CONCERN REGARDING AIR QUALITY DEGREDATION IN CLARKSON AIRSHED

- Mega-warehouses totalling four million square feet are planned or under development in the historically taxed Clarkson airshed. Based on data from the developers and from the Institute of Transportation Engineers, these projects will generate annually over 2.5 MILLION heavy diesel transport truck trips and 4.7 MILLION light vehicle trips, in an area of less than three square kilometers.
- Air quality is front of mind for residents based on Clarkson's historical problems, the Mississauga powerplant proposal, the Oakville powerplant proposal, climate change, and the 2023 wildfires.
- Improvements were made and provincial initiatives were critically important, e.g., the Clarkson Airshed Study (CAS), the Southwest GTA Air Quality Taskforce, and the ensuing 2010 Balsillie report.
- The Southwest GTA Air Quality Task Force recommended no new major sources of pollution be developed in the airshed, unless there is a plan to offset key air contaminants like PM (particulate matter) 2.5, PM 10, Nitrogen Oxide (NOX) and Volatile Organic Compounds (VOCs).
- Fresh concerns are emerging due to a new air quality study in Clarkson which revealed that six hazardous chemicals already exceed CAAQS recommended human health limits. These chemicals are uniquely linked to diesel transportation emissions (PM2.5, PM10, Acrolein, NOx, Benzene, Benzo(a)pyrene).
- Extrapolations from a recent Land Use Compatibility Study from one of the developers indicate that aggregate traffic from the facilities will cause CAAQS limits to be hugely exceeded.
- Clarkson-Oakville's challenges include some unique regional characteristics. *"Of note, there is a significant easterly (i.e., blowing from the east) component to local winds, and an even distribution of winds blowing from the northwest through to due south."* (Dillon Consulting, Clarkson Air Quality, 2020)

Airshed study boundaries Maximal impact zone

MISSISSAUGA BACKGROUND

- On the east side of Winston Churchill Blvd (WCB) Mississauga has 2.7 million sq ft of logistics space (aka high cube warehouses) currently under development in four separate facilities.
- Lands are appropriately zoned for heavy industry; no Mississauga residences within 1 km.

OAKVILLE BACKGROUND

- Oakville council conditionally approved on 6-27-2022 the site plans for two adjacent logistics facilities on the west side of Winston Churchill Boulevard.
  - Total of five buildings, 1.3 million square feet, 226 loading docks.
  - Will become the largest such multi-tenant facility in Canada (now DSV in Milton, at 1.1 million sq ft).
  - Situated directly adjacent to Oakville residential neighborhoods.
  - No building permits yet.
- The Oakville and Mississauga developments are concentrated in less than 3 square kilometres.

OAKVILLE CONCERNS

Many residents opposed the Oakville developments due to adverse effects on traffic, noise, and air quality.

- Oakville's official plan had identified these lands as a buffer to shield residential neighborhoods from anticipated Mississauga developments. On first learning of the proposed logistics facilities, residents were shocked to discover that zoning had been revised in 2014 without notice or consultation, effectively removing all restrictions on scale and intensity of permitted uses.
- Zoning change + mega-warehouses = no more buffer strategy. Contravenes the Oakville plan, the Ontario D-6 guidelines, and raises serious concerns regarding traffic, noise and air quality.
- In obtaining conditional approval of their site plans, developers agreed to mitigation of impacts based on projected full capacity utilization of the facilities. Efforts to establish the parameters for full utilization, and required mitigations, are ongoing between Oakville Planning, the developers, and concerned residents (primarily through local RAs).
  - Regarding traffic and noise, residents remain extremely concerned, although there is hope that mitigations based on full capacity utilization could reduce those impacts.
  - Regarding air quality, the developers' studies have concluded the projects are compatible with the surrounding land uses from an air quality perspective, but none of these studies were based on projected full capacity utilization, and none have reflected the combined impact of Mississauga and Oakville operations.
- Municipal and Ontario regulations require only that the proponents assess emissions generated on-site, i.e., low speed trips of a few meters, on perfectly smooth and level concrete, with little or no engine idling. Emissions generated on public roads, or in neighboring developments, are not considered.
  - Substantial engineering effort has been invested in quantifying the miniscule proportion of emissions arising from on-site trucks movements, disregarding the 99% of emissions which will be generated on Winston Churchill by 2.5 million annual truck trips. The QEW is three kilometers north, entirely uphill from the lake, through multiple traffic signals and school zones, and entirely bracketed by Oakville and Mississauga residential neighborhoods.

EXAMPLE FROM RECENT LAND USE COMPATIBILITY REPORT

From: 772 Winston Nominee Inc. - Land Use Compatibility Study - 700 and 750 Winston Churchill

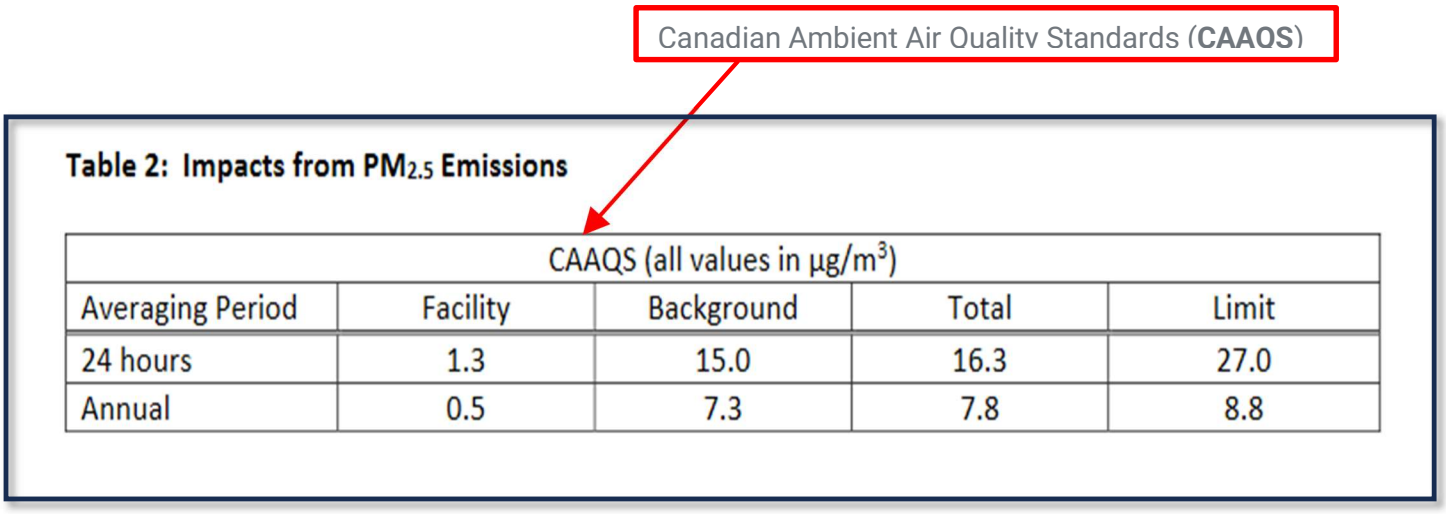

Table 2: Impacts from $PM_{2.5}$ Emissions

CAAQS (all values in $\mu g/m^3$)				
Averaging Period	Facility	Background	Total	Limit
24 hours	1.3	15.0	16.3	27.0
Annual	0.5	7.3	7.8	8.8

ANNUAL EMISSION PROJECTIONS BASED ON 772 WCB AIR QUALITY ASSESSMENT

	---------- 772 WCB ---------- (725,000 sq ft)				--------- Extrapolation ---------- (4 million sq ft)			
	Facility	Background	Total	**Limit**	Facility	Background	Total	% Limit
PM 2.5 CAAQS	0.5	7.3	7.8	**8.8**	2.7	7.3	10.0	114%
NOx CAAQS	1.8	8.8	10.6	**12.0**	9.8	8.8	18.6	155%

WHY THESE CONCERNING RESULTS SEVERELY UNDERSTATE THE PROBLEM

- Simple extrapolation indicates several limits will be exceeded, based only on the TINY proportion of emissions which are generated on-site (short trips, low speed, perfectly level and smooth concrete).
- In addition to cancer, “outdoor PM2.5… has been shown in a large number of studies to be strongly associated with cardiovascular and respiratory mortality and morbidity.” (Health Canada and Environment Canada 1999; WHO 2005; US EPA 2009). NOx is strongly linked to serious health effects, especially among the young, the elderly and the vulnerable.
- Ontario does not have PM2.5 regulations, and Ontario’s standard for NO2 is three times the level recommended by Canada, and twice the World Health Organization.
- The developer assessment was based on warehousing industry averages, not full capacity utilization.
- The background measurement point was 4.5 km west, outside the Clarkson airshed and upwind from the site. The February 2023 Clarkson air quality report arrived at a higher baseline of 8.2, or 93% of the CAAQS limit.
- Air quality effects will be uniquely amplified in Clarkson-Oakville, based on airshed characteristics, local geography (uphill 3 km to QEW), road conditions, and traffic congestion.

RECOMMENDATIONS

We request MPP Stephen Crawford's assistance to engage with the MOE and obtain:

- A full analysis of the projected air quality impacts and the affect on public health from these large scale logistics developments, when operating at full capacity.
- Focus on the Clarkson airshed, while encompassing the full area of influence.
- Fact-based mitigation recommendations, as required.
- Transparency and communication with all stakeholders.