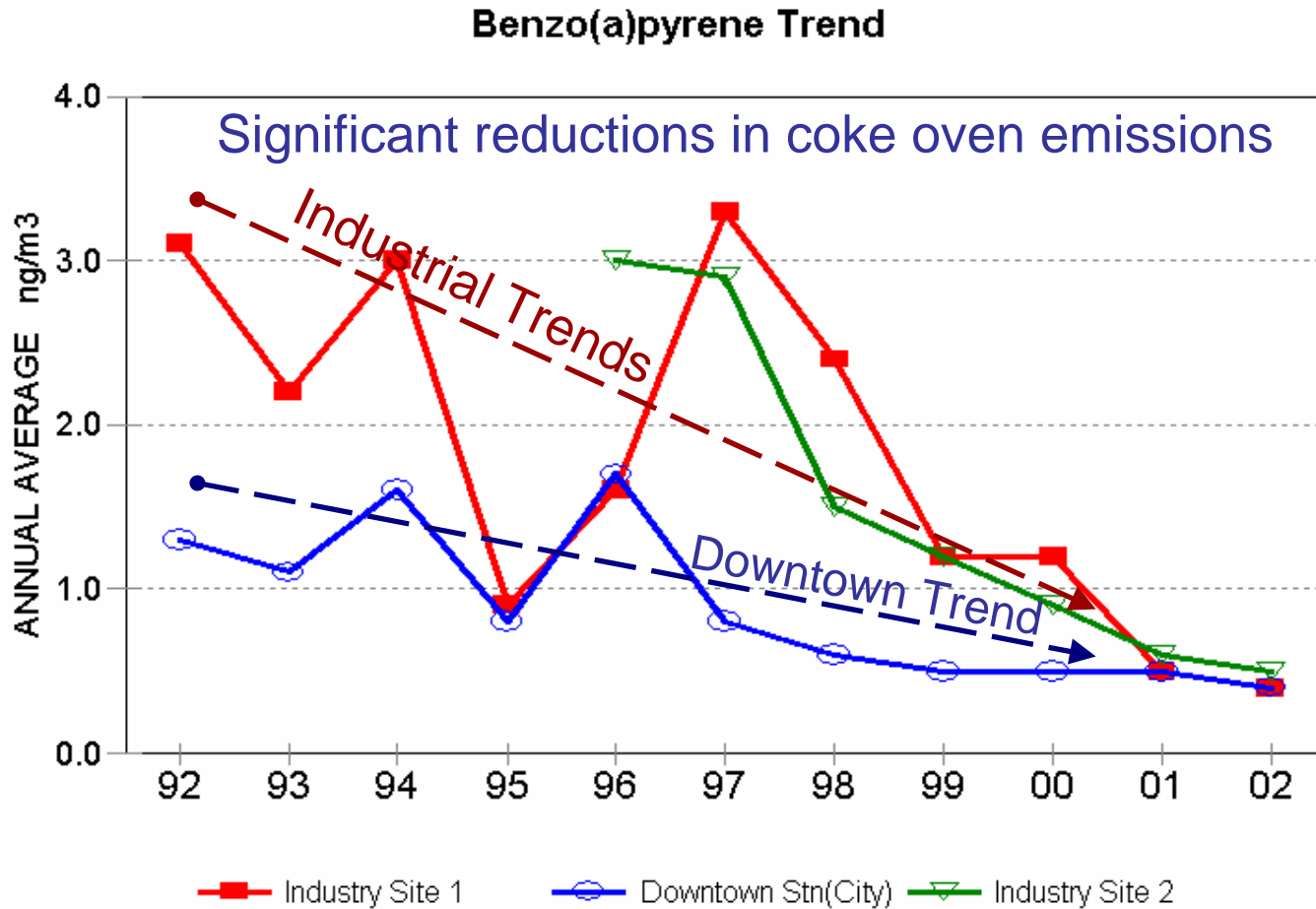
- ✦ To determine health effects impacts of air quality on citizens of Hamilton
- ✦ An update of ground-breaking 1997 HAQI study
- ✦ Used most up-to-date science and epidemiology data



# Monitoring Air Quality Trends - 2002

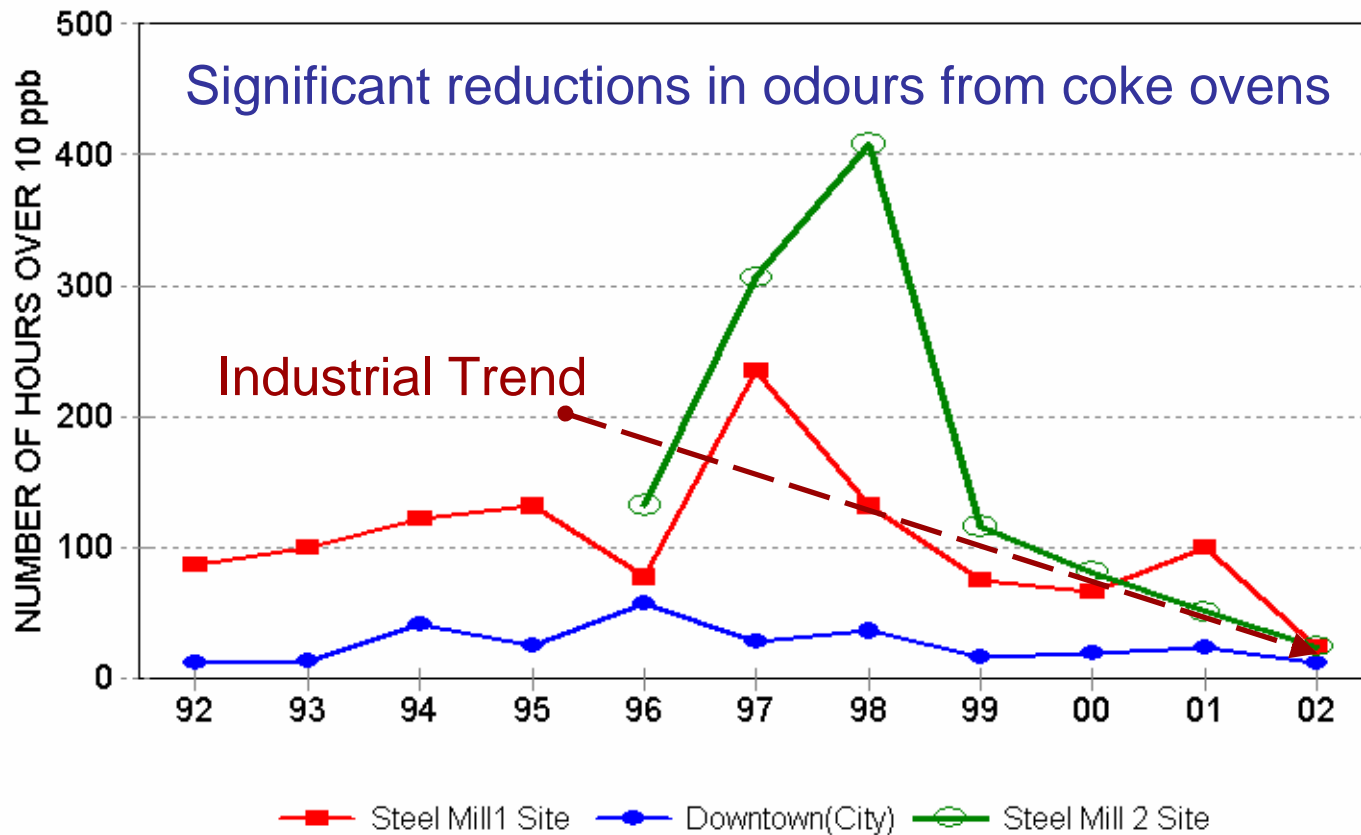
- **Steady, incremental improvements in levels of most pollutants over past ten years, particularly:**
  - Coke oven by-product plant emissions (steel industry)
    - Benzene levels
    - Benzo[a]pyrene levels
  - Odours (and associated complaints)
  - Air particulate levels
  - Air pollution index values
- **Little improvement in two pollutants:**
  - Nitrogen Dioxide
  - Ground Level Ozone

# 2002 Air Quality Trends



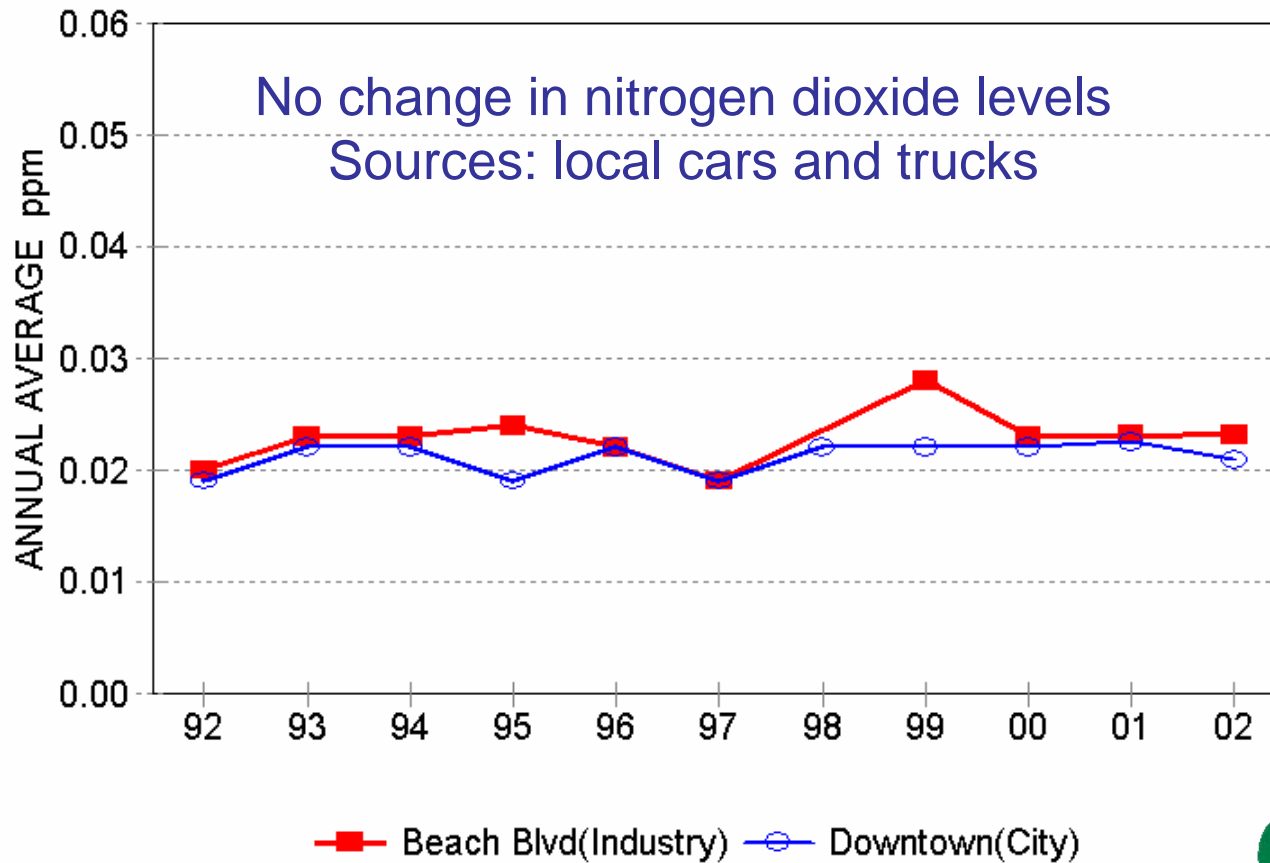
# 2002 Air Quality Trends – Odours

**TOTAL REDUCED SULPHUR TREND**  
HOURS OVER 10 PPB ODOUR THRESHOLD



# 2002 Air Quality Trends – NO<sub>2</sub>

## NITROGEN DIOXIDE TREND

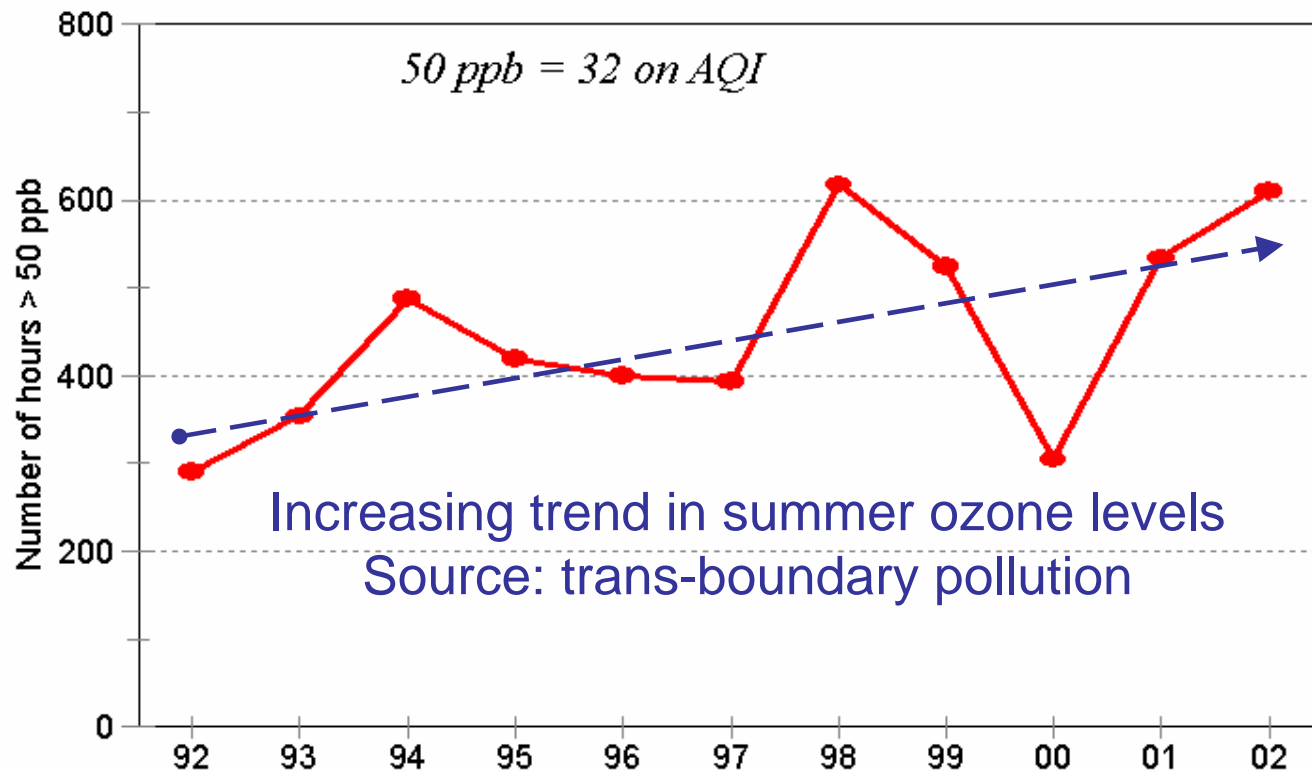




# 2002 Air Quality Trends - Ozone

## GROUND LEVEL OZONE TREND-HAMILTON

# Of Hourly Exceeds >50 ppb 3 stn Avg



# Public Health Assessment Study

- ✦ Updated analysis of impacts of air quality on public health in Hamilton conducted by Dr. Mike Jerrett, McMaster University.

## Key Findings:

- ✦ ~100 Pre-mature deaths each year due to air pollution.
  - ✦ By comparison - 19 deaths due to traffic accidents in 2002.
- ✦ ~620 Hospital admissions each year due to air pollution.
  - ✦ 140 from respiratory problems
  - ✦ 480 from cardiovascular problems

# Public Health Assessment Study

- Principal contaminants causing health effects impacts:
  - Nitrogen dioxide
  - Ozone
  - Respirable particulate material – PM<sub>10</sub>.
  - Sulphur dioxide
  - Carbon monoxide
- These contaminants result primarily from combustion emissions arising from:
  - cars, trucks, buses, power plants, industries, homes, ships, etc.

# Public Health Assessment Study

## Major Recommendation

*“The combination of increasing pollution and growing scientific knowledge leads to the conclusion that [transportation] sources should be the focus of concerted policy efforts in the realm of land use and transportation planning.”*

Sahsuvaroglu and Jerrett, 2003



# Clean Air Hamilton 2002 Report

Appendix A: Detailed Summary of CAH Activities

Appendix B: Progress Indicators

Appendix C: 2002 Upwind-Downwind Conference  
Summary

Appendix D: Executive Summary of report entitled:  
“A Public Health Assessment of Mortality and  
Hospital Admissions Attributable to Air  
Pollution in Hamilton.”





# Clean Air Hamilton 2002 Report

On behalf of Clean Air Hamilton,  
thank you.

