



**Clean Indoor
Air Toronto**

Toronto Board of Health Meeting 34

HL34.5 Investigating the Increased Risk
of Heart Disease, Lung Cancer, and
Tumours from Bringing Jets to Toronto's
Waterfront Communities

July 13, 2026
Louise Hidinger, PhD

Air pollution from transportation

Emissions from combustion engines:

- Carbon dioxide (CO_2)
- Fine particulates ($\text{PM}_{2.5}$) and ultrafine particulates ($\text{PM}_{0.1}$)
- Nitrogen oxides (NO_x , including NO_2)
- Incomplete products of combustion, including aromatic compounds, polycyclic aromatic hydrocarbons (PAHs)
- Volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs)
- Ozone (O_3)

Also non-exhaust pollution: particulates from tires, brakes, road abrasion

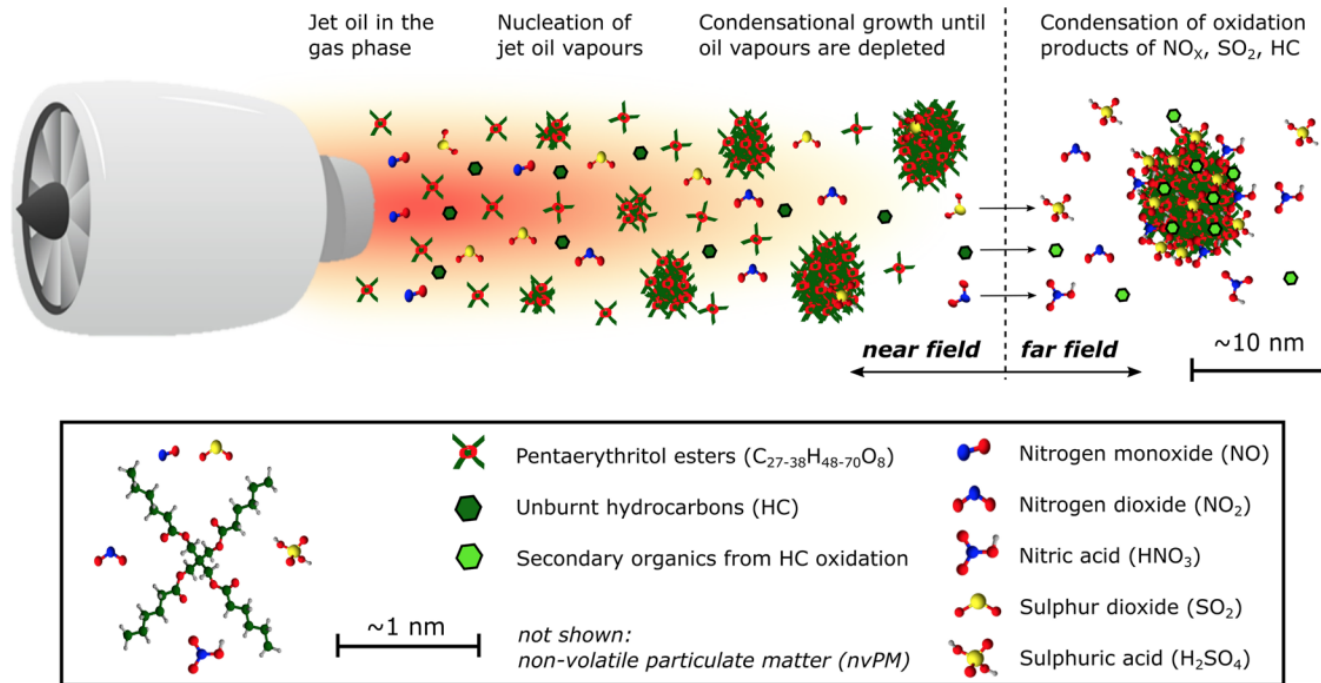


Cole Burston, The Globe & Mail



UFPs from jet engine oil

- Jet engine oil vapours are a major source of UFP pollution¹
- Take-off is often associated with highest UFP emissions; also created during flight and landing¹
- Jet engines create smaller size UFP compared to road vehicles¹



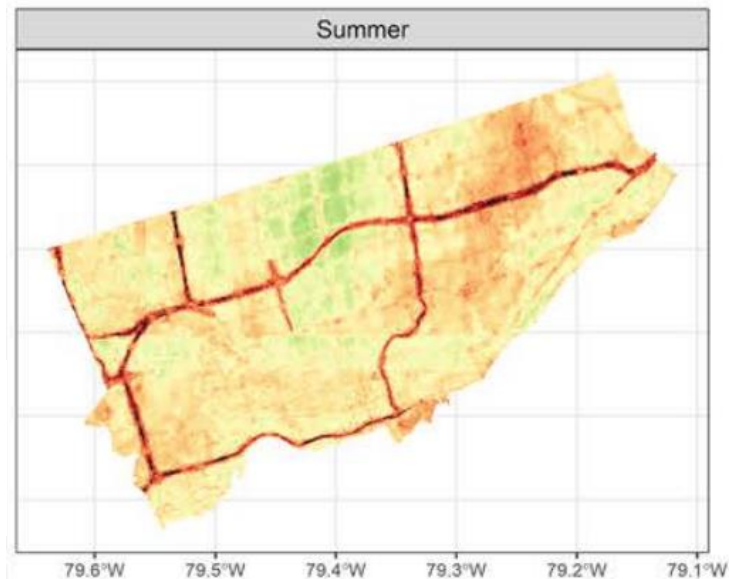
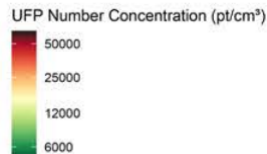
UFP from aircraft travels far: Predicted impact on Toronto residents

UFP travels long distances, thus affecting populations across large geographical areas¹:

- Emissions from Heathrow Airport causes elevated levels of UFP in central London, 22 km away
- Similar findings for Schiphol Airport, Netherlands; Los Angeles International Airport, U.S.; Boston Logan Airport²

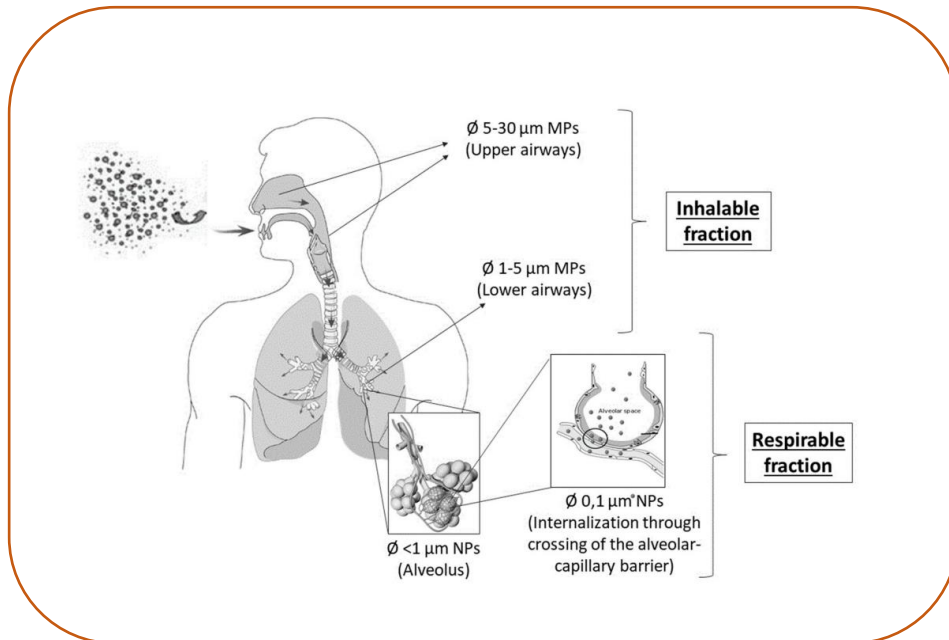
Modelling of UFP levels over Toronto during summer shows highly elevated levels across most of the city, but especially³:

- Downtown
- Scarborough



1. Harrison, R. M., Beddows, D. C. S., Alam, M. S., Singh, A., Brean, J., Xu, R., Kotthaus, S., and Grimmond, S.: Interpretation of particle number size distributions measured across an urban area during the FASTER campaign, *Atmos. Chem. Phys.*, 19, 39–55, <https://doi.org/10.5194/acp-19-39-2019>, 2019. 2. Chung CS, Lane KJ, Black-Ingersoll F, et al. Assessing the impact of aircraft arrival on ambient ultrafine particle number concentrations in near-airport communities in Boston, Massachusetts. *Environ Res.* 2023;225:115584. doi:10.1016/j.envres.2023.115584. 3. Venuta A, Lloyd M, Ganji A, et al. Predicting within-city spatiotemporal variations in daily median outdoor ultrafine particle number concentrations and size in Montreal and Toronto, Canada. *Environ Epidemiol.* 2024;8(4):e323. Published 2024 Jul 22. doi:10.1097/EE9.0000000000000323

Outdoor air becomes indoor air...



- On average, we spend up to 90% of our time indoors
- Main route of pollution exposure is through breathing¹
- Current ventilation standard, ASHRAE Standard 62.1, is not designed to handle fine particulate air pollution and airborne disease transmission
- With no enforceable indoor air quality standard or governance of IAQ, this has led to inequitable distribution of clean air spaces

Outdoor air becomes indoor air...

- Many buildings in Toronto do not comply with current ventilation standards: lack adequate ventilation, air filtration, and air conditioning!
- UFP pollution is carried upwards from ground level by warm air; tall buildings with air intakes on the roof are subject to exposure
- Need MERV-13 and higher, plus in-room air cleaning to adequately remove UFP from indoor air



Prioritize a healthy city: Apply the precautionary principle

“The current vision in the City's Official Plan for the Central Waterfront as a densely populated, vibrant area that celebrates and provides connections to the lakefront aligns with the characteristics of a Healthy City.”

Toronto Public Health, 2013



If the commission has one single take home message, it is the precautionary principle that safety comes first, that reasonable efforts to reduce risk need not await scientific proof. Ontario needs to enshrine this principle and to enforce it throughout our entire health system.”

Justice Campbell, SARS Commission (2006)

Toronto Public Health, 2013 Report:

- The airport, even in its current form, contributes to existing air quality and noise-related health concerns
- Traffic conditions are expected worsen with expansion
- Increased health risks due to increased air and noise pollution
- Impact on quality of life for residents
- Recommended that **“any change to operations and associated transportation infrastructure should ensure that existing health impacts are reduced”**

“Optimal protection and enhancement of the health of Central Waterfront residents and the city as a whole calls for a reduction of current and future airport impacts.”

Toronto Public Health, 2013

Request to the Medical Officer of Health

- a. Update the November 25, 2013 Report from the Medical Officer of Health, “Health Impacts Associated with Billy Bishop Toronto City Airport Expansion”, with current information and guidance on the health impacts of PM2.5 fine particulate matter and ultrafine particles (UFPs), including information from Health Canada and the World Health Organization;
- b. Assess the impacts on health and quality of life, using the indicative growth scenarios identified in the City Planning May 28, 2026 [report](#) to the Planning and Housing Committee and the Toronto Port Authority’s 2017 [Environmental Assessment](#) and other publicly available information, and identify areas that will need further study should proposals advance;
- c. Apply the precautionary principle in updating this assessment;
- d. Engage with relevant stakeholders and community partners, including communities near the Billy Bishop Toronto City Airport, communities that are likely to be most affected by the flight path of jet traffic to and from the Airport, and communities across the city that make use of the Central Waterfront for access to Lake Ontario; and
- e. Report back to the Board of Health in Q4 2026.