Ward 15 Forum
January 23, 2024

1. Climate Action
2. Revitalizing School Grounds

Climate Action

Toronto District School Board

Approved by the Board of Trustees on Dec. 6, 2023

3rd Annual Climate Action Report

53 Actions

1. Buildings
2. Transportation
3. Grounds and Green Roofs
4. Waste Diversion, Recycling and Organics
5. Education and Engagement
6. Urban Indigenous Education
7. Outdoor Education
8. System Improvements
9. Environmental Legacy Fund
10. Playing Field Reserve

Education

A 2020 study found that “education, if designed appropriately, can potentially be as effective as other established climate change mitigation techniques”.

Putting our house in order

Buildings

Utility Cost Projections to 2029/30

Year	Natural Gas	Electricity	Water	Total
2022/23	$24,639,600	$40,187,376	$10,216,415	$75,043,391
2023/24	$26,253,155	$44,595,598	$12,129,356	$82,978,109
2024/25	$26,128,357	$45,041,554	$12,735,824	$83,905,735
2025/26	$29,094,619	$47,293,632	$13,372,615	$89,760,866
2026/27	$30,528,120	$47,766,568	$14,041,246	$92,335,934
2027/28	$32,057,214	$50,154,897	$14,743,308	$96,955,419
2028/29	$33,744,600	$50,656,446	$15,480,473	$99,881,519
2029/30	$35,483,629	$53,189,268	$16,254,497	$104,927,394

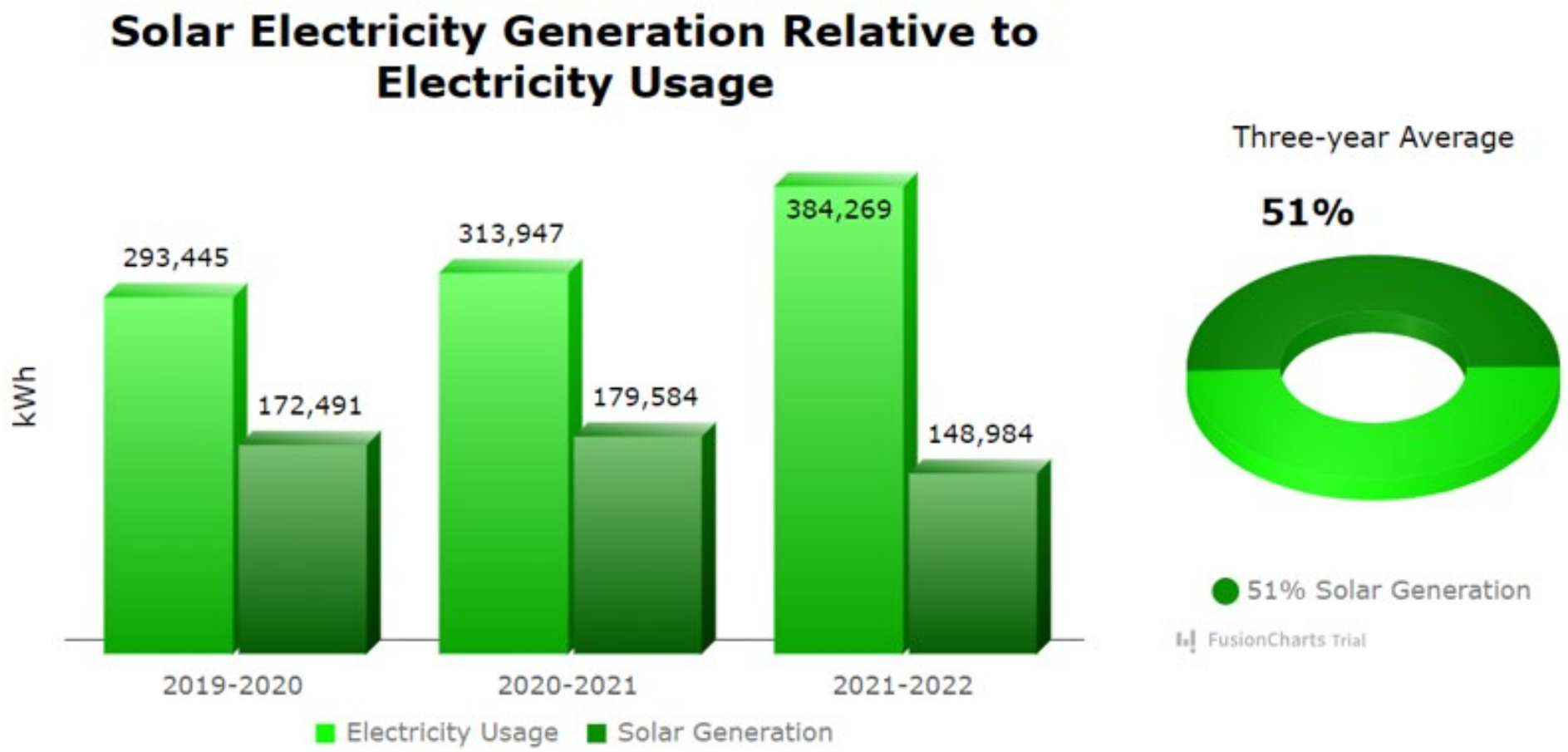
Solar PV

- 38 MW installed on 358 rooftops
- 41.5 million kWh generated in 2022
- Equivalent – Avg. annual electricity consumption of 4376 average Ontario homes
- Ward 15 has 11 schools

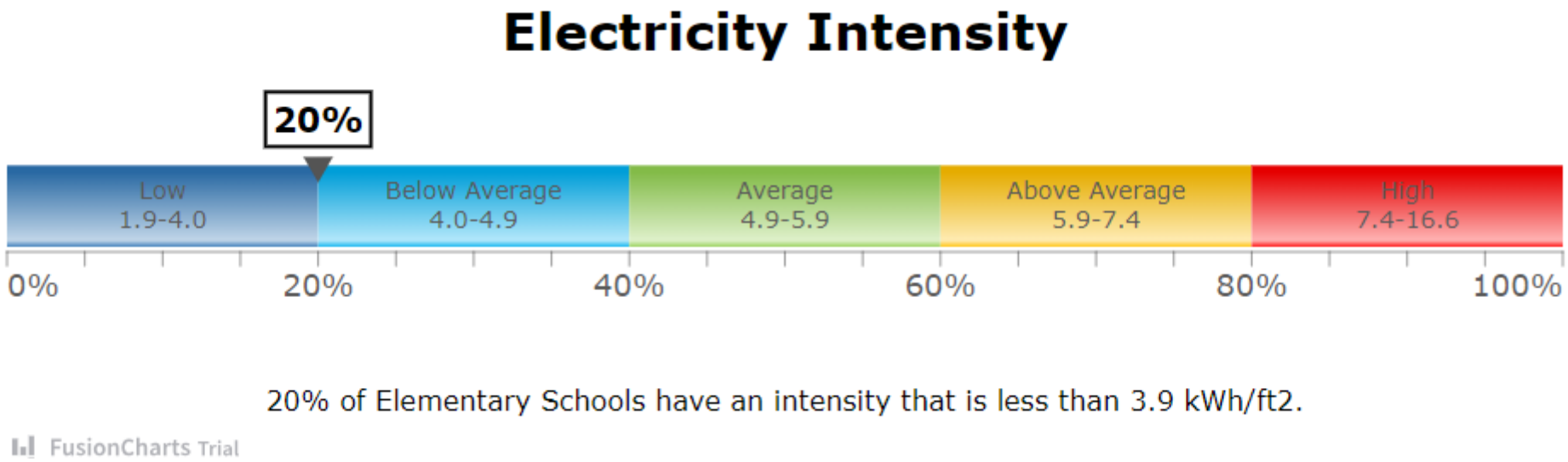
School	Size (kW)	Annual Generation (kWh)
Jackman	30	
Monarch Park	258	282,000
Queen Alexandra	156	142,000
Riverdale CI	202	221,000
Roden	67	68,000
Earl Grey	137	128,000
CALC	97	105,000
Chester	95	100,000
Cosburn	51	53,000
Wandering Spirit	97	99,000
Frankland	106	103,000
Totals	**1298**	**1,301,231***

*Equivalent to the annual electricity consumption of 137 average Ontario homes

Queen Alexandra MS



Queen Alexandra MS



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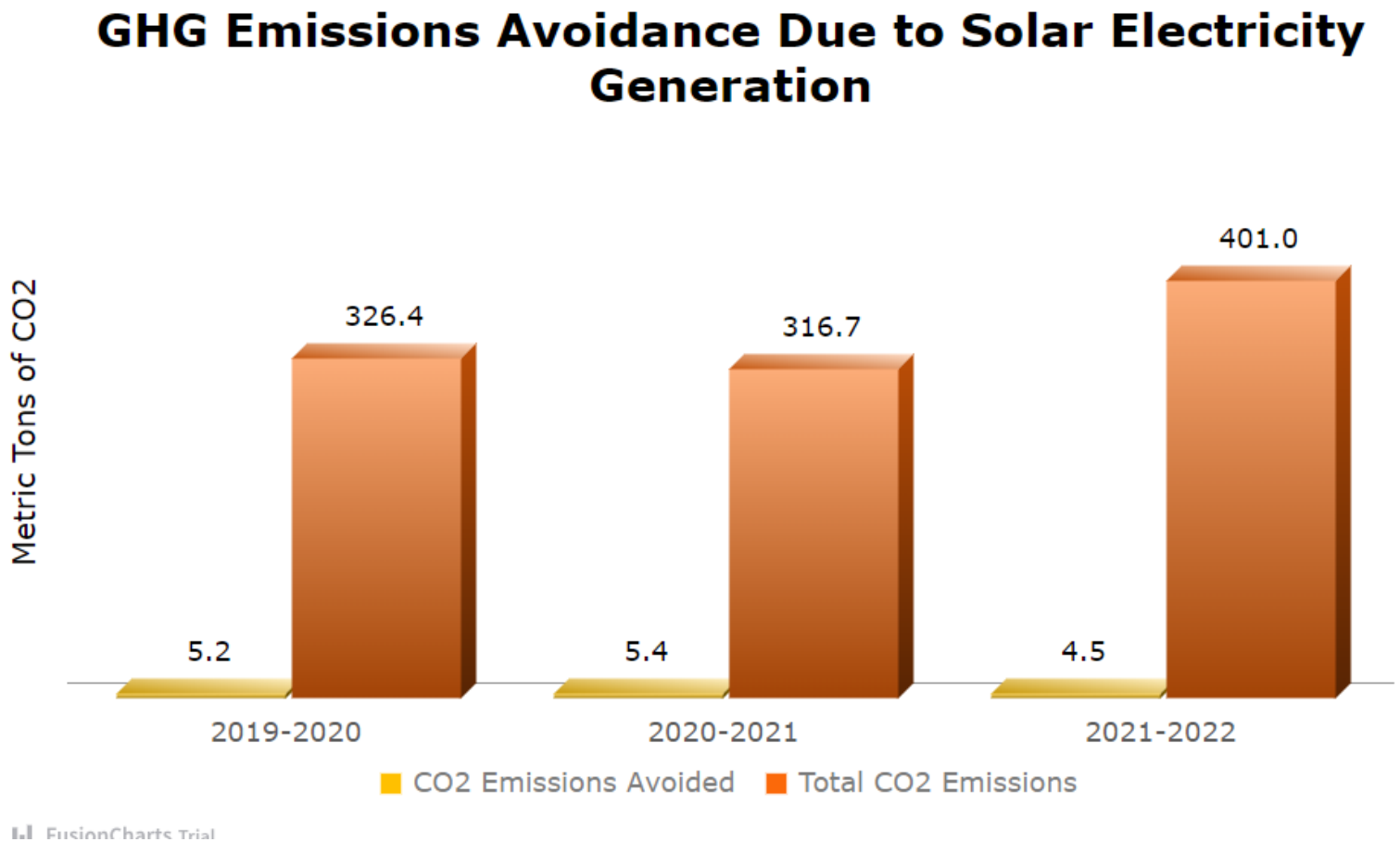
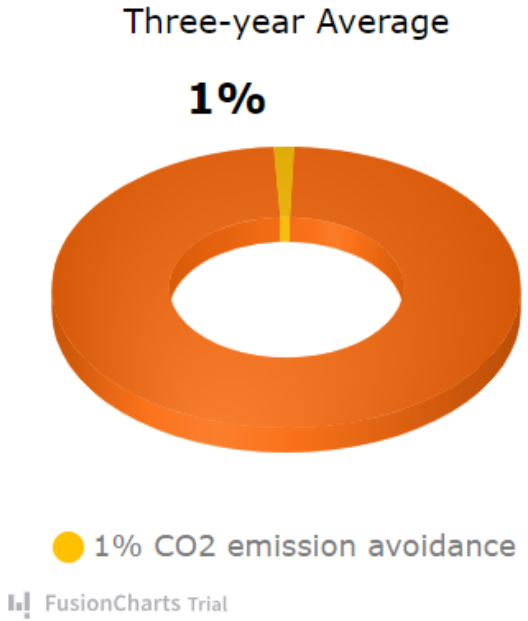
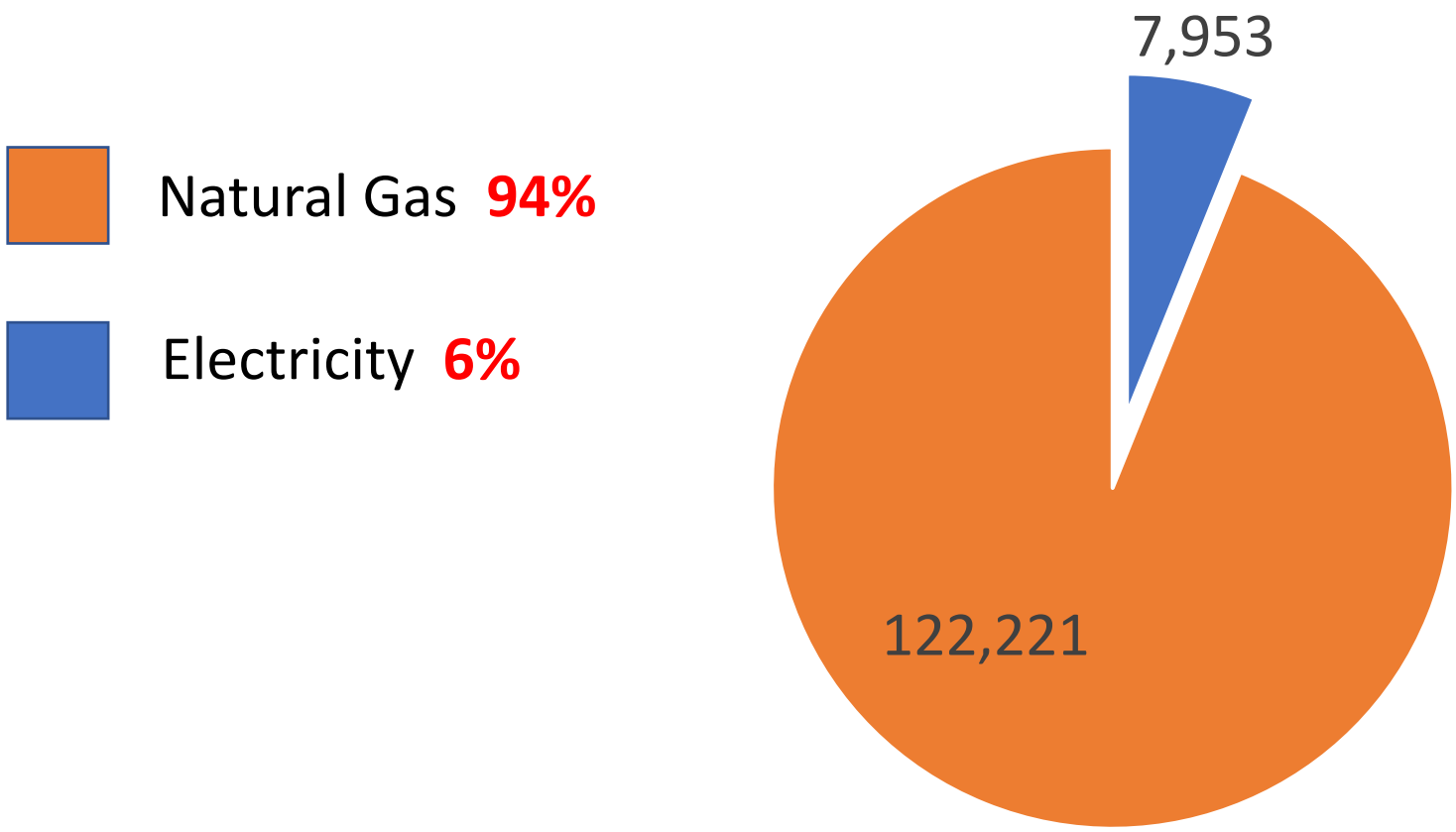


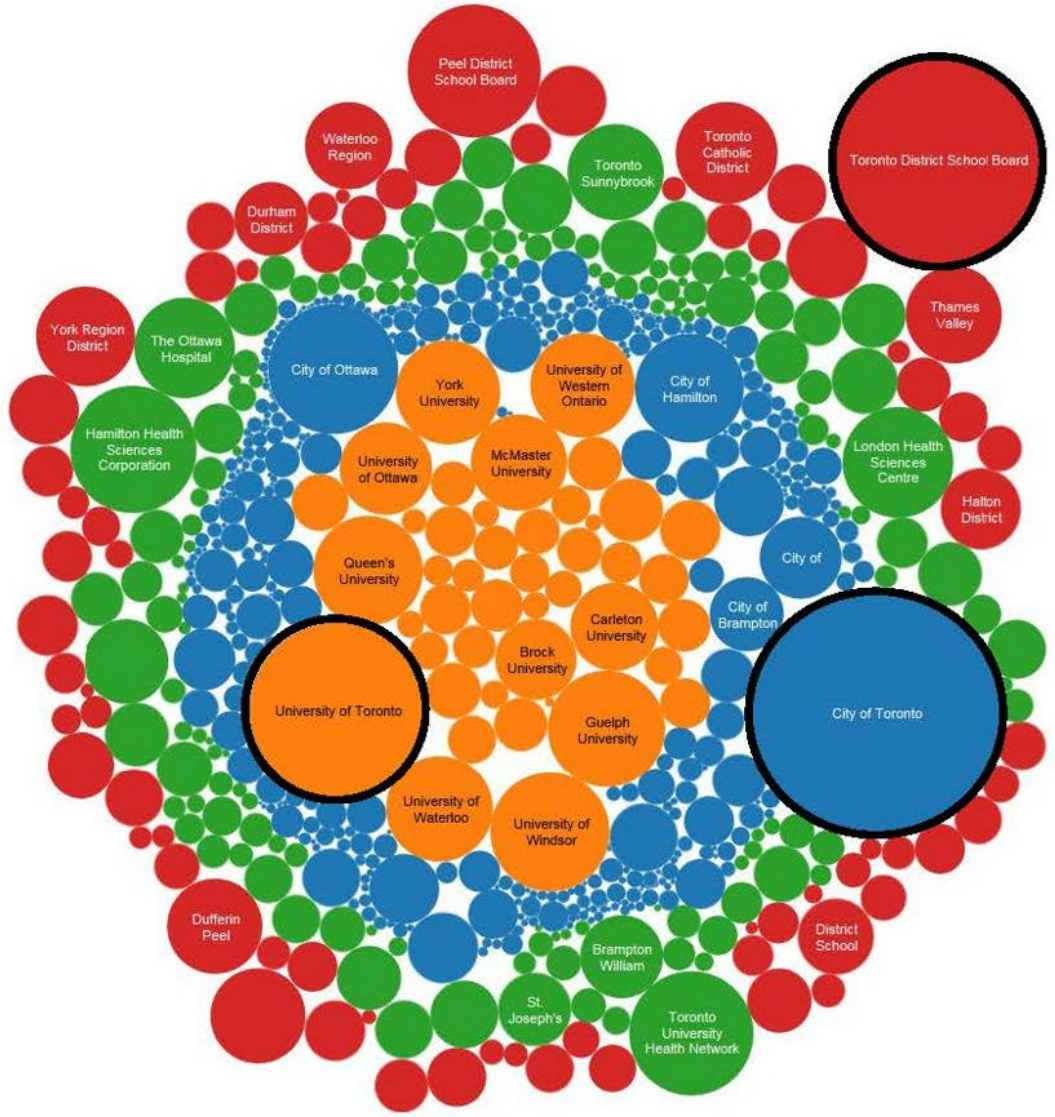


TDSB's Building-related GHG Emissions 2022/23



130,174 metric tonnes

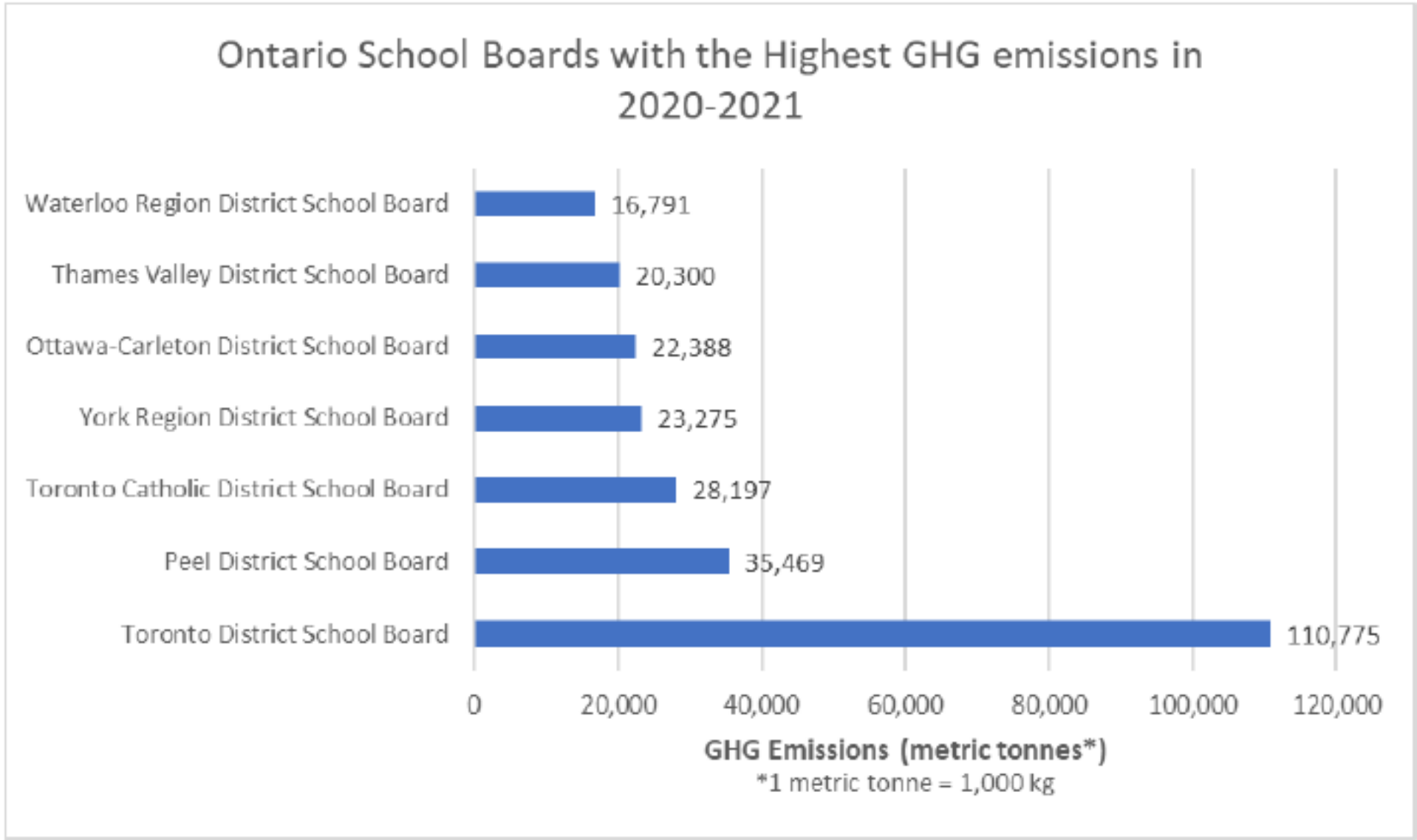
TDSB 2nd Largest Carbon Footprint in Ontario Public Sector

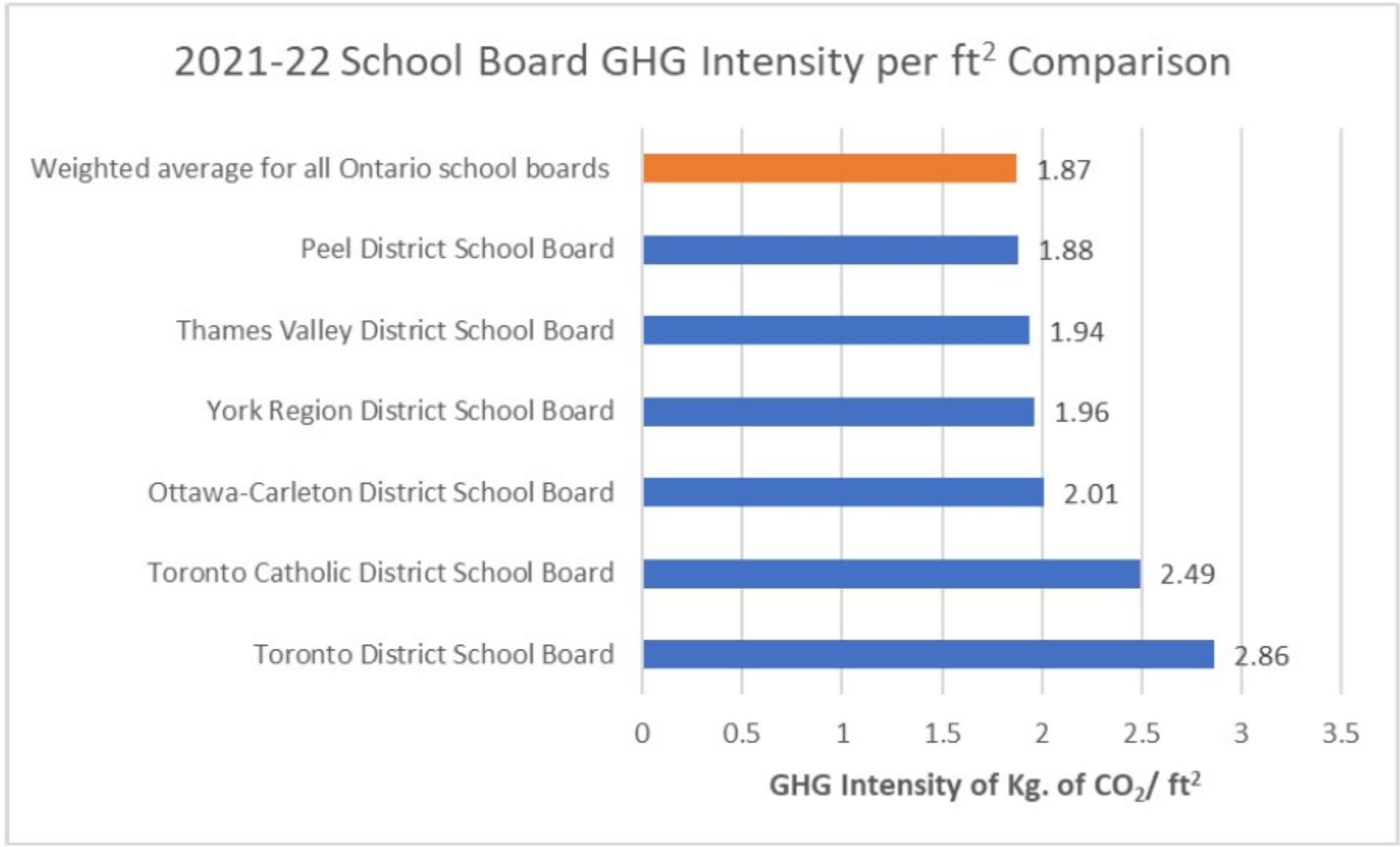


TDSB

- Universities
- Cities
- Hospitals & Health Networks
- District School Boards

UNIVERSITY OF TORONTO


Ontario School Boards with the Highest GHG emissions in 2020-2021
Waterloo Region District School Board
16,791
Thames Valley District School Board
20,300
Ottawa-Carleton District School Board
22,388
York Region District School Board
23,275
Toronto Catholic District School Board
28,197
Peel District School Board
35,469
Toronto District School Board
110,775
0
20,000
40,000
60,000
80,000
100,000
120,000
GHG Emissions (metric tonnes*)
*1 metric tonne = 1,000 kg


2021-22 School Board GHG Intensity per ft2 Comparison
Weighted average for all Ontario school boards
1.87
Peel District School Board
1.88
Thames Valley District School Board
1.94
York Region District School Board
1.96
Ottawa-Carleton District School Board
2.01
Toronto Catholic District School Board
2.49
Toronto District School Board
2.86
0
0.5
1
1.5
2
2.5
3
3.5
GHG Intensity of Kg. of CO2/ ft2

Reducing Costs and GHG Emissions

A **20% reduction** in electricity and natural gas consumption would bring us closer to the provincial average and **save $12.8 million a year**.

A similar reduction in GHG emissions would be greater than the total emissions from all the **184 schools** in the Thames Valley District School Board.

Goals

1. Lower utility costs (electricity, natural gas and water)

2. Reduce GHG emissions (natural gas)

Target #1

- 10% reduction in electricity and natural gas in 131 Learning Centre 1 schools by August 2025

Promising Early Results

- George Syme, -23%, -67,000 kWh
- Glen Park, -15%, -39,000 kWh
- Ledbury Park, -30%, -45,000 kWh
- Roselands, -32%, -61,000 kWh
- Central Etobicoke HS, - 16%, -61,000 kWh
- Dixon Grove, -14%, -26,000 kWh
- HJ Alexander, -15%, -62,000 kWh
- Weston CI, -18%, -178,000 kWh
- York Humber HS, -24%, -182,000 kWh

Target #2

- Reduce natural gas consumption by **20% in eight schools** over 3 years

- Bruce Public School is in Ward 15

Target #3

- Reduce GHG emissions by 66% at Withrow Ave. PS through a deep energy retrofit
- Design/build approach
- Withrow is one of 33 SEF schools
- Roden is also a SEF school and a candidate for a future project

Hybrid rooftop air handling units

- Many schools use packaged rooftop air handling units to provide localized heating, ventilation, and cooling for areas such as gymnasiums and libraries.
- Many rooftop units are at the end of their useful life and need to be replaced.
- A hybrid rooftop unit uses a heat pump to provide heating and cooling for most of the year.
- The unit is also equipped with a supplemental heating method (e.g., gas-fired) to provide additional heating when it’s very cold
- 16 to 21 projects are anticipated in 2023/24

Putting our house in order

Transportation

Transportation Highlights

- Renting EVs to support construction projects, along with EV charging infrastructure at Oakburn
- 5 EV school buses on the Toronto Islands and associated EV charging at the Island School
- Continue to install conduit in all parking lot replacements to make them EV charging ready. 27 projects already complete or in development (e.g., Leslieville in Ward 15)
- Feasibility study – network of EV charging stations for staff use during the day and the public after hours (with TLC, funding from TAF)

Putting our House in Order: **Battery-electric outdoor tools**

Lawn mowers, string trimmers, leaf blowers and hedge trimmers

- Conventional equipment are a source of GHG emissions that also generate hazardous toxic, and carcinogenic exhaust and fine particular matter (which can cause cardiovascular disease, respiratory disease, and cancer)
- Transitioning to battery-electric tools eliminates the burden of purchasing fuel, transporting, storing it safely, and mixing gasoline and oil
- This year, **caretakers** at 5 schools each used and evaluated 5 brands of commercial grade equipment
- RFP will be issued this winter and contract will be in place for next spring
- Environmental Legacy Fund will help subsidize the incremental cost increase

Putting our house in order

Waste management, recycling and organics

Preparing for hotter weather and more intense rainfall

Cooling

Research indicates that planting more trees is the most effective way to reduce the city's temperature.

Our results suggest that urban school districts can improve children's academic performance by increasing tree cover, in particular by focusing on socio-economically disadvantaged schools.

Tree cover and species composition effects on academic performance of primary school students

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0193254

Tree Planting

- More trees at schools at high-needs schools in the suburbs
- Incorporating trees into more site projects
- Pay more attention to the quality of the planting (e.g., retaining arborists for large projects)
- Plant trees into generous soil volumes especially in harsh growing conditions
- Improve growing conditions for existing trees when opportunities arise

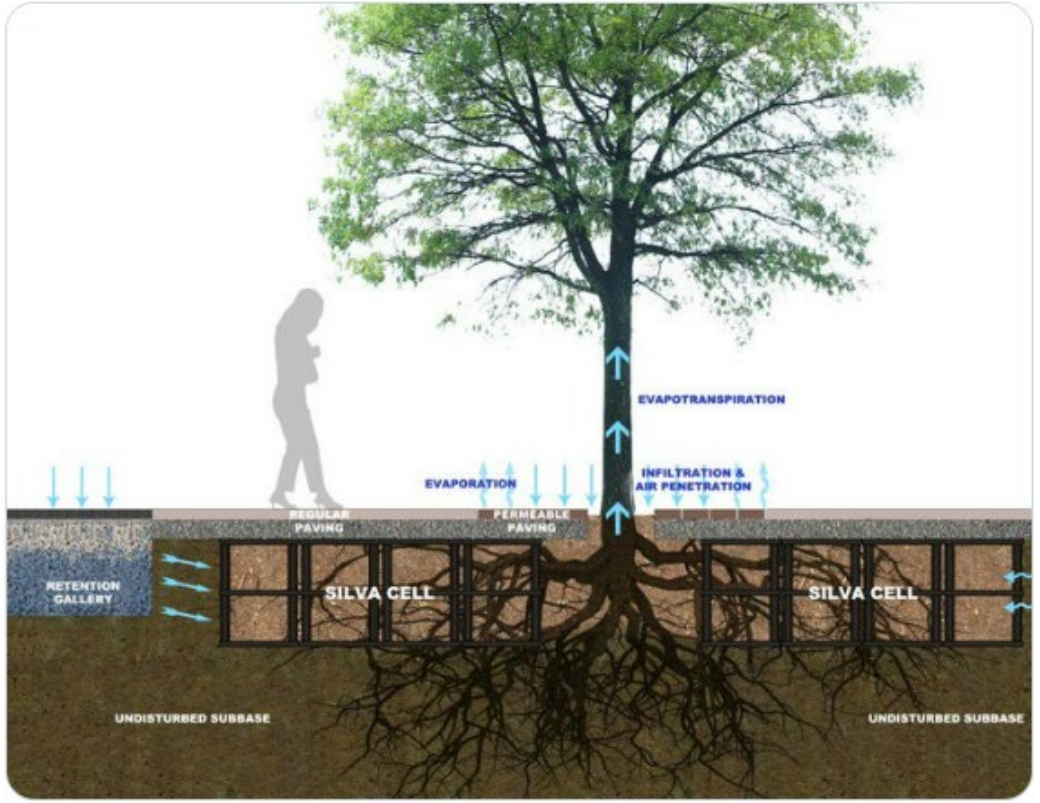
Fairmount Public School

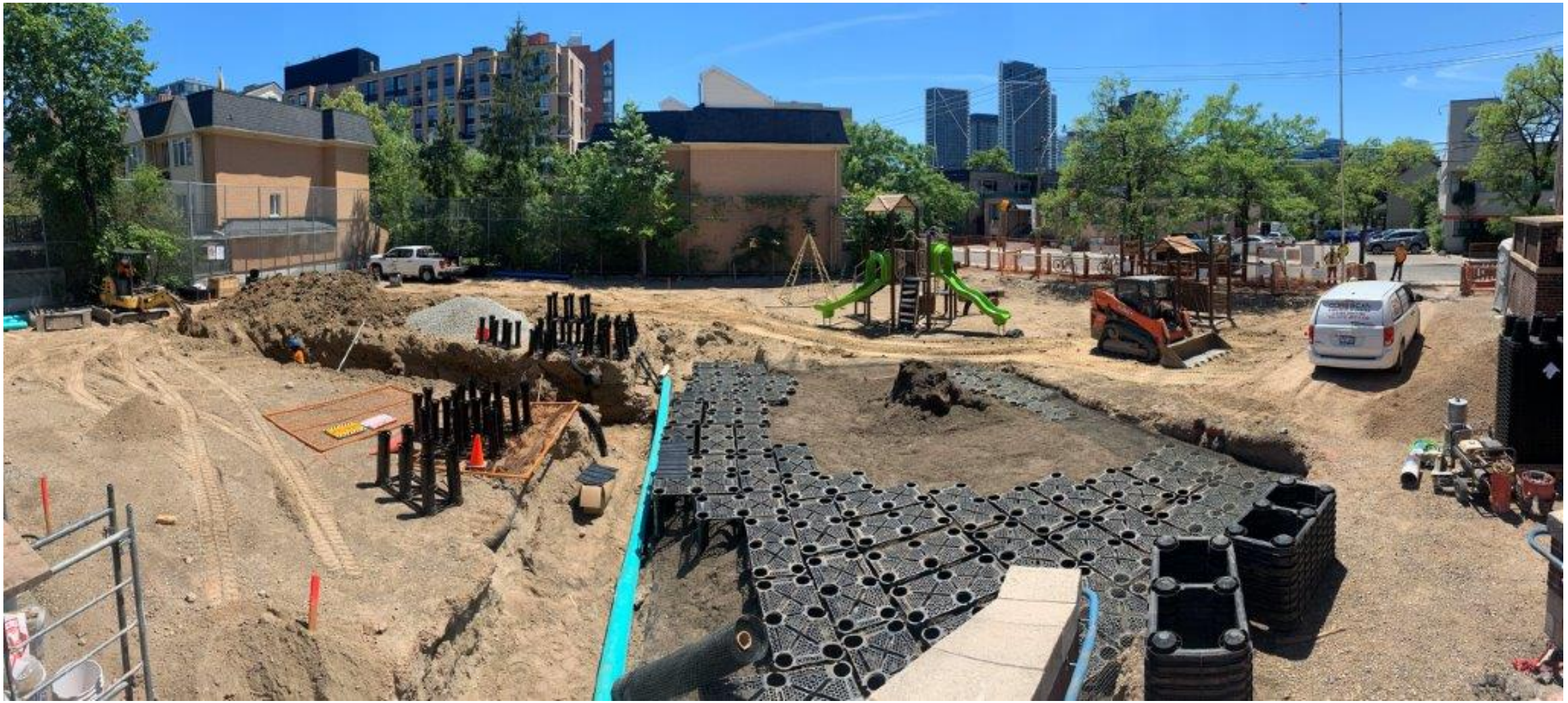
Greater use of soil cells

← Tweet

Jennifer Keesmaat
@jen_keesmaat

Wondering why some of our recent street trees are thriving so quickly? Silva cell technology protects root systems.



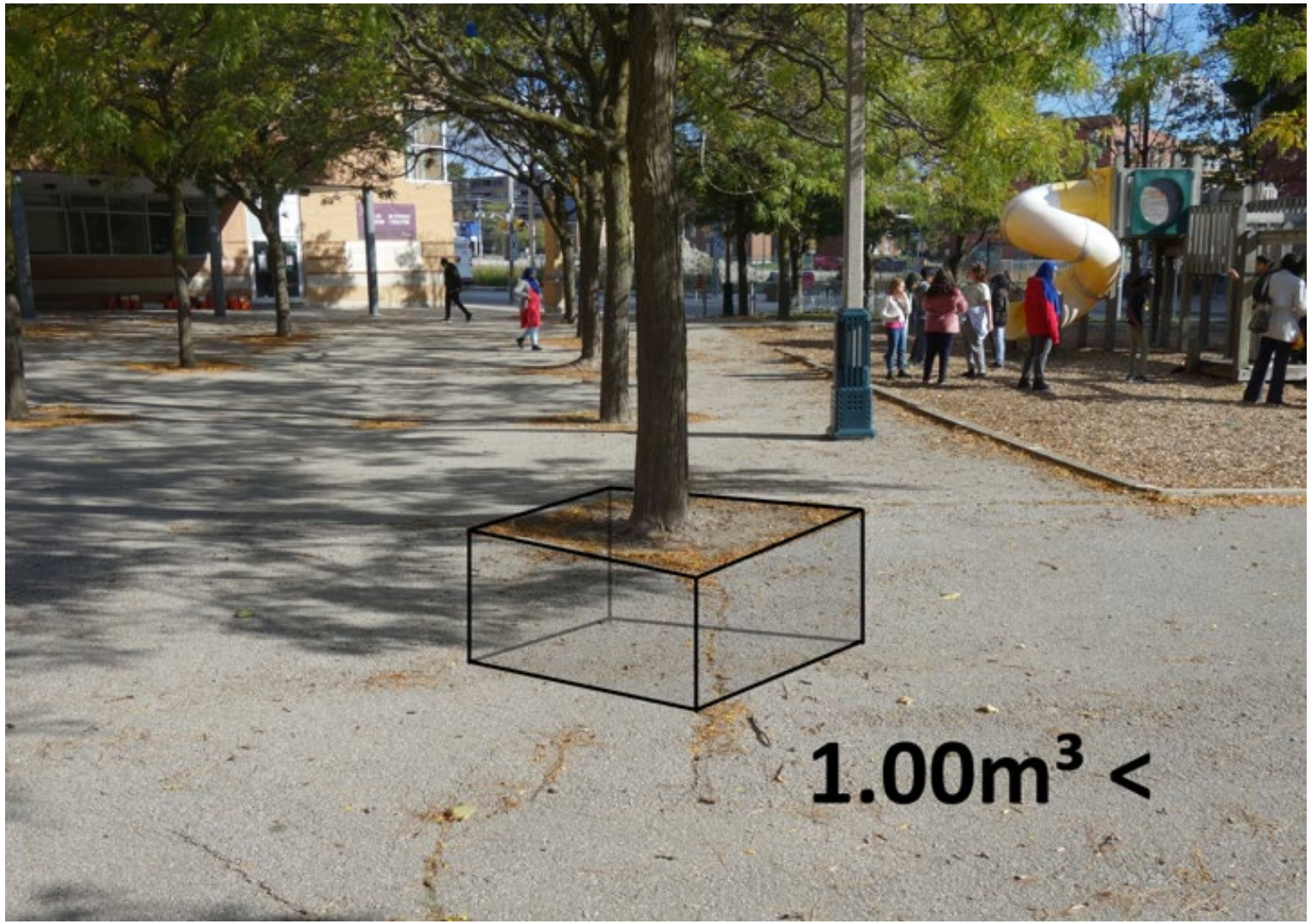


Niagara Street


Niagara Street

Lord Dufferin Junior and Senior Public School

Learning Opportunities Index (LOI): 12



Permeability

- Nova Scotia, July 2023

New York City, Sept. 2023

To mitigate the risk of flooding, cities need to increase permeable surfaces so that the water associated with extreme volumes of rain over short periods of time has a place to go, other than through stormwater infrastructure that was not designed for these types of storms.

Asphalt Cut Outs

Agincourt PS

Green Roofs Provide Cooling to Neighbourhood and Absorb Water

Commitment to better maintenance

Direction from the Board re the 2024 report

The Director include in the 2024 annual climate action report, a plan for reducing the Board's building-related energy consumption by 20 percent, including timelines and resources.

Revitalizing School Grounds

My Role

How can schools request a site-based project?

Through the **Viability Review** process Facility Services aims to support schools and tenants in understanding the types of site-based projects that can be completed within the TDSB.

Projects include:

- planting trees, shrubs, and gardens in raised beds;
- adding seating or other structures;
- large scale maintenance of an overgrown area;
- adding storage or play features;
- large projects that require a significant capital investment (involves detailed design solutions)
- Murals

Requesting a Viability Review Meeting

1. Download and complete the **Request for a Viability Review form**
2. Use the "submit" button in the PDF, or save it and send as an attachment to **Robin.McCrudden@tdsb.on.ca**

Once the form has been received, Sustainability staff will be in touch to schedule a virtual consultation.

Revitalizing School Grounds:

At its May 26, 2021 meeting, the Board of Trustees approved the *Long-Term Plan for Outdoor Learning* which included guiding principles and priorities for investments in school ground infrastructure.

The implementation of these principles and priorities represents a significant shift toward emphasizing equity when investing in school grounds.

Kensington CS

Lord Dufferin JSPS

Balancing equity while continuing to address urgent and high priority site infrastructure deficiencies

With nearly 600 schools and an overall repair backlog of $4.2 billion as of March 2023, site improvement requests must be triaged.

When prioritizing planned projects, consideration is given to:

- **Learning Opportunities Index (LOI):** a TDSB ranking of schools based on measures of external challenges affecting student success.

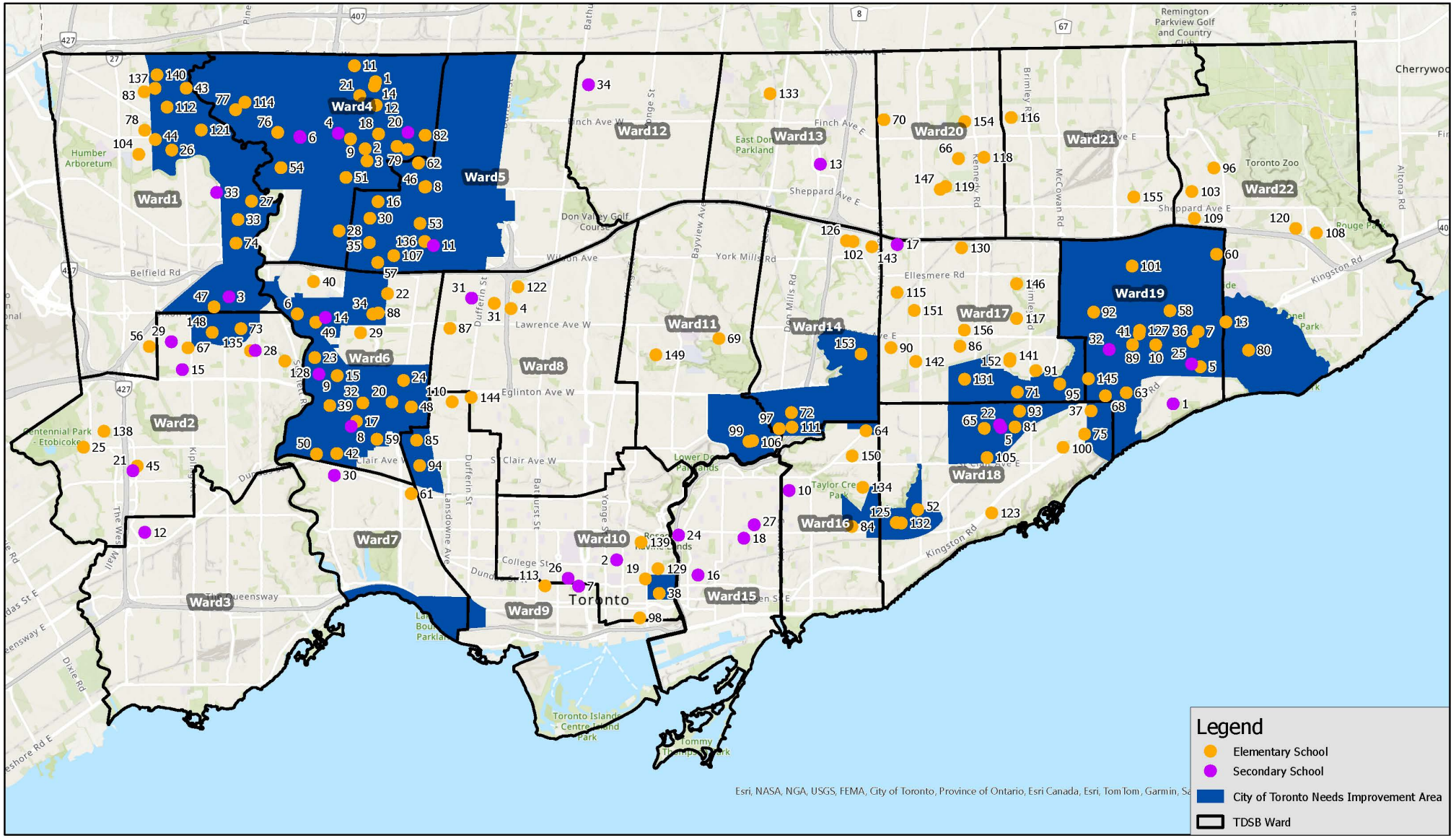
- **Neighbourhood Improvement Area (NIA):** neighbourhoods determined by the City of Toronto to have the most inequitable outcomes based on 15 indicators of inequity across five thematic domains: economic opportunities, social development, participation in decision making, physical surroundings and healthy lives.

While the goal is to plan as much work as possible using an equity lens to prioritize projects, resources continue to be set aside to respond to urgent and high priority infrastructure deficiencies.

Toronto District School Board

Correlation Between Neighbourhood Improvement Areas and Top Third Highest Needs Schools

Elementary (LOI 1-156) and Secondary (LOI 1-34)



Ward 15 schools

16 – Eastdale CI
18 – Subway Academy I
24 – CALC SS
27 – Greenwood SS

Q & A