



REPORT TO

REGULAR BOARD

STATUS UPDATE REGARDING AMENDMENTS TO TCDSB HOT WEATHER STANDARD OPERATING PROCEDURE (ALL WARDS)

*"I can do all this through Him who gives me strength."
Philippians 4:13 (NIV)*

Created, Draft	First Tabling	Review
February 27, 2017	April 19, 2017	
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RECOMMENDATION REPORT		

Vision:

At Toronto Catholic we transform the world through witness, faith, innovation and action.

Mission:

The Toronto Catholic District School Board is an inclusive learning community uniting home, parish and school and rooted in the love of Christ.

We educate students to grow in grace and knowledge to lead lives of faith, hope and charity.



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Angela Gauthier

Director of Education

A. EXECUTIVE SUMMARY

Toronto Public Health declared two heat events during the first week of the 2016/2017 school year: a heat alert on September 7, 2016 and an extreme heat alert on September 8, 2016.

During a 15 year reporting period of 2001 to 2016, Toronto Public Health declared a total of 110 heat alerts, of which 45 (41%) were issued during the school year (primarily in September, May and June). During the same reporting period, Toronto Public Health declared 90 extreme heat alerts, of which 29 (32%) were issued during the school year.

TCDSB schools would have been closed a total of **3 times in 2003, 8 times in 2005 and 5 times in 2010** during the school year if extreme heat alerts had triggered a school closure as the standard Board response.

School closure during extreme heat alerts is not feasible since it will have a direct impact on school operations, working families, students living in apartments or housing with no air conditioning (A/C), tenants such as child care agencies, and permit holders. From a health and safety standpoint, school closure is not necessary since the TCDSB Hot Weather Standard Operating Procedure incorporates a series of TCDSB best practices and responses to heat warnings that lower the risk of heat-related illness to young children, students and staff with pre-existing medical conditions and vulnerable employee groups such as custodians conducting summer school clean-up.

The Director of Education has the authority to close school(s) for emergency reasons under TCDSB Policy A. 16, Emergency School Closure. In schools with non-operable windows, which rely on mechanical ventilation, emergency closure will be considered in the event there is a power failure or the mechanical systems breaks down. School closure for safety reasons is foreseeable during an emergency declared by the City of Toronto arising from severe and prolonged heat waves or when the humidex is above 45°C. A humidex of 48°C was recorded in Toronto on July 21, 2011.

The reports provides feedback and comments from various stakeholders regarding amendments to the Hot Weather Protocol.

The cumulative staff time dedicated to developing this report was 28 hours.

B. PURPOSE

October 20, 2016 - at the Regular Board meeting, Trustees approved a motion directing staff to review the feasibility of emergency school closure during extreme heat events. Staff were directed to consult with Toronto Public Health, TECT, TSU, CUPE, OAPCE and other key stakeholders.

At the March 9, 2017 Corporate Services, Strategic Planning and Property Committee, Board directed staff to attach the Information report “Status Update regarding Indoor Air Temperature in Non-Air Conditioned Schools” (all Wards), as part of the April 2017 report regarding amendments to the TCDSB Hot Weather Protocol.

C. BACKGROUND

1. There is no maximum indoor regulated temperature in Ontario; however, the Education Act and Occupational Health and Safety Act place general duty obligations on School Boards for the care and safety of students and employees respectively.
2. Heat-related illnesses such as heat exhaustion and heat stroke are generally triggered by temperature, humidity and the level of physical exertion associated with hard physical work or high physical sports activity. The body may lose too much fluid through sweat and inadequate water intake. In the case of heat stroke, the body stops sweating all together causing the core body temperature to rise to dangerous levels.
3. **June 2006** - Director’s Council approved protocol for Tenant Requests for Use of Portable Air Conditioning Units, approving the use of “waterless” portable A/C units (12,000 to 7,000 BTU), for the months of July and August. The costs for supply and installation of the unit, as well as any electrical upgrades are to be borne by the childcare for exclusive use leased spaces. The childcare are charged a minimal fee for additional electrical consumption for the A/C units for July and August.
4. **October 18, 2006** - Board approved a TCDSB Heat Protocol in response to a sharp rise in heat alerts issued by the Medical Officer of Health in 2005 and 2006. The TCDSB Heat Protocol provides a series of school-based responses to mitigate the effects of hot weather on staff and students.

5. **April 16, 2016** - the City of Toronto Hot Weather Response Plan was updated to reflect a new standardized provincial heat alert system. The City of Toronto Plan focuses its attention to the vulnerable population: people experiencing homelessness, elderly people living alone, people with pre-existing illness, people living in apartments with no A/C and young children. Heat warnings are issued by the Medical Officer of Health based on the following provincial criteria:

Forecast Temperature High (°C)	Forecast Temperature Low (°C)	Forecast Humidex	Duration (days)	Medical Officer of Health will issue:
≥ 31	≥ 20	≥ 40	2	Heat Warning
≥ 31	≥ 20	≥ 40	3+	Extended Heat Warning

6. **November 2016** - the TCDSB Occupational Health and Safety Department updated the 2006 TCDSB Heat Protocol to a TCDSB Hot Weather Standard Operating Procedure (SOP) that references the new provincial harmonized heat warning system and incorporates TCDSB best practices and responses to heat events as summarized below (items in bold are new strategies arising from stakeholder consultation):

CITY OF TORONTO MEDICAL OFFICER OF HEALTH HEAT WARNING DECLARATION

✓	TCDSB Communications Department will forward all communications from Toronto Public Health re: Heat Events via e-mail to workers and other TCDSB stakeholders with active TCDSB email addresses.
✓	Principals will make frequent announcements reminding staff and students to drink plenty of water.
✓	Personal water bottles will be allowed at student desks and outside if necessary.
✓	Staff will be asked to close south-facing window coverings during the day.
✓	The use of fans will be encouraged throughout the school
✓	Natural ventilation through operable windows can be helpful for cooling. Natural ventilation can be improved by using fans near the open windows.
✓	If feasible, computers and lights will be turned off.
✓	If computers must be turned on, computer use will be limited to the earliest hours of the school day.
✓	If possible, students and staff will be moved from the top floor to the main floor
✓	If possible, students and staff will be moved to cooler sections of the building; rooms on lower floors, gymnasium, multiple program room, library and atriums
✓	Schools will limit outdoor physical education activities to the early morning. Staff and students will take frequent rest and water breaks.
✓	Since the gym tends to be cooler, some outdoor physical education activities will be scheduled in the gym.
✓	Where there are cooling centres in the school such as an air-conditioned library or classroom(s), students and staff will access these cooling centres on a rotation basis throughout the day.
✓	If feasible, identify outdoor cooling places that have shading (large trees or a roofed shade structure). Staff and students will access these cooling places on a rotation basis throughout the day. Please refer to the City of Toronto Shade Policy Guidelines for further information.

CITY OF TORONTO MEDICAL OFFICER OF HEALTH EXTENDED HEAT WARNING DECLARATION	
✓	Same steps as outlined under Heat Warning Declaration, plus
✓	All outdoor physical activity will be cancelled. Track and Field days will be rescheduled to rain days.
✓	If the school has mechanical ventilation with no operable windows and the mechanical ventilation malfunctions, school closure under TCDSB Policy A.16 Emergency School Closure, will be considered.

CITY OF TORONTO DECLARES AN EMERGENCY SEVERE AND PROLONGED HEAT WAVE THAT LEADS TO POWER OR WATER SHORTAGES INCREASED MORTALITY RATES, STRAINS ON HEALTHCARE SERVICES	
✓	TCDSB will activate the School Emergency Response Plan and Emergency Operation Centre (EOC)
✓	Schools will be closed under TCDSB Policy A.16 Emergency School Closure in consultation with TDSB, the Ministry of Education and Toronto Public Health.

EVIDENCE/RESEARCH/ANALYSIS

1. Toronto Public Health has posted heat alert statistics on their Web site from 2001 to 2016. The table below summarizes the number of heat alerts and extreme alerts issued from May 15 to September 30 each year as well as a comparison of those alerts issued during the school calendar year, primarily in September, May and June.

Year	Heat Alerts		Extreme Heat Alerts	
	Total	Sept – June	Total	Sept – June
2016	14	4	8	1
2015	8	2	4	2
2014	1	1	0	0
2013	7	6	6	2
2012	12	5	9	2
2011	7	3	5	0
2010	5	3	11	5
2009	1	0	2	2
2008	3	1	6	1
2007	10	6	5	2
2006	9	5	8	1
2005	8	5	18	8
2004	2	0	0	0
2003	3	1	3	3
2002	14	0	2	0
2001	6	3	3	0
TOTAL	110	45	90	29

2. From 2001 to 2016, Toronto Public Health declared a total of 110 heat alerts, of which 45 (approx. 41%) were issued during the school year (primarily in September, May and June). During the same reporting period, Toronto Public Health declared 90 extreme heat alerts, of which 29 (approx. 32%) were issued during the school year. If the school board had adopted a policy of school closure during extreme heat alerts, 29 school days would have been lost from 2001 to 2016 inclusive.

3. The table below shows the percentage of buildings that do not have air-conditioning. Approximately 54% of portables are air conditioned. All portables have mechanical ventilation units which circulate fresh air throughout the structure. The cost to add an air-conditioning unit to the existing mechanical unit is approximately \$6500/portable, for an estimated total of \$988,000.

TCDSB Sites	Elementary	Secondary	Portables
Total # of schools/portables	168	34	333
With A/C #	13	23	181
% of buildings or portables with AC	8%	68%	54%

4. **Consultation:** Staff consulted with several key stakeholders inviting written submissions, comments, suggestions, and revisions to the TCDSB Hot Weather SOP. The following are the results of the consultation.

Ontario School Boards

The Facilities Department requested copies of hot weather procedures from other school boards through the Ontario Association of School Business Officials (OASBO) Operations, Maintenance and Construction Committee. None of the school boards that responded invoked school closure during heat events. The focus of many school boards was on custodial working conditions during the summer and student safety during recess and physical education activities.

Toronto Public Health (TPH)

TPH responded that the TCDSB Hot Weather SOP is comprehensive. TPH provided helpful comments for staff's consideration related to windows/fans, physical education and outdoor cool spaces. The following comments from TPH have been adopted into the TCDSB Hot Weather SOP:

- for schools without air conditioning and if windows open, natural ventilation can be helpful for cooling. Natural ventilation can be improved by using fans placed near the windows.
- students and staff should be reminded to take frequent rest and water breaks during physical education activities.
- if feasible, identify outdoor cooling places that have shading (large trees or a roof structure). Staff and students will access these cooling places on a rotation basis throughout the day.

City of Toronto Children Services

- do not support closing schools as school closure would impact families
- operators would lose revenue and still be required to cover fixed costs such as staffing
- children services follow the direction of the Ministry of Health and Toronto Public Health during heat events.
- Note: TCDSB has had a protocol in place since 2007, regarding tenant use of portable air conditioning units, defined under the lease agreement for exclusive use space.

YMCA – does have a policy on Extreme Heat Alerts as follows

- during extreme heat alerts, current practice is that children don't go outside
- staff reduce strenuous activities for the children, provide quiet activities and plenty of water
- all lights are turned off in the space
- portable A/C units and fans are utilized where feasible

Learning Enrichment Foundation – no formal policy in place

- during extreme heat alerts, current practice is not take the children outside and provide quite activities

- extra fans are purchased and are used in conjunction with portable A/C units
- if possible, water play opportunities are provided outside if the program has access to a hose
- lights are lowered if possible
- drinking water is available at all times

PLASP Child Care Centres – formalized policy in place as follows

- sites that operate in the summer (not all are PLASP sites operate in July/August) are chosen based on their availability of air conditioning and close to water parks or cooling stations
- program go outside first thing in the morning and later in the afternoon
- quiet activities are planned outdoors in a shady area for a period of time
- water is always provided
- fans are used in spaces as needed

Family Day Child Care Services – no written policy for extreme heat

- physical activities are reduced during heat alerts
- plenty of water is available
- agency does not have portable air conditioners, but provides as many fans as possible
- if there is a room that is air conditioned, staff try to rotate groups through the room throughout the day
- try to find the coolest place possible to have cool down sessions, such as shaded outdoor areas. Quiet activities are planned in these shaded areas.
- the agency tries to work with the conditions as best as possible and monitor the children. Lots of water and quiet, calm activities are planned for the children

Ontario Association of Parents in Catholic Education (OAPCE)

Comments received by email, April 3, 2017:

- Ceiling Fans: Many parents asked why we do not see more of these in schools, as this might help alleviate the warm air in a room. It could be that rather than have ceiling fans in every classroom, place them in libraries or bigger rooms.
- Cooling Centres in schools: Parents noted that in many schools, the office, staff room, library and maybe the gymnasium have window-mounted air-conditioners in them. Can AC units be given to a number of classrooms on different floor levels i.e. if there is an old building that has three floors, maybe place several window units on the third and second floor, then allow classes to "take turns" using these classrooms. This may also become a good idea especially for high schools during exams.
- Fund-raising: Allow parents to fundraise to purchase and or donate portable air conditioners. This question comes up regularly from parents as to why they cannot purchase portable air conditioners using the funds that they raise, or through the donation of units. Parents noted that the Board would carry the burden of the electricity used to run the unit but perhaps the use can be controlled – used only on extreme heat days or under the discretion of the principal. Parents noted that this would create the 'have' and 'have not' inequity between schools.
- Dress code and Uniforms: When these heat alerts are given, when it is possible, schools should allow students an exemption from wearing their uniforms to be allowed to wear "lighter" clothing in school for the day. Just like when most of us may wear more casual clothes on hot days, offer this to our students as well. Most specifically, high school uniforms are usually made with a heavier material for the bottom and/or top. As a heat alert may be in place for several days, students would be allowed to wear cooler alternative clothing (appropriate for school).
- Portable Fans: Provide schools with more portable fans, once again allow parents to help contribute to the purchasing of them as well. Some parents also suggested that the school could purchase several pop-up tents to use at the school during the day to offer shade and have more outdoor classroom opportunities if possible.

Toronto Catholic Parent Involvement Committee (CPIC)

Email comments regarding revised Hot Weather Protocol received February 23, 2017 – primarily regarding clarifications to the text of the protocol.

Support Staff (CUPE) Joint Health and Safety Committee

There was no feedback provided by March 31, 2017. Further discussion will occur at subsequent Joint Health and Safety meetings.

Elementary Teachers' (TECT) Joint Health and Safety Committee

The following 12 recommendations were made:

- a) that the Board direct principals and teachers not to occupy portables without central air conditioning during a heat warning
- b) that schools without central air conditioning identify an accessible cooling centre within 500 meters that can accommodate 20% of the school population
- c) that the Board provide window coverings for south and west windows in worksites that do not have central air conditioning
- d) that the Director close schools during a heat warning that do not have an identified cooling centre within 500 meters and that can accommodate 20% of the worksite population
- e) that the Board produce a Standard Operating Procedure that includes the insert the Environment Canada chart on Humidex from Temperature and Relative Humidity Readings
- f) that the Board include a chart that outlines level of physical activity at different humidex levels as found in the Heat Stress Awareness Guide
- g) that the SOP include information that the use of fans, in conditions where the humidex reading is 35 or greater since it exacerbates the dangers of heat stress

- h) that the Director close or relocate schools where mechanical ventilation or central air conditioning is not working properly during heat warnings
- i) that the SOP include direction that in worksites with an identified cooling centre a schedule will be created to allow workers and students regular relief from the heat
- j) that the SOP include defined circumstances for school/worksites closures
- k) that the Board produce a Heat Stress poster for classrooms
- l) that the Board adopt the voluntary National Joint Council Occupational Health and Safety Directive that recommends that in offices, air temperatures should be maintained within the ideal temperature range of 20 °C to 26 °C range. Temperatures between 17 °C and 20 °C and above 26 °C can be uncomfortable, and occupancy in each of these extremes should not exceed 3 hours daily or 60 hours annually. Temperatures above 26 °C are deemed uncomfortable when the humidex reading at a given temperature equals 40 °C or less, with a reading of more than 40 °C considered dangerous.

Secondary Teachers' (TSU) Joint Health and Safety Committee

There was no feedback provided by March 31, 2017. Further discussion will occur at subsequent Joint Health and Safety meetings.

Elementary and Secondary School Principals Association Presidents

- a) Provide a floor plan drawing for each classroom/groups of similar configured classrooms showing best location for fans to optimum air circulation;
- b) Provide schools with a list of recommended fan types and unit rate suppliers/vendors for schools to purchase the fans;
- c) During hot weather/heat alerts that students located on the third floor can be relocated to the ground floor – gymnasiums, multi-program rooms and or to outdoor classrooms;

- d) Board should consider creating a cooling centre in each school such as in the library;
- e) Board should consider installation of ceiling fans in classrooms where there is the ceiling height.

D. METRICS AND ACCOUNTABILITY

1. The TCDSB Hot Weather Standard Operating Procedure will be reviewed annually by the TCDSB OHS Department. Any revisions will be made in consultation with the TCDSB Joint Health and Safety Committees and other stakeholders.
2. Not all TCDSB students, childcare attendees or staff live in air-conditioned buildings. Many Toronto Community Housing Corporation (TCHC) facilities for example, are not air-conditioned. Closing schools during extreme heat alert days may place these individuals in more difficult or precarious situations as well as may place a burden on parents and care-givers to find alternative accommodation for their children if the school and childcare are closed for several days due to a heat event.
3. System-wide school closure would need to be coordinated with our co-terminus board as this will impact school bus transportation. The TCDSB would be accountable for a percentage of the transportation costs during a school closure.
4. Schools are permitted to install a portable air conditioning unit in a room to provide a cooling centre for students that have medical issues related to extreme heat. The request is sent through the Area Superintendent, through to the Health and Safety department. The Maintenance department will assist with the installation of the unit.
5. Childcare tenants can request installation of portable A/C units for exclusive use leased space, for the months of July and August with the costs to be covered by the childcare.
6. The Board has a Standard Operating Procedure for set temperatures in schools, which was included in the Energy Management Plan approved in 2013. During the cooling season, Custodial staff are advised to maintain Air Conditioning systems at a minimum temperature of 25° C (77° F) for Occupied Spaces and for Minimum Occupancy/Unoccupied spaces, the minimum temperature setting is 30° C. These standard occupied temperature settings for both Cooling and Heating season are intended to provide a balance

for occupant comfort and energy conservation. Staff collect annual energy consumption information per building and post this on the Board's Energy Web site as was detailed in the TCDSB Energy Management Plan 2013 -2018 (Corporate Services, Strategic Planning and Property, June 2014).

7. Staff will collect indoor air temperature at twelve non-air-conditioned schools, one per Ward, for the months of May, June and September, commencing May 2017, as detailed in the report attached as Appendix B.
8. In 2016, the Board approved a \$300,000/year energy reduction target as part of the multi-year recovery plan. Board also approved becoming a "Net Zero" energy board. As a consequence, future initiatives to introduce air-conditioning in schools should be considered in light of achieving energy efficiency in schools. The "Net Zero" Energy study which is subject of a separate report, may recommend other alternative options – including alternative natural ventilation design features that are more energy-efficient than air conditioning.
9. The cost of creating an air-conditioned cooling centre in a typical elementary school library is approximately \$35,000/school (supply and installation). The total cost to add a cooling centre in the existing 155 non-A/C elementary schools would be between \$5.4M. The Board would need approval from the Ministry of Education to fund this initiative from School Renewal funding. This would have an impact of the Board's current School Operations budget and the utility budget.
10. The cost to add ceiling fans to a non-A/C school is dependent of a variety of factors; the number and size of rooms, sufficient floor to ceiling height, type and size of fan. A rule of thumb for estimated cost is \$2000/room to install one or two fans (including addressing asbestos and providing electrical power and controls).

E. STAFF RECOMMENDATION

1. That the Board approve the TCDSB Hot Weather Standard Operating Procedure as detailed in Appendix A.
2. That the report regarding the collection of indoor air temperature at twelve sample schools, one per Ward, as detailed in Appendix B, is provided for the consideration of the Board.