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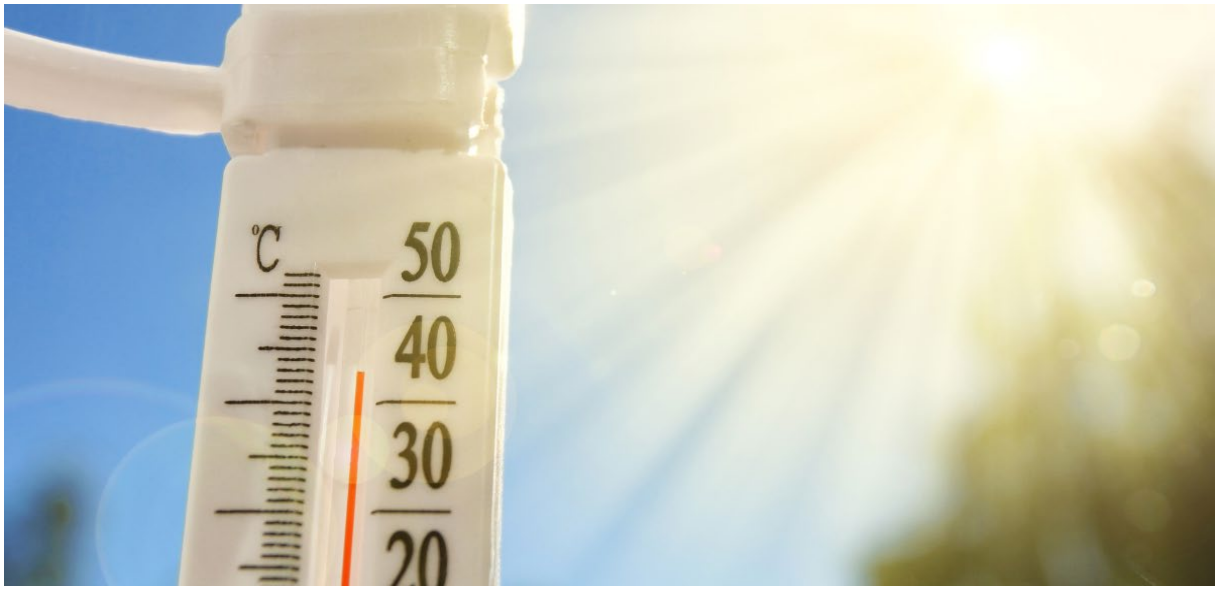

The Urgent Need for a Maximum Temperature By-Law in the City of Ottawa

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1. Introduction

It has been over 5 years since the City of Ottawa's Standing Committee on Environmental Protection, Water and Waste Management officially declared a citywide climate emergency on April 24, 2019.[1] The stated purpose of this declaration was to deepen the City's commitment to protecting the ecosystems, community, and economy from climate change.[2] However, the City has yet to pass a maximum temperature by-law to address indoor extreme heat in residential apartments, leaving tenants at risk of serious health impacts from heat exposure.

TEMPERATURES IN CANADA AND OTTAWA ARE RISING AT AN UNPRECENDENTED RATE

As of January 18, 2022, over 650 municipalities across Canada have declared a climate emergency.[3] As global temperatures continue to rise due to climate change, so will the length, frequency, and intensity of extreme heat events.[4]

Canadians have already begun to experience the stark increase in both daytime and nighttime temperatures. The average mean temperature in Canada has risen by 1.7°C from 1948 to 2016 and is expected to drastically increase between 1.8°C and 6.3°C by the end of the century.[5]

The City of Ottawa projects that there will be a stark increase in the number of extreme heat days in Ottawa. In 2020, there were approximately 11 days per year with temperatures reaching above 30°C. By 2030, the City predicts that it will experience approximately 25 to 28 days per year with maximum temperatures reaching above 30°C, more than doubling the number of extreme heat days.[6] By the 2050s, the number of extreme heat days is projected to reach 32 to 43 days per year.[7]

EXTREME HEAT EVENTS HAVE MAJOR HEALTH IMPLICATIONS

Extreme heat is a public health emergency and immediate action must be taken by all municipalities to reduce heat-related illnesses and deaths. Various life-threatening conditions

[1] Standing Committee on Environmental Protection, Water and Waste Management, "City of Ottawa – Declaration of Climate Emergency (City Wide)", ACS2019-CCS-ENV-0005 (April 24, 2019), online: https://pub-ottawa.escribemeetings.com/filestream.ashx?documentid=26458.
[2] Standing Committee on Environmental Protection, Water and Waste Management, "City of Ottawa – Declaration of Climate Emergency (City Wide)", ACS2019-CCS-ENV-0005 (April 24, 2019).
[3] Random Acts of Green, "650 Municipalities Have Declared a Climate Emergency in Canada" (January 18, 2022), online: https://raog.ca/climateemergency-declarations-canada/.
[4] Government of Canada, "Communicating the Health Risks of Extreme Heat Events: Toolkit for Public Health and Emergency Management Officials" (2011) at 1, online: https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/climat/heat-chaleur/heat-chaleur-eng.pdf.
[5] Government of Canada, "Changes in Temperature" (April 9, 2019), online: https://www.canada.ca/en/environment-climatechange/services/climate-change/canadian-centre-climate-services/basics/trends-projections/changes-temperature.html.
[6] City of Ottawa, "Climate Projections for the National Capital Region, Executive Summary" (June 2020) at 5, online: https://documents.ottawa.ca/sites/documents/files/climateprojects_execsummary_en.pdf.
[7] City of Ottawa, "Climate Projections for the National Capital Region, Executive Summary" (June 2020) at 5.

can occur when the body cannot maintain its core temperature of approximately 36.6°C due to excessive external heat.[8] These include dehydration, skin rashes, cramps, heat exhaustion, heat stroke, and premature death.[9]

In Quebec, 2018 was the hottest summer on record in 146 years and 86 heat-related deaths were recorded.[10] In British Columbia, 619 heat-related deaths were recorded between June 25 and July 1, 2021.[11] There is no comparable information on heat-related deaths in Ontario, as the Coroner's Office does not adequately track heat-related deaths.[12] As the impacts of the climate emergency worsen, we can expect more extreme heat events and all of the corresponding health risks in Ottawa.

2. Extreme Heat and Vulnerable People

CANADA'S NATIONAL ADAPTATION STRATEGY

Canada's National Adaptation Strategy calls for ambitious and collective adaptation action that is equitable and inclusive to ensure that everyone's lives and welfare are protected from the impacts of a changing climate. The strategy goes on to identify extreme heat events as the deadliest weather-related events in the country.[13] With an objective of protecting people from urgent climate-related health risks, the Strategy sets a target of 2040 to eliminate all heat-related deaths.[14]

CASE STUDY – QUEBEC

An analysis of the deaths in Quebec during the 2018 heat wave found that people who were older, socially isolated, low-income, and those with a chronic disease or a psychotic disorder

[8] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022) at 11, online: https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf.
[9] Kim Perrota, "Climate change, population health and health equity: Public health strategies and five local climate solutions that produce health and health equity benefits" (November 2023) at 47, online: https://www.cpha.ca/sites/default/files/uploads/resources/climateaction/2023-11-net-zero-final-report_e_final.pdf.
[10] Annick Poitras, "Extreme Heat Waves in Quebec", online: https://climatedata.ca/case-study/extreme-heat-waves-in.
[11] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" at 4.
[12] Canadian Environmental Law Association, "Heat-related Death Tracking Ontario" (July 14, 2021), online: https://cela.ca/wp-content/uploads/2021/07/Letter_Tracking_Heat-Related_Deaths.pdf.
[13] Environment and Climate Change Canada, "Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy" (August 1, 2023) at 6, online: https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy.html.
[14] Environment and Climate Change Canada, "Canada's National Adaptation Strategy: Building Resilient Communities and a Strong Economy" (August 1, 2023) at 23.

were most vulnerable to the impacts of heat.[15] For example, 8 of the 53 people who died in the City of Montreal during the 2018 heat wave lived in a long-term care home.[16] An evaluation of heat-related deaths in Quebec further found that the majority of the people who died did not have access to active cooling like air-conditioners or heat pumps, and lived in an urban heat island, such as Montreal.[17]

CASE STUDY – BRITISH COLUMBIA

After the 2021 extreme heat event in British Columbia, the provincial government found that 98% of the 619 deaths occurred indoors.[18] Of these 619 people, 90% were over the age of 60. Most of the people who died did not have adequate cooling systems. Deaths were higher among those living in socially or materially deprived neighborhoods with poor-quality housing. Unhoused individuals and overall deprivation were also identified as risk factors for increased mortality rates.[19]

A report to the Chief Coroner of British Columbia explicitly identified high indoor temperatures as the primary cause of injury and death during this extreme heat event.[20] This report goes on to state:

> "During this time, hot air became trapped indoors and continued to rise over time. Although outdoor temperatures decreased overnight, residences did not cool off, exposing people to harmful high temperatures for extended periods of time. The BC Centre for Disease Control (BCCDC) identified that people were most in danger when indoor temperatures remained above 26 degrees throughout the heat event."[21]

INDOOR HEAT ABOVE 26°C IS DANGEROUS

Tenants are the most susceptible to extreme heat events because many lack access to air conditioning or cooling and are unable to control the temperature within their rental units. A 2024 ACORN Ottawa report surveyed 295 residents in Ottawa and nearly half of survey respondents reported that their units were too hot during the summer, and 40% of them

[15] Santé Montreal, "Heat Wave Summer 2018 in Montreal" (2018) at 1, online: https://santemontreal.qc.ca/fileadmin/fichiers/professionnels/DRSP/Directeur/Rapports/Resume_EnqueteChaleurMtl_2018_Anglais.pdf.
[16] Center-Sud-de-l'Île-de-Montréal Integrated University Health and Social Services Center, "Heat Wave: July 2018 – Montreal Preliminary Assessment" (2018) at 2, online: https://santemontreal.qc.ca/fileadmin/fichiers/actualites/2018/07_juillet/BilanCanicule2018VF.pdf.
[17] Center-Sud-de-l'Île-de-Montréal Integrated University Health and Social Services Center, "Heat Wave: July 2018 – Montreal Preliminary Assessment" (2018) at 2.
[18] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022) at 5.
[19] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022) at 17.
[20] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022) at 22.
[21] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022) at 22.

reported not having air conditioning.[22] The majority of these survey respondents (71%) rent from a private corporation.[23] In one tenant testimonial, the tenant said:

> The heat will likely kill us. It's causing serious illness every summer already. It's unsafe and we have no alternative. We could succumb to it any summer. I lost at least two weeks of sick time from work last summer due to illness from heat. Working full time from home I am trapped in it.[24]

A 2024 study of older adults in Ottawa found that core temperature and cardiovascular strain increased progressively above the threshold of exposure to 26 degrees Celsius indoors.[25] This finding is supported by a two-decade Statistics Canada study which finds that extreme heat is related to higher mortality risks for those aged 65 and older.[26]

In the Government of British Columbia's report following the extreme heat event and deaths in the summer of 2021, high indoor temperature was identified to be the primary cause of injury and death.[27] The British Columbia Centre for Disease Control found that people were most in danger when indoor temperatures remained above 26°C throughout the event.[28]

A study in New York also found that humidity exposure and indoor heat above 26°C increased the proportion of emergency calls due to cardiovascular and respiratory distress.[29] A study by the American Journal of Alzheimer's Disease & Other Dementias found that the symptoms of dementia were significantly exacerbated when patients were exposed to temperatures above 26°C.[30] In elderly people, chair rise and balance were significantly lower when these individuals were exposed to a temperature of 27°C, demonstrating increased mobility problems.[31] Therefore, it is crucial that indoor temperatures remain under 26°C.

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[22] ACORN, "Ottawa Climate Report 2024." (July 2024), online: https://acorncanada.org/wp-content/uploads/2024/07/Ottawa-Climate-Report-2024.pdf.
[23] ACORN, "Ottawa Climate Report 2024." (July 2024) at 10.
[24] ACORN, "Ottawa Climate Report 2024." (July 2024) at 22.
[25] Meade RD., et al., "Effects of Daylong Exposure to Indoor Overheating on Thermal and Cardiovascular Strain in Older Adults: A Randomized Crossover Trial." (February 8, 2024) Environ Health Perspect, online: https://ehp.niehs.nih.gov/doi/10.1289/EHP13159.
[26] Statistics Canada, "The impacts of extreme heat events on non-accidental, cardiovascular, and respiratory mortality: An analysis of 12 Canadian cities from 2000 to 2020." (June 19, 2024) at 8, online: https://www150.statcan.gc.ca/n1/en/pub/82-003-x/2024006/article/00001-eng.pdf?st=jzCexIUi.
[27] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" at page 22.
[28] Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" at page 22.
[29] Uejio C., et al., "Summer indoor heat exposure and respiratory and cardiovascular distress calls in New York City, NY, US." (August 2016) Indoor air, 26(4), at 594-604, online: https://pubmed.ncbi.nlm.nih.gov/26086869/.
[30] Tartarini F., et al., "Indoor air temperature and agitation of nursing home residents with dementia." (April 2017) Am J Alzheimers Dis Other Demen, 32(5), at 272-281, online: https://pubmed.ncbi.nlm.nih.gov/28429641/.
[31] Lindemann U., et al., "Effect of indoor temperature on physical performance in older adults during days with normal temperature and heat waves." (February 2017) Int J Environ Res Public Health, 14(2), at 186, online: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5334740/.

3. Why is Indoor Cooling in Apartment Units Essential?

COOLING OUTSIDE OF THE HOME IS NOT ADEQUATE

For those with mobility challenges, disabilities, or respiratory problems, public cooling centres are not adequate. Although these public cooling centres are essential for unhoused people or outside workers, they are not adequate for those indoors or those with disabilities. For individuals with mobility or respiratory issues, movement is further impaired by extreme heat.[32] Getting to a public cooling centre is extremely difficult or near impossible. The most vulnerable populations during an extreme heat event, and the majority of the people who died in British Columbia during the extreme heat event in 2021, needed resources within their homes to survive.[33]

Similarly, common cooling rooms in resident buildings have been found to be ineffective. Common cooling rooms have been described as "effectively useless" by long-term care advocates as most residents stay in their rooms and staff often do not have the opportunity to bring all residents down to these rooms.[34]

LANDLORDS ARE NOT CURRENTLY OBLIGATED TO COOL BUILDINGS

Landlords across Ontario are obligated to provide a minimum level of heat. For example, the *Residential Tenancies Act* defines heat as a 'vital service' that the landlord is obligated to supply and in *O. Reg. 517/06: Maintenance Standards*, section 15 provides details on heating systems within all habitable space in rental units.[35] Air-conditioning or cooling is not similarly defined. As a result, the *Residential Tenancies Act* does not include any comparable requirements for cooling.

Ottawa does not currently have a maximum temperature bylaw. Ottawa's current "Heat By-Law" refers to a minimum temperature bylaw, which states that a room cannot be colder than 16.67 degrees Celsius.[36]

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[32] Brishti Basu, "They were trying to figure out how to stay alive: Disability advocates slam heatwave response" (June 7, 2022), online: https://www.capitaldaily.ca/news/disability-advocates-slam-heatwave-response.
[33] Brishti Basu, "They were trying to figure out how to stay alive: Disability advocates slam heatwave response" (June 7, 2022).
[34] Katherine DeClerq, "All Ontario long-term care homes now have air conditioning, but not all have them in resident rooms"(May 27, 2021), online: https://toronto.ctvnews.ca/all-ontario-long-term-care-homes-now-have-air-conditioning-but-not-all-have-them-in-residentrooms.
[35] *Residential Tenancies Act*, 2006, S.O. 2006, c. 17; O. *Reg. 517/06: Maintenance Standards*, s 15.
[36] City of Ottawa, by-law No. 2010-210, Heat By-Law (2010), s 3.

4. City of Ottawa's Response to the Climate Emergency

OTTAWA'S CLMATE PLANS

In 2020, the City of Ottawa released their five year Climate Change Master Plan designed to reduce greenhouse gas emissions.[37] The Master Plan identifies a climate resiliency strategy and energy evolution as two of its priority actions for the short term (2020-2025).[38]

In the City of Ottawa's 2022 *Climate Change Vulnerability and Risk Assessment,* extreme heat, drought and humidity is identified as a priority risk. The report raises concerns about increased heat-related illnesses.[39] The Report also highlights that residents over the age of 65 will account for over 22% of the population by 2035, which is a concern because those residents will be more susceptible to heat-related illnesses.[40] 12.6% of Ottawa's population are living with income below the low-income measure and 42% of renters reported paying more than 30% of their before-tax household income on housing.[41] The report's summary of extreme heat, drought and humidity impacts, vulnerabilities and consequences highlights that 20% of Ottawa residents lack air conditioning access in their homes. Possible consequences may include more heat-and smoke related illnesses and fatalities, especially for disproportionately impacted populations.[42]

In Ottawa's draft Climate Resilience Strategy, its second strategic objective is to protect residents from extreme heat. The draft strategy identifies that the city should explore how to increase access to cooling in housing through regulations, such as a maximum heat by-law.[43]

5. Model By-Law for the City of Ottawa

A maximum temperature by-law in the City of Ottawa would require landlords to provide infrastructure so that tenants may cool their units either through heat pumps, air conditioning or other means, and maintain a maximum temperature of 26°C within the residential unit.

This model by-law is a recommendation for municipalities to adopt. It combines various legal sources including O. Reg. 517/06: Maintenance Standards, Mississauga's Adequate

[37] City of Ottawa, "Climate Change Master Plan" (January 2020) at iii, online: https://ottawa.ca/en/living-ottawa/environment-conservation-and-climate/risksimpacts-climate-change#section-6ff7c789-ee02-4e8c-afb8-0637561d32af.
[38] City of Ottawa, "Climate Change Master Plan" (January 2020) at iii.
[39] City of Ottawa, "Climate Change Vulnerability and Risk Assessment" (May 30, 2022) at 24, online: https://ehq-production-canada.s3.ca-central-1.amazonaws.com.
[40] City of Ottawa, "Climate Change Vulnerability and Risk Assessment" (May 30, 2022) at 25.
[41] City of Ottawa, "Climate Change Vulnerability and Risk Assessment" (May 30, 2022) at 26.
[42] City of Ottawa, "Climate Change Vulnerability and Risk Assessment" (May 30, 2022) at 31.
[43] City of Ottawa, "Draft Climate Resilience Strategy, Resilient Communities." (March 2024), online: https://ehq-production-canada.s3.ca-central-1.amazonaws.com.

Temperature By-Law 0110-2018, Durham's Community Adaptation Plan and Vancouver's Omnibus Climate Emergency Building Report.

WHEREAS sections 8, 9 and 10 of the *Municipal Act, 2001*, S.O. 2001, c.25, (the "*Municipal Act, 2001*") authorize a municipality to pass by-laws necessary or desirable for municipal purposes, and in particular, paragraphs 5, 6 and 8 of subsection 10(2) provide that a single-tier municipality may pass by-laws respecting the economic, social and environmental well-being of the municipality, the health, safety and well-being of persons, and the protection of persons and property;

AND WHEREAS section 425 of the *Municipal Act, 2001* authorizes a municipality to pass by-laws providing that a person who contravenes a by-law of the municipality passed under that Act is guilty of an offence;

AND WHEREAS section 436 of the *Municipal Act, 2001*, provides that a municipality may pass a by-law providing that the municipality may enter on lands at any reasonable time for the purpose of carrying out an inspection to determine whether a by-law of the municipality has been complied with;

AND WHEREAS sections 444 and 445 of the *Municipal Act, 2001*, provide that the municipality may make an order requiring the person who contravened the by-law or who caused or permitted the contravention or the owner or occupier of the land on which the contravention occurred to discontinue the contravening activity or to do work to correct the contravention;

AND WHEREAS the City of Ottawa considers it necessary to regulate cooling in all rented or leased dwellings.

DEFINITIONS

1. In this By-Law:

"adequate and suitable cooling" means an indoor air temperature in the dwelling unit that does not exceed 26 degrees Celsius (26°C).

"dwelling unit" means one or more habitable rooms used or designed to be used for human habitation;

"habitable space" means a room or area used or intended to be used for living, sleeping, cooking, or eating purposes and includes a washroom;

"landlord" includes,

(a) the owner of a rental unit or any other person who permits occupancy of a rental unit, other than a tenant who occupies a rental unit in a residential complex and who permits another person to also occupy the unit or any part of the unit,

(b) the heirs, assigns, personal representatives, and successors in title of a person referred to in clause (a), and

(c) a person, other than a tenant occupying a rental unit in a residential complex, who is entitled to possession of the residential complex and who attempts to enforce any of the rights of a landlord under a tenancy agreement or the *Residential Tenancies Act*, including the right to collect rent;

"qualified tradesperson" is someone who is a licensed Refrigeration and Air Conditioning Systems Mechanic or Electrician, including apprentices of the trade, as per the Skilled Trade Public Register[44], or someone else who is qualified to professionally install the approved cooling device.

"tenant" includes a person who pays rent in return for the right to occupy a rental unit and includes the tenant's heirs, assigns, and personal representatives, but "tenant" does not include a person who has the right to occupy a rental unit by virtue of being, (a) a co-owner of the residential complex in which the rental unit is located, or (b) a shareholder of a corporation that owns the residential complex;

ADEQUATE AND SUITABLE COOLING

2. (1) Adequate and suitable cooling shall be provided and maintained so that the room temperature at 1.5 metres above floor level and one metre from exterior walls in all habitable spaces and in any area intended for normal use by tenants, including recreation rooms and laundry rooms but excluding locker rooms and garages, is a maximum of 26°C.

   (2) Subsection (1) does not apply to a rental unit in which the tenant can regulate the temperature and a maximum temperature of 26°C can be maintained.

   (3) Every dwelling unit shall have cooling equipment capable of maintaining the temperature levels required by subsection (1).

   (4) Only cooling equipment approved for use by a recognized standard testing authority shall be provided in a room used or intended for use for sleeping purposes.

[44] Skilled Trades Ontario, "Public Register Search" (2023), online: https://services.skilledtradesontario.ca/STOportal/app/public-search.

(5) The landlord is responsible for the safe installation of the approved cooling equipment by a qualified tradesperson.

3. Section 2 shall be implemented by the landlord within one year of the passing of this by-law.

5. Interim Recommendations

Tenants in the City of Ottawa need relief from the extreme heat immediately. Along with the urgent need to implement a maximum temperature by-law in Ottawa, CELA recommends the following interim and complementary measures:

1. **Implement a program or expand existing programs to provide and install free heat pumps or air conditioners** to income-eligible tenants and seniors in Ottawa.
2. **Provide income-eligible tenants with financial support** to cover any additional, ongoing utilities costs associated with using new active cooling infrastructure.
3. Expand current funding assistance programs to **provide landlords with funding to make capital expenditures** to upgrade buildings to be energy efficient and include active cooling infrastructure. The funding *must* stipulate that the costs of these capital upgrades cannot be passed on to tenants.
4. **Direct Ottawa Public Health to track heat-related deaths and emergency room visits** related to exposure to heat during extreme heat events.
5. **Implement emergency measures:**
    - **Mandate temporary cooling spaces** that are air-conditioned to be available in all apartment buildings.
    - **Equip public and community spaces** - such as community centres, schools, and libraries - to serve as cool spaces in the most impacted communities during extreme and prolonged heat waves.
    - **Provide free transit on extreme heat days** to allow for mobile cooling and to make it easier for people suffering from heat to travel to cool public and community spaces.
    - **Protect vulnerable tenants in case of infrastructure failures**, such as ensuring there are backup power generators for apartments so that seniors and people with mobility devices may leave hot apartments during a heat wave-induced power outage.