

# Town of Oakville - Health Protection Air Quality By-law

## Clean Air Hamilton Meeting

**Cindy Toth, Director,  
Environmental Policy**  
March 8, 2010



# Purpose of Presentation

- To discuss the context for a new by-law focused specifically on protecting human health from airborne fine particulate matter
- To review ongoing health and air quality efforts in the Town of Oakville
- To review results of consultations with the community on the draft by-law
- To review the components of a draft Health Protection Air Quality By-law

# **Health and Air Quality Context for the By-law**

# Rationale for Focusing on Fine PM

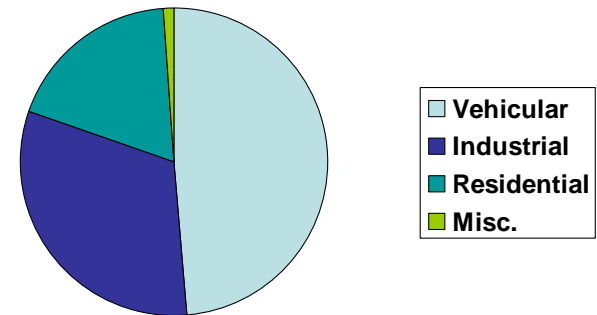
- Fine PM are airborne particles less than 2.5 micrometres in size – listed as a CEPA toxic substance
- Abundance of scientific and government studies showing serious, fatal health effects from airborne fine PM
- Regulatory gap; no regulatory standards for fine PM emissions or ambient levels
- Part of the Town's effort to reduce the overall airshed burden
- Highlights the public health implications of air emissions and air quality in Oakville

# Overview

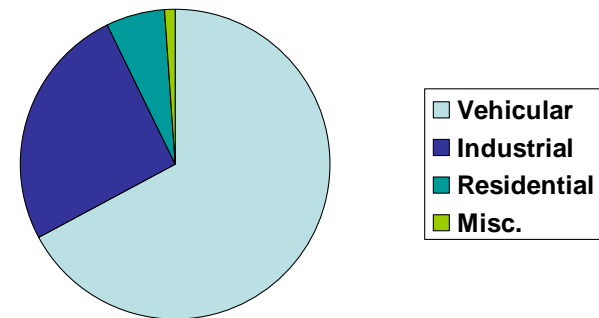
- Sources of fine PM
- Health effects of fine PM
- Actions underway

# Sources of Fine PM

Particulate Matter 2.5



Particulate Matter 10



Sources of fine PM emissions:

- Industrial
- Vehicular
- Residential
- Miscellaneous

(Source: Clarkson Airshed Study Part III, Air Quality Dispersion Modelling Source Contribution Assessment, July 2008)

# Health Effects of Fine PM

- Considerable scientific evidence of serious health impacts
- Over 30+ published peer-reviewed studies of health effects associated with exposure to fine PM published in the last 4 years
- Surveys of Oakville residents consistently raise air quality as a key priority

# Fine PM in Oakville

- Annual average is: 10 micrograms per cubic metre
  - Roughly 12 in summer and 8 in winter
- During summer, especially during smog events, up to 50% is likely by long-range transport from the U.S. Midwest.
- However during most of the year, long-range transportation contributes less and local sources predominate.
- Major local sources are vehicular traffic, industry and residential (heating). The predominant contributing sector depends on where the monitor is located.

(Source: Clarkson Airshed Study Part III, Air Quality Dispersion Modelling Source Contribution Assessment, July 2008)



# Health Effects in Oakville

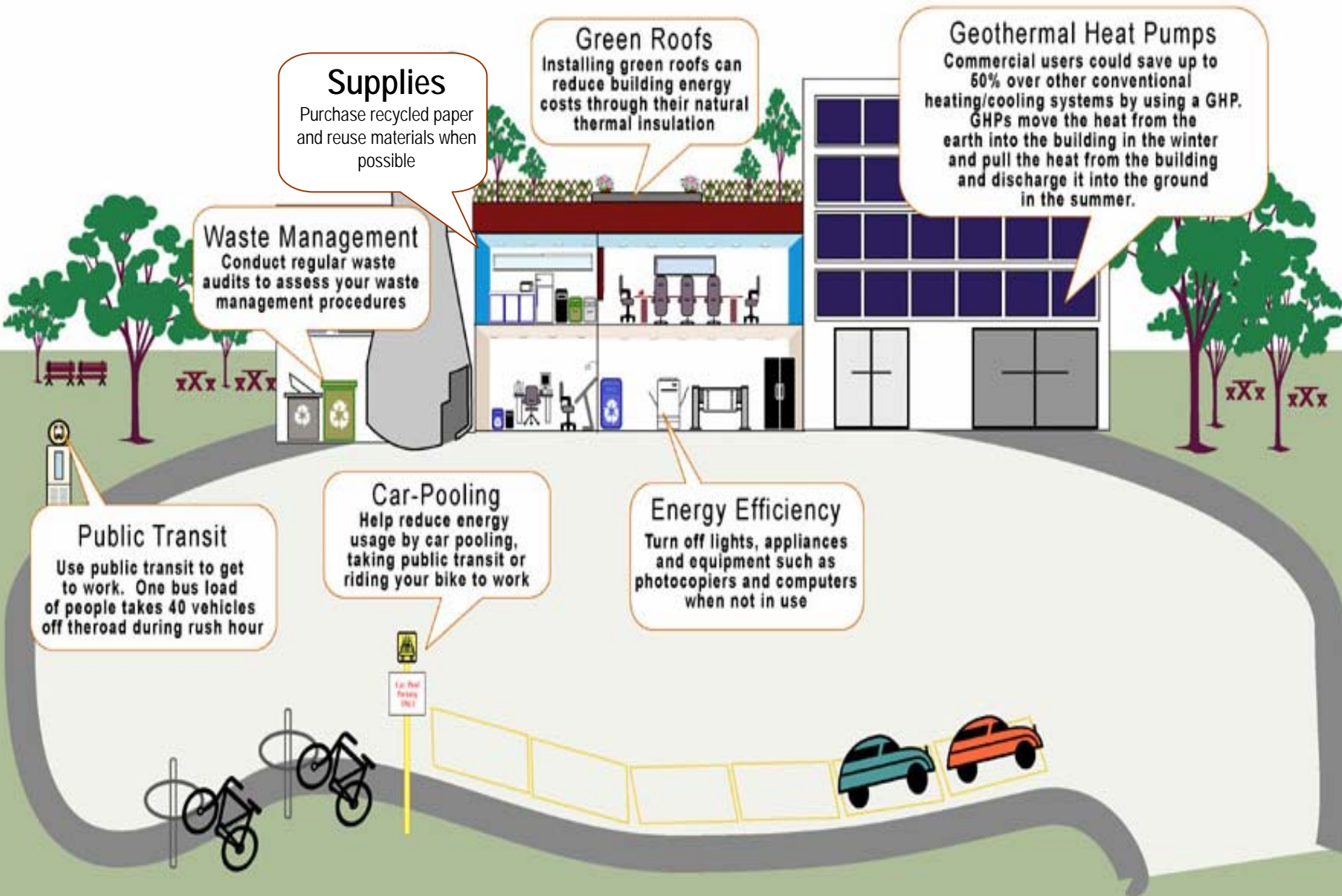
- Based on an annual concentration of 10 microgram/m<sup>3</sup>, there will be 80 premature deaths in Oakville attributable to PM<sub>2.5</sub> pollution every year.
- There will be more of the other outcomes documented in health effects studies.
- For every microgram/m<sup>3</sup> added, there will be 8 more deaths: for every microgram/m<sup>3</sup> reduced, there will be 8 fewer deaths.

(Source: ICAP 3.0)

# Actions

- Town operations
- Town master planning
- Residential stewardship

# Town Operations



# Town Master Planning

## Neighbourhood Parks

Parks are a great spot for artists, performers, community events and gatherings - helping to improve community cohesion.

## Mixed Use Development

Living in a mixed use development can improve accessibility and reduce automobile travel.

## 3Rs

Reduce, Reuse, Recycle

## Public Transit

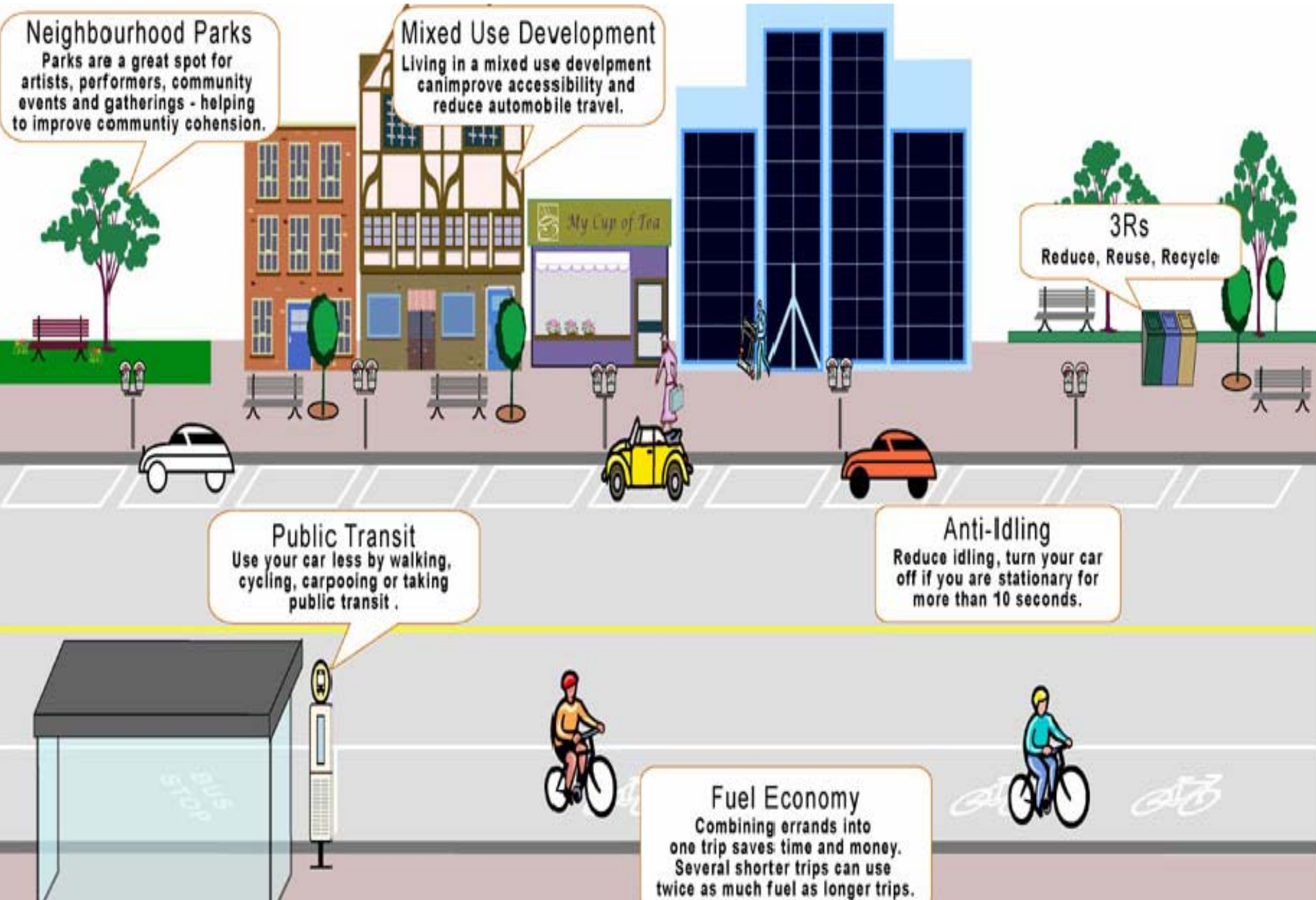
Use your car less by walking, cycling, carpooling or taking public transit.

## Anti-Idling

Reduce idling, turn your car off if you are stationary for more than 10 seconds.

## Fuel Economy

Combining errands into one trip saves time and money. Several shorter trips can use twice as much fuel as longer trips.





# Consultation

- Meeting #1 – Jan. 19/10
  - Over 70 attendees, mainly businesses
- Meeting #2 – Jan. 21/10
  - Over 80 attendees, mainly community
- Emails at [healthprotection@oakville.ca](mailto:healthprotection@oakville.ca)
  - Over 315 as of Feb. 1/0
- Summary: Over 470 comments, 75-80% supportive, 20-25% non-supportive

# Supportive Comments (75%)

- Addresses long-standing health concerns
- Protects our airshed
- Increases accountability
- Shows leadership
- Impact on TransCanada
- Spurs innovation

# Non-supportive Comments (25%)

- Creates uncertainty
- Questionable value
- Onerous regulation
- Rushed process
- Creates un-level playing field, erodes tax-base
- Creates stigma
- Burdens Town
- No overall net benefit to community



# Responses to Non-Supportive Comments – To address concerns

- Changes to by-law:
  - Enhanced certainty and clarity
  - Clarify definitions
  - Transition phase
  - Consistency with National Pollutant Release Inventory
  - Screening tools
- Town is addressing fine PM
- Other jurisdictions regulate fine PM
- Town taking steps to protect health of residents and improve local air quality

# Overview of the Draft By-law

# Overview

- Legal Situation
- By-law Authority & Purpose
- Key Topics:
  - Reporting obligations
  - Approval process

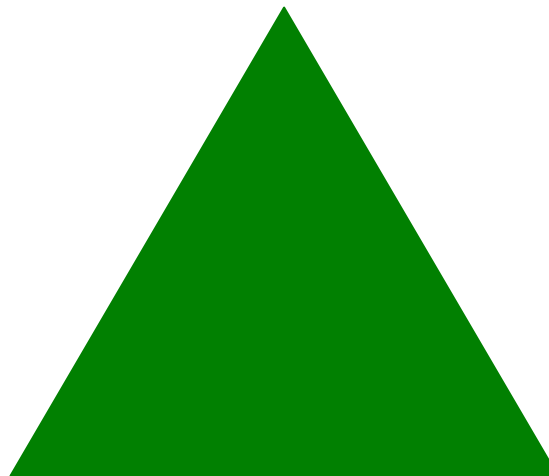
# Legal Situation

## Air Quality Protection: **Appearance**

Ontario Environmental Protection Act (EPA)  
Regulation 419/05

-Point of Impingement (POI) standards for 300+ contaminants

Ontario EPA s.9  
Certificates of  
Approval (CofA)



Ambient Air Quality  
Criteria

# Legal Situation

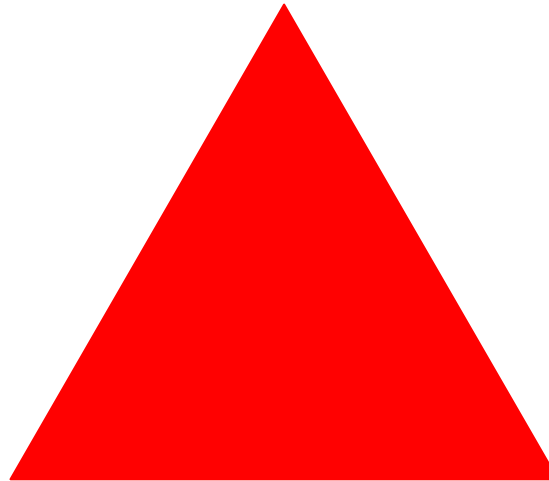
## Air Quality Protection: **Reality**

NO REGULATION OF FINE PM

EPA Reg.419/05: No POI standards for fine PM

EPA Section 9  
CofAs

- broad discretion
- no practice of regulating fine PM



Ambient Air Quality  
Criteria (AAQC)

- none for fine PM
- Canada-Wide Standard for FPM is neither

# Town By-law - Authority

## **Municipal Powers (*Municipal Act, 2001*, as amended)**

- Power to pass by-laws re “health, safety, and well-being”
- Power to pass by-laws to prohibit/regulate “public nuisances” and to decide what constitutes a public nuisance
- Limits: cannot “conflict” with provincial law; cannot frustrate the purpose of provincial law

# Town By-law - Purposes

- Protect human health from airborne fine PM
- Collect information on sources of emissions of fine PM
- Regulate major emitters of fine PM
- Designate any major emission of fine PM presenting unacceptable risks to human health as a “public nuisance”
- Reduce over time levels of fine PM in the Town’s ambient air

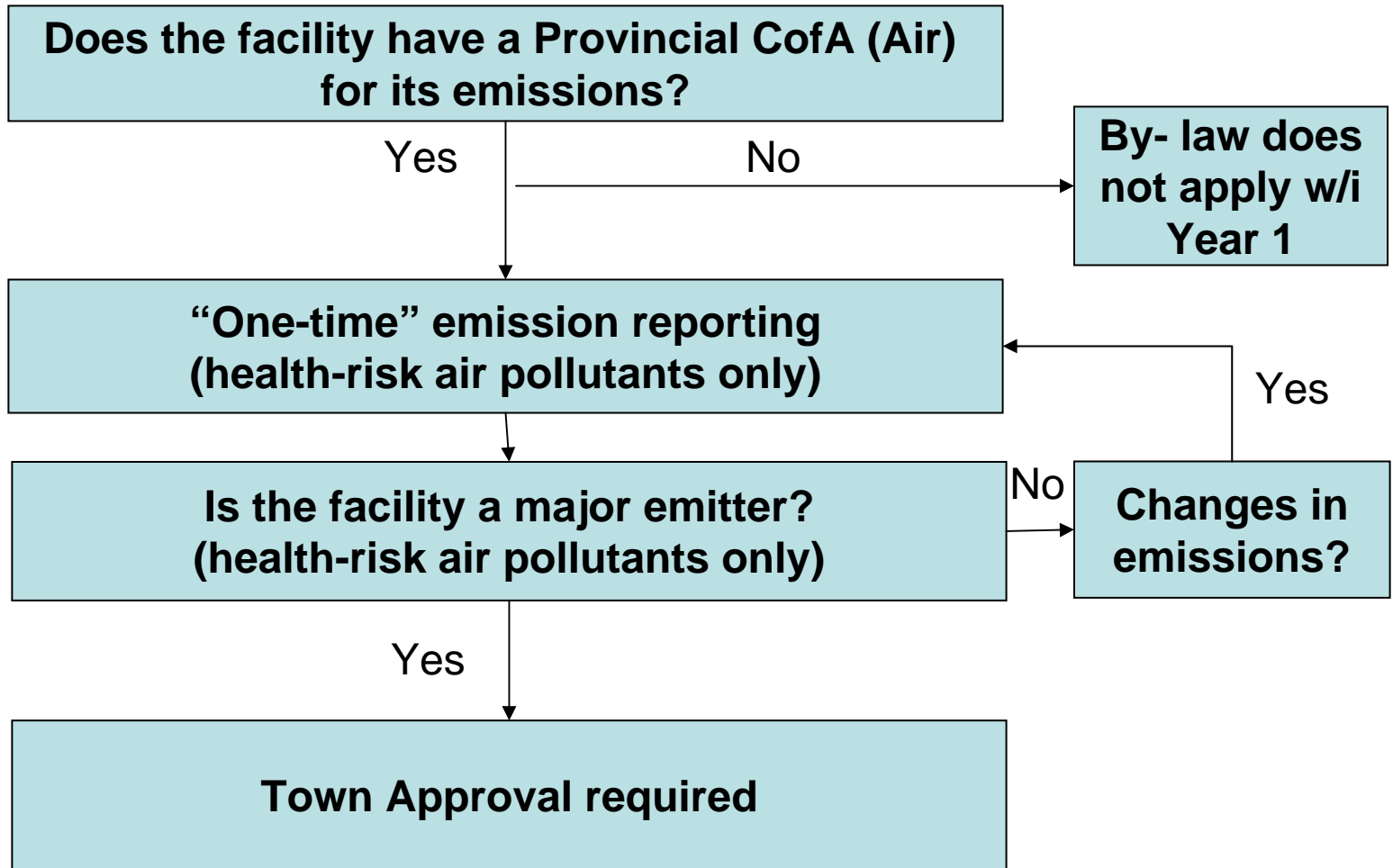
# By-law Structure

- Part I Purposes
- Part II Application
- Part III Reporting
- Part IV Requirements for Town Approval
- Part V Town Decision-Making Process
- Part VI Fees
- Part VII Emissions Monitoring and Town Reporting
- Part VIII Offences
- Part IX Town Guidance
- Part X Transitional Matters
- Part XI Severability



# Application of the By-law

## - Key Questions (Initial Transition Phase)



# Reporting – Part III of the By-law

- Application suspended for first six months after passage of By-law
- After six months, applies if:
  - (a) a “facility”, as defined
  - (b) above “negligible quantity”, as defined
  - (c) facility has a CofA (Air); if no CofA (Air), no application needed after one year from passage
- When applicable: will require a one-time submission of emission rates of fine PM and precursor pollutants
- No fee
- Simple additional calculations for CofA holders
- Very similar to National Pollutant Release Inventory (NPRI) reporting; can use relevant NPRI submissions
- After initial reporting, will require submission of new information in future only if you change your operations & emission rates

# Major Emitters

- Application of By-law
  - (a) “facility”
  - (b) “major emission”
  - (c) transition - proposed major emitters – applies immediately
    - existing major emitter, with CofA (Air) – applies after one year
    - existing major emitter, no CofA (Air) – applies after two years
- When applicable, requires a major emitter to submit information to the Town and seek approval of the emission
- Information requirements are set out in Part IV of the By-law and have five parts:
  - Project description
  - Evaluation
  - Mapping
  - Assessment
  - Appraisal

# Major Emitters

"major emission" means an emission from a facility into the air of a health-risk air pollutant that exceeds at least one of the following thresholds:

- (a) for directly emitted particulate matter less than 2.5 microns in size, more than 300 kilograms per year;
- (b) for volatile organic compounds, more than 10,000 kilograms per year;
- (c) for nitrogen oxides (as NO<sub>2</sub> equivalent), more than 20,000 kilograms per year;
- (d) for sulphur dioxide, more than 20,000 kilograms per year; or
- (e) for ammonia, more than 10,000 kilograms per year.

# Major Emitters

## Comparison of Regulatory Thresholds (kg/yr)

Health Risk Air Pollutant	Town of Oakville By-law	City of Toronto By-law	Toxics Reduction Act (Ontario)	National Pollutant Release Inventory (Federal)
PM <sub>2.5</sub>	300	30	300	300
VOCs	10,000	100	10,000	10,000
NO <sub>x</sub>	20,000	200	20,000	20,000
SO <sub>2</sub>	20,000	-	20,000	20,000
NH <sub>3</sub>	10,000	-	10,000*	10,000*

\* Consumption based threshold

# Major Emitters- Comparison of CofA information

<b>Process Step</b>	<b>CofA's (Air)</b>	<b>Town of Oakville Assessment</b>
<b>1</b>	<b>Identify all sources for all listed MOE contaminants (300+)</b>	<b>Identify sources for health risk air pollutant sources only</b>
<b>2</b>	<b>Estimate worst-case emissions over varying averaging times</b>	<b>Estimate worst-case emissions over 24-hour and annual time periods</b>
<b>3</b>	<b>Model Impacts: Use screening tools where possible</b>	<b>Model Impacts: Use screening tools where possible</b>
<b>4</b>	<b>Assess worst-case results against MOE standards</b>	<b>Assess average &amp; worst-case results against public health effects</b>
<b>5</b>	<b>Must be in compliance to obtain CofA</b>	<b>If not in compliance – present reasonable mitigation plan</b>

## Major Emitter - Town Process

- Town retains peer reviewer to ensure “complete application” and then assesses merits of completed application
- Application fee: -\$25,000 maximum
  - covers administration and peer review
- Public process prior to decision-making

# Major Emitter – Town Decisions

Existing Emitters	New Emitters
(A) Approved - not significant public health effect	(A) Approved - because not significant public health effect
(B) Approved - significant public health effect, but 25% emissions reduction proposed over 5 years	
(C)(i) Refused - significant public health effect	(B)(i) Refused - because significant public health effect
(C)(ii) Approved - because significant public health effect, but in the public interest	(B)(ii) Approved – significant public health effect, but in the public interest



# By-law Phase-In

- Set out in Part X of the By-law
- Initially, applies to proposed “major emitters” only
- After 6 months, the **reporting** obligation will apply to all existing emitters who have a provincial s.9 EPA CofA
- After 1 year, the **approval** obligation will apply to all existing “major emitters” who have an EPA CofA
- After not less than 1 year, the **reporting** obligation will apply to all existing emitters who do not have an EPA CofA
- After not less than 2 years, the **approval** obligation will apply to all existing major emitters who do not have an EPA CofA

## Contact Information:

Cindy Toth

Director, Environmental Policy

Town of Oakville

[ctoth@oakville.ca](mailto:ctoth@oakville.ca)

(905)845-6601 ext. 3299

[www.oakville.ca](http://www.oakville.ca)

