LS25.1

REPORT FOR ACTION

Mitigating the Negative Impacts of Extreme Heat in Apartment Buildings

Date: April 26, 2018
To: Licensing and Standards Committee
From: Executive Director, Municipal Licensing and Standards
Wards: All

SUMMARY

This report makes recommendations to mitigate the negative impacts of extreme heat in apartment buildings. A number of tenants living in apartment buildings experience very high temperatures in their units and only 6 percent of apartment buildings in Toronto are reported to have air conditioning. The report recommends that staff develop an interdivisional working group to identify strategies to address excessive indoor temperatures in apartment buildings. It requests that the provincial and federal governments expand financial incentives for retrofits for buildings to improve indoor temperatures for tenants. Setting a maximum indoor temperature standard for all apartment buildings in Toronto is not recommended at this time due to technical and financial barriers, as previously reported by Toronto Public Health.

This report also recommends amending Chapter 497, Heating, to clarify that landlords do not need to turn the heat on between September 15 and June 1 where the indoor temperature in the unit is already a minimum of 21 degrees Celsius and communicating to landlords and tenants about providing heat during spring and fall. The City of Toronto requires landlords to maintain a minimum indoor temperature of 21 degrees Celsius between September 15 and June 1. While this requirement is intended to ensure that tenants are protected from being too cold, it can cause confusion and frustration when unseasonably warm weather occurs in the fall or spring between these dates, and apartment buildings have turned their heating systems on, resulting in uncomfortably high temperatures.

This report also recommends updating the heating bylaw to be consistent with enforcement authorities granted by the City of Toronto Act in 2006.

The following City divisions were consulted in the preparation of this report: Legal Services; Toronto Public Health; Social Development, Finance and Administration; Environment and Energy; The Atmospheric Fund; and the Chief Resilience Officer.

RECOMMENDATIONS

The Executive Director, Municipal Licensing and Standards, recommends that:

1. City Council direct the Executive Director, Municipal Licensing and Standards, the Medical Officer of Health, the Executive Director, Social Development, Finance and Administration, the Director, Environment and Energy Division, and the Chief Resilience Officer, in consultation with other appropriate divisions, to establish a working group to identify strategies to address excessive indoor temperatures in apartment buildings, including a review of the feasibility of the following, and to report back to the Tenant Issues Committee in the fourth quarter of 2019:

    a. require that all existing apartment buildings provide air conditioned units or an air conditioned cool room in the building.

    b. require that all new apartment buildings have air conditioning and add measures that enable passive cooling.

    c. require that all apartment buildings undergo retrofits, such as new windows, heavy-duty screens, cladding and other passive and active cooling systems and updated heating systems to mitigate the negative health impacts of heat on tenants.

2. City Council request the provincial and federal governments expand financial incentives, including grants and low-cost loans, for owners of apartment buildings to undertake retrofits that would improve indoor temperatures and increase access to cool rooms for tenants, and to provide guidance to support this goal.

3. City Council amend Municipal Code Chapter 497, Heating, to clarify that landlords do not need to turn the heat on between September 15 and June 1 where the unit is a minimum of 21 degrees Celsius without heating.

4. City Council direct the Executive Director, Municipal Licensing and Standards, to develop and implement a plan to communicate to landlords and tenants about providing heat during the spring and fall and clarifying that landlords do not need to turn the heat on between September 15 and June 1 where the unit is a minimum of 21 degrees Celsius without heating.

5. City Council update Municipal Code Chapter 497, Heating, to be consistent with authorities granted by the City of Toronto Act, 2006, to:

    a. increase the maximum fine amount from $5,000 to $100,000;

    b. establish special fines where it is determined that the conduct could have resulted in economic advantage or gain to the party found to have breached the by-law;

    c. create an offence for failing to comply with an order;

d. establish that directors or officers of a corporation knowingly concurring in the contravention of any offence under the bylaw by the corporation are guilty of an offence;

e. specify the authority of the City to enter on land to inspect to determine compliance with the bylaw, a direction or order of the City or a direction or order made under a bylaw.

FINANCIAL IMPACT

There are no financial impacts associated with this report. The costs associated with the communications plan recommended in this report will be funded through the RentSafeTO budget, which has annual funding for communications to landlords and tenants.

This report is consistent with projected program costs included in the approved 2018 Operating Budget.

The Acting Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

On March 19, 2018, Executive Committee referred EX32.18 Municipal Licensing and Standards - Update on Heat in Apartments (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX32.18)to Municipal Licensing and Standards to staff and requested that information about a maximum indoor temperature of 26°C be included in this report.

On March 5, 2018, Board of Health adopted HL25.3 Increasing Access to Cooling in the Community (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.HL25.3) and requested that staff conduct a trial of a Heat Relief Network that would maximize access to public air-conditioned spaces.

On October 2, 2017, City Council adopted MM32.50 Protecting Toronto's Tenants from Extreme Heat (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.MM32.50) and directed staff to identify potential solutions to effectively deal with heat in apartment buildings, including maximum temperature in apartments and applicable dates in the heating chapter and property standards chapter.

On May 17, 2017, the Board of Health adopted HL19.5 Reducing Vulnerability to Extreme Heat in the Community and at Home (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.HL19.5) with recommendations to encourage landlords to provide tenants with access to an indoor cool room or outdoor shaded space. It also requested that the federal and provincial

governments provide financial incentives and guidance to apartment building owners to do retrofits to reduce the impact of extreme heat on health and decrease the need for air conditioning. The report noted that a health-based maximum indoor temperature of 26 degrees Celsius is a desirable long-term goal, but did not recommend adopting a maximum indoor temperature standard for all apartment buildings due to the significant infrastructure and resource challenges identified.

On November 30, 2015, the Board of Health adopted HL8.5 Update on Extreme Heat and Maximum Indoor Temperature Standard for Multi-unit Residential Buildings (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.HL8.5) and requested that staff, in consultation with stakeholders, explore the feasibility of implementing a health-based maximum indoor temperature standard of 26°C for apartment buildings.

On June 18, 2015, the Tenant Issues Committee adopted TD1.3 Indoor Temperature Standards Review (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.TD1.3) and requested staff to report on whether a maximum temperature for apartment buildings is needed and if so, identify an appropriate temperature.

On June 26, 2014, Licensing and Standards Committee adopted LS29.1 Results of Feasibility Review - Maintaining Current Date Ranges for Provision of Heat to Residential Rental Units (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.LS29.1) with recommendations that staff continue to monitor yearly average temperatures and assess whether changes may be required to the heating bylaw. It also recommended staff hold consultations regarding maximum heat standards, heating requirements, cooling rooms, building codes, air conditioning, subsidies and access to cool spaces.

COMMENTS

This report explores issues related to extreme temperatures in Toronto's apartment buildings. First, it looks at the issue of overheating during warm weather in apartment buildings without air conditioning. Second, it looks at the issue of overheating during the spring and fall when outside temperature fluctuate. In both cases, the report examines the causes of these problems and recommends immediate actions and a strategy to develop longer-term solutions to reduce overheating in Toronto apartment buildings.

General issues with heat in apartment buildings

Some tenants experience high temperatures in their apartment building units when outdoor temperatures are high. Around one third of Toronto residents live in an apartment building, and in a survey done by Toronto Public Health in 2016, more than half of apartment building tenants surveyed said that they experience symptoms of heat-related illness.

Current legislation

There is no maximum indoor temperature for buildings that do not have air conditioning. For the 6% of buildings with air conditioning, there is a maximum indoor temperature of 26°C that applies between June 2 and September 14, which is set by Municipal Code Chapter 629, Property Standards. The Ontario Building Code, which sets construction standards for buildings in Ontario, does not require buildings to have air conditioning.

Staff reviewed heat regulations in 28 municipalities in Ontario and none have a maximum indoor temperature standard.

Issues with the maximum indoor temperature standard

Staff have been directed to consider the possibility of an indoor temperature standard many times in the last five years, most recently at Executive Committee on March 19, 2018, as a solution to addressing extreme heat in apartment buildings. Setting a maximum indoor temperature standard would likely have the effect of requiring all buildings to install central air conditioning or provide window air conditioners in all units. Only 6% of buildings have central air conditioning, according to the RentSafeTO: Apartment Building Program registry. Staff most recently reported on the challenges associated with a maximum indoor temperature in HL19.5 Reducing Vulnerability to Extreme Heat in the Community and at Home on May 17, 2017. That report indicated that the health evidence supported a health-based threshold of 26°C as a desirable long-term goal. However, staff did not recommend implementing a maximum indoor temperature across all rental apartment buildings at the time, and this was supported by the Board of Health.

The report identified three challenges to implementing a maximum indoor temperature. First, some buildings lack ductwork, insulation and windows that open, making any cooling solution challenging without significant retrofits. Second, Toronto's constrained electrical distribution infrastructure may have difficulty accommodating increased electrical demand for a solution focused on air conditioning. Third, under existing provincial legislation, the costs of significant building retrofits could be passed on to tenants through an above-guideline increase, which could negatively impact low-income tenants. Apartment neighbourhoods are vital assets to the overall health of the city. They represent a large part of the City’s affordable rental housing for families.

Due to the high costs expected to be associated with the type of deep retrofits that may be required to achieve a maximum temperature standard, it is reasonable to expect that these costs could be passed along to vulnerable tenants or could cause displacement and loss of affordable housing.

Installing window air conditioners will likely also not achieve significantly lower indoor temperatures. A recent three-year study by The Atmospheric Fund (TAF) of seven apartment buildings (ranging from 4 to 19 storeys) looked at indoor temperatures in units with and without resident-installed window air conditioners. They found that while window air conditioners did reduce the period of time when average temperatures in units exceeded 28°C, units with window air conditioners were still uncomfortably warm for 60% of the time in the summer. Units with air conditioners had average indoor temperatures of approximately 28°C, compared to 28.9 to 29.1°C in units without

window air conditioners. Based on the amount of air leakage through the exterior envelope of these buildings, simply installing window air conditioning in every unit will not fully alleviate high indoor temperatures during the summer.

On March 19, 2018, Executive Committee requested further information about the financial impact of a maximum indoor temperature standard on tenants. As described above, the costs of significant building retrofits could be passed on to tenants through an above-guideline increase. Landlords can apply to increase rent beyond the annual guideline (which is 1.8% for 2018) to cover the costs of an eligible capital expenditure to pay for an extraordinary or significant renovation or replacement that has an expected benefit of at least five years. Eligible capital expenditures include expenditures that are necessary to maintain health, safety or housing standards or that promotes energy or water conservation. Costs related to installing air conditioning to meet a new City requirement would likely be considered eligible. For capital expenditures, above-guideline increases can be a maximum of 3% above the guideline in any one year for up to three years. For large buildings undergoing significant retrofits, up-front costs would likely be millions of dollars. A Toronto Community Housing building with 460 units recently went through a major retrofit and heating/cooling fan coil units were installed at a cost of approximately $6 million.

For example, if a tenant was paying $1,500 per month for their unit, and their landlord made a successful above-guideline rent increase for capital costs to install cooling in the building, the landlord may be eligible for 3% above the guideline increase, or a 4.8% increase in 2018, which would result in a $72/month increase in rent. Additional costs could also be passed on to tenants if tenants are responsible for paying their energy costs and energy cost increase due to the retrofit (64% of buildings have separate hydro meters as reported in the RentSafeTO: Apartment Building Program).

Executive Committee also requested information about the impact of a maximum indoor temperature standard on the electrical grid. The Tower Renewal Partnership report from 2017 on apartment towers and thermal comfort estimates that the increase in energy consumption from meeting a maximum temperature standard using in-window air conditioner units would be the equivalent of a medium-sized gas-fired power plant. In addition, Toronto's constrained electrical distribution infrastructure may have difficulty accommodating increased electrical demand.

Public input on a maximum indoor temperature standards

As part of a review of the heating and cooling requirements for landlords in Toronto in 2015, staff held two public meetings and accepted input via email and telephone. 16 people attended the public meetings and more than 20 people provided input through other channels. Tenants, property managers, landlord organizations and tenant advocates participated.

The majority of the review and consultation process focused on overheating in the spring and fall, which is the subject of the second half of this report, but staff did receive input about overheating in general. Staff heard that tenants are uncomfortable due to heat and have experienced health issues related to high indoor temperatures. Staff heard that indoor temperatures are much warmer than outdoor temperatures, for

example, some tenants reported temperatures around 30°C in their units in May 2015. Staff also heard that there is a need to figure out a way to cool apartments that do not currently have air conditioning, and that problems caused by high indoor temperatures are going to increase as global temperatures increase.

Tenants and tenant advocates felt that the best overall option to address heat in apartment buildings is to set a maximum indoor temperature. Landlord and landlord organizations did not support a maximum indoor temperature and raised concerns that some landlords would have to make significant and expensive changes to buildings and that some would not be able to make retrofits to meet the bylaw requirements.

Short-Term Strategies to Increase Access to Cooling

Instead of a maximum indoor temperature, the Board of Health adopted a short-term plan to increase tenant access to existing cool spaces around the city. For the 2018 heat season (May 15 to September 30), the City is encouraging residents to make use of a trial Heat Relief Network. This is a network of libraries, community centres and other air-conditioned public spaces throughout Toronto where people can get relief from indoor and outdoor summertime heat that will be promoted by Toronto Public Health. Landlords are required as part of RentSafeTO to post the location of the nearest air conditioned library or community centre on an information board.

The Board of Health also recommended that Toronto Public Health encourage landlords to provide tenants with access to an indoor cool room or outdoor shaded space during hot summer weather. Approximately 15% of apartment buildings currently have an air-conditioned space accessible to tenants (6% have central air conditioning in units, an additional 9% have an air-conditioned space accessible to tenants), according to the RentSafeTO: Apartment Building Program registration data.

Long-Term Strategies for Reducing Extreme Heat in Apartments

The Board of Health requested provincial and federal financial support be allocated to retrofit buildings to reduce heat-related illness. Retrofits could include improving passive cooling (cooling that consumes little or no energy such as external shading), or installing energy-efficient active cooling (central air conditioning, heating/cooling pumps or window air conditioners). Small retrofits, like adding air sealing, window blinds, and ceiling fans, and larger retrofits, like installing new windows (better insulation and/or windows that allow more air circulation), external shading, building envelope upgrades (insulation and cladding) and new heating, cooling, ventilation and control systems would help manage indoor temperatures and provide other benefits to tenants and landlords, such as sound dampening.

Major energy retrofits can have a significant impact on tenant comfort related to heat. In the study of seven apartment buildings, TAF compared average indoor temperatures during the heating season before and after significant retrofits were done in the buildings. They found that the following retrofits were able to influence indoor air quality: replacing existing boilers to better meet actual building heating demand, installing in-suite adaptive thermostats, installing new fresh air units with heat recovery and the ability to cool the incoming fresh air during the summer and cleaning duct work. In

particular, adding condensing space heating boilers and in-suite thermostats reduced indoor air temperatures by an average of 3°C.

Financial incentives can assist property owners in committing to retrofits. It is important to ensure upgrades and costs are not passed through as rent increases that burden vulnerable tenants. There are a limited number of current incentive programs that would support retrofits that would mitigate negative impacts of heat. The City of Toronto's High-Rise Retrofit Improvement Support (Hi-RIS) Program provides low-cost financing to support retrofits in apartment buildings, including installing new windows, heating/cooling pumps and cladding. This program has already committed $7.7 million for retrofits and has approximately $2.3 million still available through the program in 2018. Buildings are eligible for up to 10% of the value of their building, to a maximum of $2 million.

Toronto Hydro also provides financial incentives and technical support for apartment buildings to make capital upgrades and improve tenant comfort. Retrofit projects could include adding electric baseboard controls to limit wasteful heating, adding smart sensing thermostats to optimize heating and cooling, replacing electric heating with an in-suite or a centralized heat pump system that heats and cools, and upgrading to central heating, cooling and ventilation equipment. The program is flexible to accommodate a wide range of energy saving strategies with incentives paid based on the savings at $0.10 per kWh saved.

Recommendations to Address Heat in Apartment Buildings

Staff recommend that an interdivisional working group be created to identify strategies to address excessive indoor temperatures. The interdivisional working group could be a continuation of the existing Technical Advisory Group on Extreme Heat in Multi-Unit Residential Buildings that was struck in 2015 but with an updated and more specific mandate. The working group would consider a number of strategies, including:

- Requiring that all existing apartment buildings provide air conditioned units or an air conditioned space in the building.
- Requiring that all new apartment buildings have air conditioning.
- Requiring that all new apartment buildings add measures that enable passive cooling.
- Requiring that all apartment buildings undergo retrofits, including new windows, heavy-duty screens, cladding and other passive and active cooling systems to mitigate the negative health impacts of heat on tenants.

Staff would consider the merits and drawbacks of these solutions in the context of broader City goals, determine the feasibility of implementing them, evaluate the financial impacts on tenants and estimate the costs, health impacts and greenhouse gas emissions associated with each one. Feasibility would include assessing if the electrical distribution grid can handle potential increases in electricity demand. The working group would report back to Tenant Issues Committee with a recommended strategy to address excessive indoor temperatures in apartment buildings without air conditioning and would set recommended targets and timelines associated with the strategy.

Staff recommend this approach because it allows for the development of a nuanced and feasible strategy to address overheating in apartment buildings. Given the challenges described above, staff continue to recommend against setting a maximum indoor temperature standard for all apartment buildings at this time.

The working group should also consider how these strategies fit with existing work on addressing overheating in apartment buildings. This includes the work to evaluate the success of the Heat Relief Network. It also includes the TransformTO commitment to improve energy efficiency in Toronto's buildings, which may improve the ability for buildings to be heated and cooled and improve the comfort level of tenants. On July 4, 2017, City Council adopted and approved (http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PE19.4) the pursuit of necessary measures to retrofit existing buildings and hold new buildings to higher standards regarding greenhouse gas emission as part of the recommendation to realize a low-carbon Toronto by 2050 that achieves an 80% reduction in greenhouse gas emissions against 1990 levels. Specifically, Council set the following goals:

- 100% of new buildings are designed and built to be near zero GHG emissions by 2030.
- 100% of existing buildings are retrofitted to the highest emission reduction technically feasible, on average achieving a 40% energy performance improvement over 2017 levels, while limiting affordability impacts to residents, by 2050.

Staff also recommend that the provincial and federal governments encourage owners of apartment buildings to undertake retrofits that would improve indoor temperatures for tenants. This includes expanding financial incentives, including grants and low-cost loans. This recognizes the significant costs that would be required to retrofit buildings to mitigate the negative impacts of extreme heat in apartment buildings on tenants.

Overheating in the Spring and Fall

In the fall and spring, some landlords are heating their building despite warm outdoor temperatures. Tenants in these buildings are frustrated to see their heat on when it is warm outside and find their homes too hot during this shoulder season period. In rare cases, heat may even be provided while the City has issued a heat warning.

This section explores why the problem of overheating in the spring and fall is happening, considers possible solutions to the problem, and proposes actions and next steps to address it. This problem has been identified anecdotally by tenants, tenant advocates and councillors, in addition to being raised at a number of Tenant Issues Committee and Licensing and Standards Committee meetings.

There are a number reasons some landlords provide heat during the shoulder season despite warm outdoor temperatures:

- Landlords have interpreted the City's heating requirements to mean that heat must be turned on between September 15 and June 1.
- Many apartment buildings, and their associated heating systems, were built in the 1950s and 1960s and therefore, the systems cannot be turned on and off quickly and as needed according to the weather. Some heating systems must be turned on and off by technicians that landlords book in advance.

- Outdoor temperatures fluctuate significantly during spring and fall.

Current Legislation is Unclear

There are three important provincial and municipal regulations regarding heating (summarized in Table 1). While these regulations apply to all rental units, the focus of this report is heating issues in apartment buildings. The regulations do not apply to condo units in which the owner is the resident.

The City's regulations require that units be heated to a minimum of 21°C between September 15 and June 1.

The Residential Tenancies Act also sets a minimum indoor temperature and a date range, though the City's heating bylaw has a higher minimum indoor temperature and narrower date range. The City's bylaw is important because it allows the City to act quickly if the bylaw is violated and resolve the issue as quickly as possible so that tenants are not without the vital service of heat. The City's range is narrower than the range in the Residential Tenancies Act because Toronto is further south than many municipalities in the province.

Staff have heard from tenants, landlords and other stakeholders that the City's regulations are unclear. The heating bylaw states that "a landlord shall provide heat…so that a minimum air temperature of 21°C is maintained…from the 15th day of September in each year to the 1st day of June in the following year" (497-2). The City interprets this to mean that between those dates, units must be a minimum of 21°C, regardless of whether the heat is turned on. The City would not consider a landlord to be violating the bylaw if heating is not being provided but the unit is 21°C or higher.

In a survey of apartment building landlords conducted in March 2018, almost half (48%) of landlords said that they interpreted the bylaw to mean that they must turn on heating systems on September 15 and turn them off on June 1 each year. Some have therefore kept heating systems on after September 15 when there are very warm outdoor temperatures and the units would be 21°C without heat being on. Around 44% interpreted the bylaw as the City does, meaning landlords can turn on and off their heating as needed as long as the units are a minimum of 21°C. Further details about the landlord survey are in Attachment 1.

This difference in interpretation of the heating bylaw has caused frustration for some landlords, tenants, stakeholders and the City.

Table 1: Provincial and municipal regulations regarding landlord requirements to provide heat

Regulations	Relevant provisions
Residential Tenancies Act (provincial legalisation)	Defines heat as a vital service between September 1 and June 15 of each year Requires that heat be provided so that the room temperature is 20°C Gives municipalities the authority to pass bylaws regarding the provision of vital services, including heat
Toronto Municipal Code Chapter 497, Heating	Requires that a landlord shall provide heat to their units so that a minimum temperature of 21°C is maintained in all areas of the unit from September 15 to June 1
Toronto Municipal Code Chapter 629, Property Standards	Requires that if a building has an air-conditioning system, it shall be operated from June 2 to September 14 so as to maintain an indoor temperature of not more than 26°C

Aging and inflexible heating systems

Many apartment buildings in Toronto have issues responding quickly to sudden changes in temperature due to the design of the heating system. According to the City's RentSafeTO registration data, approximately one in four apartment buildings (25%) in Toronto have heating and ventilations systems that were installed or replaced prior to 1980, and only 6% have central air-conditioning. These older systems are inflexible and take three to five days to fully shut down, and often do so unevenly throughout the building. They also sometimes require a technician to turn on and off. Landlords often pre-book technicians to attend their building to turn on the heat a few days before September 15 so that they can be certain that they will comply with the City's bylaw. Approximately 38% of apartment building landlords surveyed identified inflexible heating systems that are difficult to turn on and off as a challenge to ensuring comfortable indoor temperatures during the spring and fall. 36% of landlords felt that aging buildings with inadequate insulation was a key challenge and 27% said that aging heating and cooling systems make it difficult to control indoor temperatures.

If there is a sudden period of warm temperatures after September 15, landlords often do not turn off the heat for a combination of reasons, including:

- It is unclear how long the heat spell will last. There is concern about temperatures falling below 21°C if the weather cools suddenly.
- It is costly to turn heating systems for large apartment buildings on and off and requires a technician.
- Heat may be unevenly distributed in the building, with units at the top of a tall building being warmer than those close to the ground floor.
- The bylaw is interpreted to mean heat must be provided during the date range.

Jurisdictional scan on minimum indoor temperature standards

Staff reviewed heat regulations in 28 municipalities in Ontario to see how they regulate heating in the context of the Residential Tenancies Act. All have bylaws that set a

minimum indoor temperature. Just over half the municipalities (15) use a minimum temperature of 21°C, while just over one quarter (8), including the four largest municipalities surveyed, use 20°C.

Just over half of the municipalities reviewed (15) specify a date range for the minimum temperature, and most of these use a range of September 15 to May 31 or June 1, similar to Toronto's date range. The 13 municipalities do not specify a date range.

Staff also reviewed four other cities outside Ontario in Canada and the United States. Calgary and Vancouver do not have a date range, while Chicago and New York City do. Chicago uses the same date range as Toronto, while New York City requires that heat be provided between October 1 and May 31, which is slightly narrower than Toronto's date range. All four cities have a minimum indoor temperature. Vancouver and Calgary set a minimum allowable temperature of 22°C. Chicago and New York set a minimum allowable temperature of 20°C during the day and a lower temperature at night (19°C in Chicago and 17°C in New York City). During the day, New York City requires that heat be provided only when the outdoor temperature is below 13°C.

See Attachment 3 for further details.

Results of public and stakeholder consultation

As described above, staff began this review in 2015 and in May 2015 held consultations with tenants, property managers, landlord organizations, tenant advocates and other members of the public. As part of preparing this report, staff consulted with key stakeholders again February and March of 2018 to confirm whether or not positions had changed regarding solutions to overheating in the shoulder season. This included a survey completed in March 2018 of all apartment buildings landlords registered in the RentSafeTO program, to which almost one in four landlords responded. The survey gathered information about how landlords are currently interpreting City heating bylaws.

Residents and stakeholders provided input about the minimum temperature date range, but there was no consensus around what action should be taken. Some supported a date range because it gives assurance as to when heating and cooling will be provided. Staff heard that tenants do not like having to contact their landlord or the City to report that heating or cooling needs to be turned on. Staff also heard that rigid dates are easier for bigger buildings because they can schedule technicians to turn heating systems on and off.

Of those who supported a date range, some felt that the date range should be made more narrow (October 1 to April 30, May 1 or May 15), while others felt the range should not change to ensure that the City can require that heat be provided on cooler days in September and May. 64% of landlords surveyed supported moving the fall date later, to the end of September, and 54% supported moving the spring date later, to the middle of June. Others supported removing the date range in the bylaw because it would enable more flexibility in responding to variable weather and because different buildings have different heating needs. 55% of landlords surveyed supported removing the date range from the bylaw. When asked how the heating bylaw could be improved, the most common response (given by 13% of respondents) was that there should be flexibility in

the bylaw to allow landlords to turn on and off the heat in response to the weather. This makes sense given that almost half of landlords believe they must turn on and off their heat according to the dates in the bylaw, and further suggests that the City should provide clarity to landlords about the fact that they can turn on and off their heat depending on the weather as long as their units are at or above the minimum required temperature.

Staff also received feedback about the minimum indoor temperature and maximum indoor temperature for buildings with air conditioning. Some felt they should be increased while others felt it should be decreased.

As described above, most tenants and tenant advocates felt that the best overall option to address heat in apartment buildings is to set a maximum indoor temperature, and they felt this would address overheating in the shoulder season as well.

Temperature analysis of shoulder season

According to the Climate Change and Health Strategy adopted by the Board of Health in December 2016, climate change is having significant impacts on Toronto weather. Summers will be warmer and longer. By 2050, it is predicted that the city will experience a fivefold increase in three-day heat waves and an increased likelihood of heat emergencies with high mortality. Extreme weather events including rain, snow, drought, wind and ice storms are likely to increase. Average wintertime temperature will increase, but the number and intensity of extreme cold weather events may increase.

Staff have reviewed shoulder season climate data from 2000 to 2017 to determine whether there is evidence that the minimum temperature date range should be modified. While an analysis shows that the shoulder seasons have gotten warmer between 2000 and 2017, on average, over half of days in the spring and fall shoulder seasons still require heating. This evidence does not suggest that the dates should be moved to accommodate the changing climate at this time.

Staff also reviewed the number of heat warnings that were issued during the spring and fall shoulder seasons and found that few were issued between 2001 and 2017. There were eight periods in the spring and one in the fall during which warnings were called, each lasting two days on average.

Details of the analysis are in Attachment 3.

Recommendations to Address Overheating in Shoulder Seasons

Based on this research and consultation, staff have reviewed a number of options and have two recommendations to address overheating of apartment buildings in the shoulder seasons. The goal is that all landlords know the requirements of the heating bylaw and that they may turn off their heat during warm weather that falls between September 15 and June 1. Staff do not recommend that the dates be changed or removed at this time.

Improve clarity in heating bylaw

Staff recommend amending the heating bylaw to clarify that landlords do not need to turn the heat on between September 15 and June 1 where temperatures in the unit are above 21°C without heat being provided. This would provide clarity to the approximately one half of apartment building landlords who currently believe they must turn on heating systems on September 15 regardless of the indoor temperature. Around one in six landlords surveyed suggested that either they should have the flexibility to turn on and off heat as required or the interpretation of the bylaw needs to be clarified.

Communicate to landlords and tenants about providing heat during shoulder season

Staff will develop a communication plan to inform landlords and tenants about the requirements and options for providing heat during the shoulder seasons. Specifically, staff will inform landlords that they can turn off their heat between September 15 and June 1 if heating is not required to keep their apartment units at a minimum of 21°C.

These specific messages about the shoulder season will be amplified by messages on the benefits of managing extreme indoor heat throughout the seasons. Messages to landlords could promote designating a shared, cool space inside the building or a shady space outside, as means of providing tenants with relief from indoor extreme heat and increasing building resilience. Other messages could include reminding landlords and residents what they can do to keep apartments cool and the importance of checking on vulnerable residents during hot weather.

Analysis of Other Solutions that are Not Recommended

Staff considered a number of solutions to address overheating in the shoulder season. Table 2 identifies options that are not recommended and describes the strengths and weaknesses associated with each option.

Table 2: Solutions that were considered but not recommended to address overheating in apartment buildings in spring and fall

Solutions Not Recommended	Strengths	Weaknesses
Change the dates to better reflect weather patterns		Analysis of past weather patterns does not support changing dates at this time. There is no consensus from the public on date changes. Staff and some tenants were also concerned that if the date range is narrowed, there would be a chance that tenants may be too cold on a cooler day in late September or May.

Solutions Not Recommended	Strengths	Weaknesses
Create a variable date range, set at the beginning of the season by City staff	It would allow the heating season to be flexible and change with variations in the weather	It is not feasible for City staff to accurately predict average daily temperatures for mid-September in mid-August. Landlord stakeholders shared that a variable date would be challenging for them as many schedule a technician weeks in advance to turn on and off their heat to comply with the current heat bylaw dates.
Remove dates from bylaw	It would be entirely the responsibility of the landlord to determine whether to turn on and off their heat. 55% of landlords surveyed agreed with this option.	Landlords would still likely pick one date to turn on and off their heating systems. Without direction from the City, landlords may delay turning on their heating systems, which may result in tenants being too cold before heat can be turned on. Date range in Residential Tenancies Act would still apply (September 1 to June 15), which may be confusing to landlords and tenants. 27% of landlords disagreed with this option.
Require landlords to turn off heat once indoor temperatures reach 26°C	It would attempt to ensure that landlords were not providing heating to exacerbate the discomfort of tenants. 57% of landlords agreed with this option.	Indoor temperatures in apartment buildings are difficult to regulate. In addition to outdoor temperatures and heating systems, location in building, shading and orientation of unit all affect the temperature of a unit. If heat were turned off when one unit reached temperatures above 26°C, there may be units that have temperatures that fall below the required 21°C. This could create a situation where it is challenging for the landlord to comply with both parts of the bylaw. 21% of landlords disagreed with this option.
Require landlords to turn off heat as soon as possible after a heat warning is issued	It would not have a major impact on tenants or landlords, but could reduce the significant discomfort experienced by tenants during a rare heat event in the shoulder season. 58% of landlords agreed with this option.	It would be difficult for landlords to respond immediately to a heat warnings. Some heating systems are inflexible and must be turned on and off by a technician. In the case that a landlord does not turn off the heat during a heat warning, it would be difficult for staff to prove that the landlord did not make every effort to turn off heat. Also, this requirement may not have a major impact on tenant comfort because buildings may take some time to cool once heating systems are turned off. 21% of landlords disagreed with this option.

Other Recommendations to Update Heating Regulations

The heating bylaw has not been recently updated and would benefit from updates. When the City of Toronto Act was passed in 2006, the City was given additional enforcement authorities. Staff have identified the following updates to the heating bylaw to align enforcement authorities with those provided by the City of Toronto Act:

- Increase the maximum fine amount from $5,000 to $100,000;
- Establish special fines where it is determined that the bylaw violation could have resulted in economic advantage or gain;
- Create an offence for failing to comply with an order;
- Establish that directors or officers of a corporation that knowingly violate the bylaw are guilty of an offence; and
- Specify that the City has the authority to enter a premises at any reasonable time to inspect to determine compliance with the bylaw.

These changes will align the enforcement abilities under this bylaw with those available to City staff in other bylaws, including Chapter 354, Apartment Buildings.

Next Steps

Staff are currently implementing the communications plan to inform landlords and tenants about providing heat during the shoulder season in time for spring 2018.

Staff will immediately implement the recommendation to improve clarity of the heating requirements by updating the heating bylaw.

Staff will also establish a working group to identify potential strategies to address excessive indoor temperatures in apartment buildings in the third quarter of 2018 and begin work to report back to Tenant Issues Committee in the secondary quarter of 2019.

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ATTACHMENTS

Attachment 1: Results of Survey to Apartment Building Landlords on Changing the Date Range in Toronto's Temperature Standards
Attachment 2: Research and Analysis on Changing the Date Range in Toronto's Temperature Standards
Attachment 3: Jurisdictional Scan of Indoor Temperature Standards Across Ontario and North America

Attachment 1: Results of Survey to Apartment Building Landlords on Changing the Date Range in Toronto's Temperature Standards

From March 9 to 15, 2018, the City conducted an online survey to collect input from apartment building landlords on Toronto's indoor temperature standards. The survey consisted of 12 questions, including 4 open-ended question asking for respondents' thoughts on heat in apartment buildings. The survey was sent to all 1,057 owners or property management companies registered with the City's RentSafeTO program. These owners and companies represent 3,156 registered apartment buildings, which is 92% of the City's total number of apartment buildings with three or more storeys and ten or more units (3,429). There were 247 completed surveys, which represents a response rate of 23%. This results of the survey are accurate at a 95% confidence level plus or minus 5%.

Interpreting the City's heating bylaws

Approximately half (48%) of the respondents said they interpreted the City's heating bylaw to mean that they must turn on heat on September 15 and turn off on June 1. 44% believe they had discretion about turning on and off their heat, as long as their units were the minimum of 21°C. 7% said other, and their responses included that tenants have their own controls, that they thought the dates were different from September 15 and June 1 and that their systems turned on or off based on temperatures in units and do not need to be turned on or off on a certain date. For more details, see Figure A1-1.

When asked how the bylaw could be improved, the most common response (given by 13% of respondents) was that there should be flexibility in the bylaw to allow landlords to turn on and off the heat in response to the weather. This makes sense given that almost half of landlords believe they must turn on and off their heat according to the dates in the bylaw. It also suggests that the City should provide clarity to landlords about the fact that they can turn on and off their heat depending on the weather as long as their units are at or above the minimum required temperature.

Other comments about how the bylaw could be improved include that the dates should be changed (given by 4% of respondents), the interpretation of the bylaw should be clearer (3%) and the dates should align with the dates in the Residential Tenancies Act (2%). 3% of respondents said that no changes were needed.

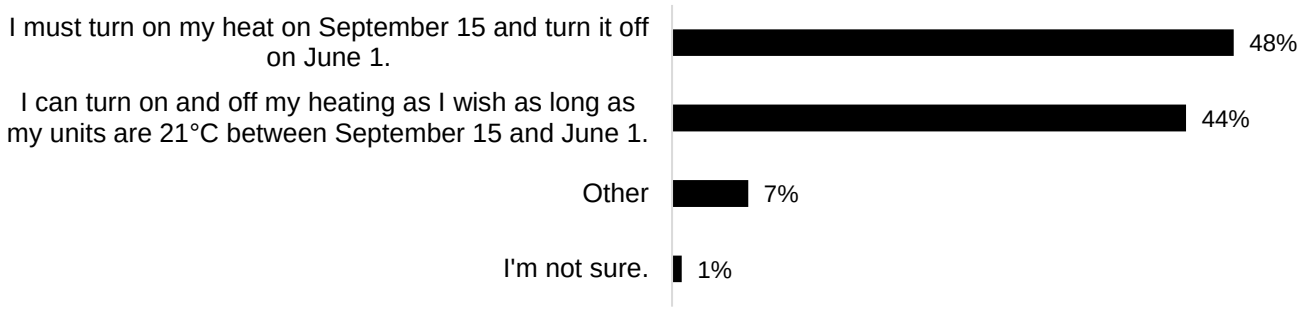

Figure A1-1: Responses to question asking about how landlords interpret the City's heating bylaws

Challenges with providing comfortable indoor temperatures during the spring and fall

Landlords were asked to identify challenges with providing tenants with comfortable indoor temperatures during the spring and fall (May, June, September and October). Most landlords (72%) felt that the different preferences of tenants was a challenge. Landlords also identified the age and flexibility of their heating systems posed a challenge. Of the 11% of respondents who answered "other", responses included tenant behaviour, including tenants leaving windows open, and extreme temperature variations.

See Figure A1-2 for details.

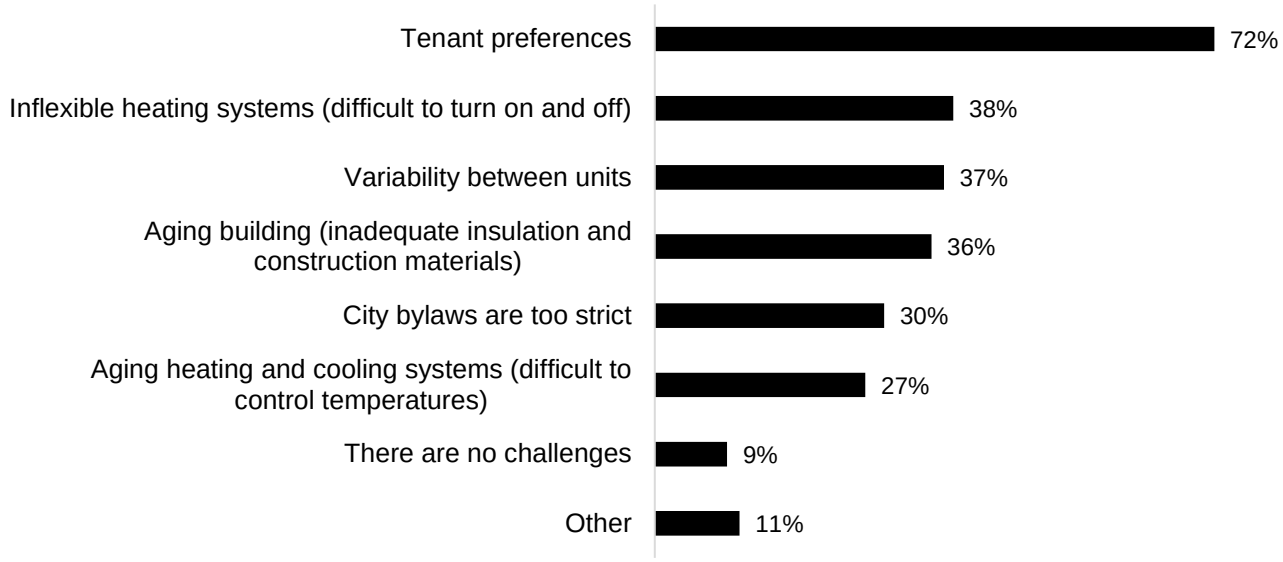

Figure A1-2: Responses to question asking about challenges in providing comfortable indoor temperatures during the spring and fall

Changing the Date Range in the Heat Bylaw

Landlords were asked about their opinion on how the dates should be changed in the heating bylaw. In general, there was most support for shortening the heating season. 65% of landlords agreed or strongly agreed with moving the fall date to the end of September and 67% agreed or strongly agreed with moving the spring date earlier to the beginning of May. 55% of landlords agreed or strongly agreed with removing the dates from the bylaw. For all options, between 10% and 20% of landlords did not agree or disagree with the potential changes.

See Table A1-1 for details.

Table A1-1: Responses to question asking about how the date range in the heating bylaw should be changed

Date range	Change	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	I don't know
Fall date	Move it earlier, to the beginning of Sept	**45%**	**19%**	11%	2%	2%	2%
Fall date	Keep as is, Sept 15	12%	**20%**	**18%**	16%	9%	2%
Fall date	Move it later, to the end of Sept	5%	6%	15%	**26%**	**39%**	4%
Spring date	Move it earlier, to mid-May	6%	6%	13%	**27%**	**40%**	2%
Spring date	Keep as is, June 1	16%	**21%**	**21%**	10%	5%	2%
Spring date	Move it later, to mid-June	**40%**	**15%**	11%	4%	2%	2%
Both	Remove date range	19%	8%	11%	**30%**	**25%**	2%

Note: the two most popular responses for each change are highlighted in bold and grey.

Solutions to Address Overheating in the Spring and Fall

Landlords were asked about potential solutions to addressing overheating in the spring and fall. Landlords were generally supportive of the two solutions proposed in the survey. 58% of respondents agreed or strongly agreed that heating systems should be turned off when a heat warning is issued and 56% agreed or strongly agreed that heating systems should be turned off when indoor temperatures reached 26°C.

See Table A1-2 for details.

Table A1-2: Responses to question asking about possible solutions to the issue of overheating in the spring and fall

Solution	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	I don't know
Turn off all heating systems if there is a heat warning issued	13%	9%	13%	36%	22%	2%
Turn off all heating systems when internal temperatures reach 26°C	13%	9%	13%	35%	21%	2%

Note: the two most popular responses for each solution are highlighted in bold and grey.

Other Comments from Landlords

Landlords were asked to share their general feedback about the City's heating and cooling requirements. Below are some of the key responses from landlords:

- The requirement to have window locks on all windows is a challenge. Tenants are frustrated by this requirement and often remove the window guards to enable passive cooling.
- Upgrades and retrofits to existing heating and cooling systems are very expensive but would improve tenant comfort. Governments should provide grants or loans to incent landlords to do retrofits.
- The City should not mandate all buildings have air conditioning. Many buildings cannot be upgraded to install air conditioning.

Information about the Respondents

Landlords were asked to provide information about their buildings and organizations. Most respondents were landlords of apartment buildings between 3 and 12 storeys. Most (60%) were private landlords, while 18% were non-profit landlords. Most landlords (71%) reported that they do not have central air conditioning.

Further details are provided in Tables A1-3, A1-4 and A1-5.

Table A1-3: Responses to question about the type of building the respondent manages

Type of rental property (landlord's selected all that applied)	Number	Percentage of all respondents
House, duplex or similar	22	9%
2 or fewer storeys	25	10%
3 to 4 storeys	121	49%
5 to 12 storeys	99	40%

Type of rental property (landlord's selected all that applied)	Number	Percentage of all respondents
13 storeys and above	71	29%
Other	8	2%

Table A1-4: Responses to question about the landlord's identity

Type of landlord	Number	Percentage
Private	149	60%
Public or non-profit	13	22%
Landlord organization or similar	39	16%
Other	4	2%
Unknown	2	1%
Total	**245**	**100%**

Table A1-5: Responses to question about the whether the landlord's building(s) has/have air conditioning

Air conditioning	Number	Percentage
Yes	27	11%
No	175	71%
Some buildings do, some do not	39	16%
Other	6	2%
Total	**247**	**100%**

Attachment 2: Research and Analysis on Changing the Date Range in Toronto's Temperature Standards

Temperature analysis

Staff looked at the number of days that require heating during the spring and fall shoulder periods. Environment Canada uses the concept of heating degree-days to determine when heating may be required. **Heating degree-days** are the number of degrees Celsius that the average daily temperature is below 18°C. If the temperature is equal to or greater than 18°C, then the number will be zero. Staff considered any day with a heating degree-day of greater than zero to be a day that requires heating. Staff used historical average daily temperatures collected at Pearson Airport from Environment Canada.

Staff also looked at the number of heat warning days that were called during the shoulder season (September 15 to 30 and May 15 to June 1). Before 2015, Toronto Public Health issued heat alerts based on a synoptic system that was developed specifically for Toronto. Currently, Toronto Public Health monitors hot weather between May 15 and September 30 and issues a **heat warning** if the forecast high temperature is 31°C or greater, the forecast low is 20°C and/or the forecast humidex is 40 or greater, and the duration is expected to be two days. Toronto Public Health issues an **extended heat warning** if the above conditions are expected to last three or more days.

Spring shoulder season
72% of days between May 16 and May 31 required heating. This date range was examined to determine whether the spring date should be moved from June 1 to May 15. The number of days that require heating between May 16 and May 31 have been decreasing. The average number of days requiring heating went from 90% between 2000 and 2009 to 52% between 2010 and 2017 (see Figure A2-1 for further details).

Since 2001, eight heat alerts were issued during date range in the heating bylaw in the spring. The heat alert periods lasted two days each, on average. These alerts were issued between May 24 and June 1 (see Table A2-1 for further details).

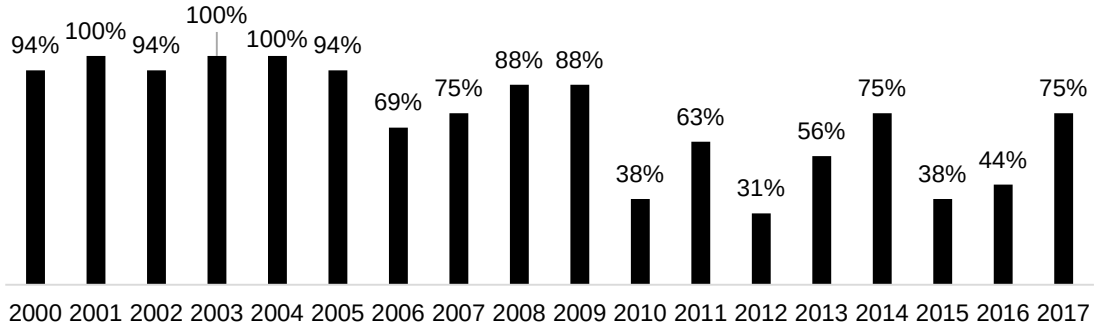

Figure A2-1: Percentage of days between May 16 and May 31 that required heating, by year

Fall shoulder season
70% of days between September 15 and 29 required heating. This date range was examined to determine whether the spring date should be moved from September 15 to September 30. The number of days that require heating between September 15 and September 30 have been decreasing. The average number of days requiring heating went from 73% between 2000 and 2009 to 66% between 2010 and 2017 (see Figure A2-2 for further details).

Since 2001, one heat warning was issued during the fall date range in the heating bylaw, which lasted four days (September 23 to 26, 2017). See Table A2-1 for further details.

Based on this analysis, staff do not recommend changing the fall date.

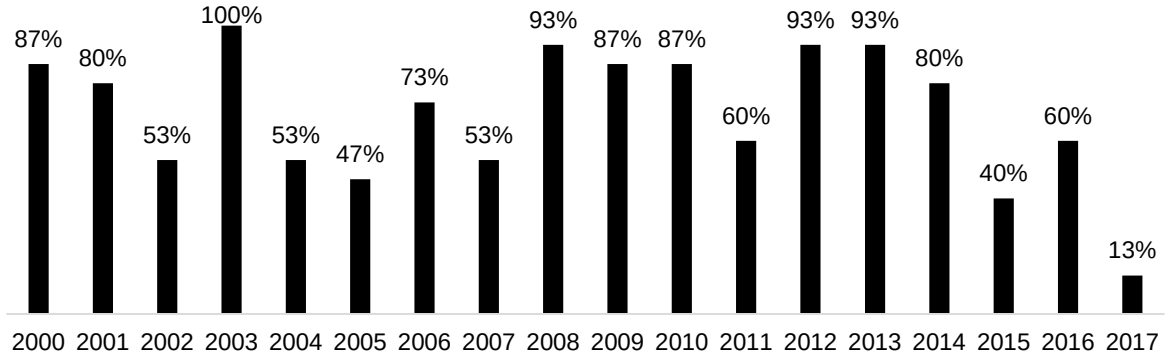

Figure A2-2: Percentage of days between September 15 and September 29 that required heating, by year

Table A2-1: Heat alert/warning days issued by Toronto Public Health September 15-30 and May 15-June 1, 2001 to 2017*

Year	**Heat alert/warning days issued between May 15 and June 1**	**Heat alert/warning days issued between September 15 and September 30**
2001		
2002		
2003		
2004		
2005		
2006	3 (May 29 to 31)	
2007	3 (May 24, May 31 to June 1)	
2008		

Year	Heat alert/warning days issued between May 15 and June 1	Heat alert/warning days issued between September 15 and September 30
2009		
2010	6 (May 24 to 27, May 30 to 31)	
2011	1 (May 31)	
2012	1 (May 28)	
2013	2 (May 30 to 31)	
2014		
2015*		
2016		
2017		4 (September 23 to 26)
Total	**8 separate warnings that lasted a combined total of 16 days**	**1 separate warnings that lasted a combined total of 4 days**

*Note that in 2015, Toronto Public Health began using the Provincial Harmonized Heat Warning and Information System. Previously, Toronto Public Health had been using the Heat Health Alert System developed expressly for Toronto.
Source: Toronto Public Health, Alert Statistics, Heat Alert and Extreme Heat Alert: http://app.toronto.ca/tpha/heatStats.html

Service requests and charges related to too much and not enough heat

Too much heat
The City receives very few service requests about tenants being too hot during the shoulder season. Between September 15 and October 15, during the fall shoulder season, the City has received eight complaints since 2015. Between May 1 and 31, the spring shoulder season, the City has received 9 complaints since 2015. In general, the City receives around 8 complaints that it records from tenants per month about too much heat consistently throughout the year. However, looking at service requests about too much heat is not an accurate way to measure this problem because requests about too much heat between September 15 and June 1 are not tracked by to the City's systems. This is because providing heat during this time period is not a violation of a City bylaw. See Table A2-2 for further details.

Table A2-2: Number of service requests received regarding tenants being too hot, by month, 2015 to 2018

Month	**2015**	**2016**	**2017**	**2018**	**Total**
January	3	3	3		9
February			1	-	1
March	2		2	-	4
April		1		-	1
May 1 to May 14		3			3
May 15 to May 31	1	4	1		6
May	1	7	1	-	9
June	3	3	3	-	9
July	1	4	2	-	7
August	2	2	4	-	8
September 1 to September 14	2	1			3
September 15 to September 30	3		3		6
September	5	1	3	-	9
October	1	2	2	-	5
November	2	1	2	-	5
December		4	5	-	9
Total	**26**	**36**	**32**	**0**	**94**

Not enough heat

The City receives some service requests during the spring and fall shoulder seasons about being too cold. From 2015 to 2017, the City received between 20 and 40 services requests about being too cold between May 15 and 31 and between 20 and 65 between September 15 and 30. This suggests that there is still a need for heating during those dates and is further evidence that the City should not change the date range. See Table A2-3 for further details.

Table A2-3: Number of service requests received regarding tenants being too cold by month, 2015 to 2018

Month	**2015**	**2016**	**2017**	**2018**	**Total**
January	351	287	195	503	1336
February	339	185	101	-	625
March	110	85	136	-	331
April	108	90	80	-	278
May 1 to 14	30	40	57		127
May 15 to 31	27	22	39		88
May	57	62	96	-	215
August		1			1
Sept 1 to 14					0
Sept 15 to 30	32	62	23		117
September	32	62	23	-	117
October	360	330	287	-	977
November	146	185	202	-	533
December	132	235	414	-	781
Total	**1,635**	**1,522**	**1,534**	**503**	**5,194**

Charges related to heating

Staff have never laid a charge regarding landlords not providing enough heat during the shoulder season. Since 2010, the City laid charges at between two and three addresses, on average, per year, regarding not enough heat. All charges were laid between October 1 and April 30. The City has not laid a charge for providing not enough cooling to buildings with air conditioners since 2010. See Table A2-4 for further details.

Table A2-4: Charges laid regarding landlords not providing enough heat to tenants between 2010 and 2017

Year	**Charges laid**	**Addresses at which charges are laid**
2010	21	7
2011	1	1
2012	4	2
2013	1	1
2014	5	3
2015	1	1
2017	5	3
Total	**38**	**18**
Average per year	5.4	2.6

Attachment 3: Jurisdictional Scan of Indoor Temperature Standards Across Ontario and North America

Municipality	Minimum Indoor Temperature Standard
Ajax	20°C between September 15 and May 31
Barrie	20°C year-round
Belleville	21°C between September 15 and May 31of the following year
Brampton	20°C between September 15 and June1 of the following year
Brantford	70°F (21°C) during entire lease
Cornwall	21°C during the day and 16°C at night, or as the prevailing Landlord/Tenant Act
Guelph	21°C
Hamilton	20°C, September 1 to May 31
Kingston	21.1°C between September 15 and June 1 of the following year
Kitchener	20°C
London	September 15 to June 15, 20°C between 6am-11pm ,18°C at all other times
Mississauga	20°C September 15 to June1 of the following year
Niagara Falls	21°C between September 15 and May 31 of the following year
North Bay	21°C
Oakville	21°C, September 15 to May 31 in the following year
Oshawa	22°C, September 30 to May 31 of the following year
Ottawa	20°C, "shall maintain at all times"
Peterborough	70°F (21°C) between September 15 and May 31 of the following year
Pickering	18°C
Richmond Hill	21° C when the outside temperature is below 18° C
Sarnia	21° C
Sault Ste. Marie	21° C
St. Catharines	22°C September 15 to May 31

Municipality	Minimum Indoor Temperature Standard
Greater Sudbury	21° C
Thunder Bay	21º C
Windsor	21°C when the outside temperature is below 18° C
Calgary	22°C
Chicago	From September 15 to June 1, the temperature inside a rental residence is required to be at least 68°F (20°C) from 8:30 AM to 10:30 PM, and at least 66°F (~19°C) from 10:30 PM to 8:30 AM.
New York City	Between October 1 and May 31, landlords must heat according to the following: -Between 6 AM and 10 PM, if the outside temperature falls below 55°F (~13°C), the inside temperature must be at least 68°F (20°C). -Between 10 PM and 6 AM, the inside temperature must be at least 62°F (~17°C) at all times. There is no outside temperature requirement.
Vancouver	22°C