Clean Indoor Air Toronto

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Board of Trustees
Toronto District School Board
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April 22, 2025

To the Finance Committee, and the Trustees of the Toronto District School Board (TDSB);

This letter is regarding the TDSB's 2025-26 budget and a topic that impacts every student and staff member, as well as the TDSB's bottom line: **improving indoor air quality (IAQ).**

We are members of Clean Indoor Air Toronto (CIATO), a group of concerned Toronto residents, including TDSB parents/caregivers, who are dedicated to improving IAQ in our shared public spaces. This includes TDSB schools as they are an essential part of our many neighborhoods and what happens inside TDSB buildings has a ripple effect across the city.

Unfortunately, that impact can include the spread of infectious airborne diseases. We are confident you are familiar with the high rates of sickness-driven absence rates among students and staff, sickness that then spreads among families and into the broader community. What you might not know is that many serious illnesses are spread mainly through the air, especially in poorly ventilated indoor spaces. These include measles, pertussis, RSV, COVID-19, influenzas, and various pneumonias. For example, over 90 percent of influenza transmission[i] occurs through the air. Yes, surface cleaning, hand washing, and vaccines are important for controlling infectious diseases but even more critical is cleaning indoor air.

IAQ is a foundational issue that impacts each of us; after all, we must breathe to live, approximately 11,000 litres of air each day if you're an adult. But despite its importance, IAQ is an overlooked and under-appreciated topic. CIATO is asking for that to change with the TDSB's 2025-26 budget and that the TDSB invest in the health and success of students and staff through the funding of IAQ improvement in schools.

There are so many reasons why funds should be dedicated to IAQ improvement. Here are our top three:

1. Improved IAQ reduces employee absences[ii] and cuts down on students' sick days[iii]. In addition to saving the TDSB money on hiring supply teachers, helping to reduce illnesses creates a more stable and productive environment for all, and helps to prevent employee burnout. Less illness also means improved overall health, which helps lead to better learning outcomes.

2. Cleaning the air removes airborne diseases[iv] that can trigger ongoing health problems. Notably, COVID-19, an airborne virus that in the absence of mitigations will regularly re-infect people, is connected to many serious health conditions[v], including Long COVID. That condition is particularly prevalent in women[vi] and is already influencing labour participation rates[vii]. Long COVID also impacts children, with Toronto Public Health noting it can cause "new difficulties learning at school." It's also now established that COVID affects the brain, and even a mild COVID-19 infection can cause a measurable drop in cognitive scores. To learn more about that and other impacts COVID has on the brain, read this recent Bloomberg article[ix] and then listen to this CBC *Quirks and Quarks* episode[viii]

to understand how this common virus may be impacting the long-term health of TDSB staff and students.

3. Improving IAQ can improve students' academic performance[x]. In this study[xi], providing air filtration in a classroom improved test scores to the same degree as reducing class size by a third while this newer study[xii] found, "…statistically significant evidence of associations between lower CO_2 concentrations and higher cognitive test scores over the low range of CO_2 exposures in these classrooms." Cleaning the air also reduces exposure to allergens[xiii], air pollutants including microplastics[xiv], and potentially dangerous particles from forest fires[xv] and other climate change-related events. These air pollutants are known to affect overall health[xvi] and student performance[xvii].

While the TDSB does have an IAQ complaint process, it lacks a comprehensive IAQ policy designed for the current challenges we face. CIATO urges the TDSB to provide a strong framework for IAQ across all buildings in the TDSB portfolio by implementing:

A board-wide IAQ policy that covers the following:

(i) A minimum ventilation rate of 10 litres per second (lps) per person, preferably 14 lps/person, targeting an equivalent clean air delivery rate (CADR) per person of 20 lps/person (wherein equivalent CADR may be a combination of clean air supplied by ventilation and air filtration), based on the latest recommendations by ASHRAE and the Ontario Society of Professional Engineers (OSPE) for control of infectious aerosols and fine particulates (PM2.5), including a maximum CO_2 level of 1000 ppm or 600 ppm above ambient level, wherein action must be taken if CO_2 rises above this level;

(ii) MERV-13 filters installed in all air handling units;

(iii) A policy regarding portable air purifiers:

- In combination with ventilation, the selected air purifier is to contribute clean air delivery with the goal of meeting the target of 20 lps/person equivalent CADR;
- The selected air purifier is sized appropriately for the classroom or ventilation zone (room/zone) based on its CADR;[xviii,xix]
- Placement of at least one air purifier in each room/zone; larger spaces, including spaces with ceilings higher than 8 feet (245 cm), may require more than one air purifier;
- The air purifier(s) must be turned on when the room/zone is occupied and kept at the highest setting possible that noise level permits (wherein 48-55 dB is the highest tolerable background noise level);[xx, xxi]
- Guidelines on appropriate placement of the air purifier within the room/zone to maximize air filtration; and
- When the building is in use, e.g., during the school day, the air purifier should be turned to the highest setting while the room/zone is not occupied.

(iv) Monitoring of the CO_2 and PM2.5 level in each classroom/zone, with public real-time reporting of collected data.

(v) Training/education for all staff on actions that need to be taken to improve IAQ when CO_2 rises above 1000 ppm or 600 ppm above ambient level, including the policies laid out in items (i) to (iv), governing management of the building's ventilation system, and how the portable air purifiers and IAQ sensors for measuring CO_2 and PM2.5 are used.

(vi) General IAQ education for staff, students, and their families that includes an easy-to-follow action plan for immediately addressing poor IAQ with available tools.

CIATO requests that the TDSB's 2025-2026 budget dedicate funds to:

1. Maintaining and expanding the use of portable air purifiers. In-room air filtration is recognized by ASHRAE and OSPE as important tools for providing clean indoor air and should be used even in spaces with mechanical ventilation. Please continue funding and supporting the use of air purifiers in schools, and consider using that funding to expand usage and replace existing units with models that are quieter while still providing a high rate of clean air delivery;

2. Prioritizing HVAC upgrades and retrofits for those buildings that do not yet have MERV 13 filters installed, and buildings where the air handling units are not capable of providing a minimum ventilation rate of 10 lps/person, preferably 14 lps/person, targeting an equivalent CADR of 20 lps/person to meet ASHRAE Standard 241, "Control of Infectious Aerosols;"

3. Installation of a CO_2 and PM2.5 system, with sensors in each room/ventilation zone to collect data, and real-time reporting of collected data to a public website.

ASHRAE conducted a cost/benefit analysis[xxii] for implementing Standard 241 to prevent COVID infections, and found that the economic benefit, just in terms of reducing acute and long-term health issues, including Long COVID, and deaths, could be as high as 10 times the upfront investment needed to upgrade HVAC systems. Upgrading a classroom to meet ASHRAE Standard 241 would immediately translate into improved learning outcomes, fewer sick days, and significantly improved physical and mental health for students and staff. There may be provincial and federal incentive programs for climate change action, such as Net Zero emissions strategy, and energy efficiency to help cover the cost of upgrades, and we urge the TDSB to explore these potential avenues for funding.

Taking action to clean the air in schools also directly aligns with the goals of the TDSB 2024-2025 Climate Action Plan, in terms of emissions reduction and energy efficiency while improving ventilation and air filtration. HVAC upgrades, including replacement of gas furnaces with heat pumps, and upgrading air handling units would provide increased ventilation, allow for MERV-13 filters, and provide air cooling. The IAQ policy can be used to manage ventilation and filtration in an energy efficient manner, while protecting students and staff from climate change and pandemics.

We are interested in working with the Environmental and Sustainability Community Advisory Committee to develop an IAQ policy that will help the TDSB reach its goals laid out in the 2024-2025 Climate Action Plan, and accelerate the changes needed to improve air quality in schools.

CIATO acknowledges that the TDSB faces many demands and has limited financial means. If we genuinely want students and staff to flourish and reach their potential, they need a safe environment that supports their health and productivity. This year, please make that happen by budgeting to improve indoor air quality in our schools.

If you have any questions about anything raised in this letter, please reach out.

Yours Sincerely,

On behalf of Clean Indoor Air Toronto (CIATO):

[19 Signatories]

CIATO & Ontario School Safety
[2 Signatories]

Safe Air Collective

Showing Up for Racial Justice – Toronto

Between April 16, 2025 and April 22, 2025, we collected the signatures of the following concerned community members:
[296 Signatories]

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