ADVANCING ADAPTATION
Implementation Through Collaboration

HAMILTON

The Advancing Adaptation Project
led by ICLEI Canada

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The Advancing Adaptation Project, led by ICLEI Canada, aimed to increase climate change resilience in Ontario municipalities by supporting adaptation planning, building local adaptation capacity, and supporting the implementation of adaptation initiatives in the Great Lakes watershed. As part of this project, 11 Ontario municipalities designed and delivered community-engaged climate change adaptation actions within their communities between June 2021 and December 2022. 11 case studies were developed to showcase the process, experience, and learnings from each implementation action. Visit ICLEI Canada’s Advancing Adaptation Webpage for more information on the project, to explore all case studies, and to learn more about other resources that were developed through the Advancing Adaptation Project.

ICLEI Canada acknowledges that the Advancing Adaptation project was made possible with funding from the Ontario Ministry of Environment, Conservation and Parks (MECP) alongside financial support from the Government of Canada through the federal Department of Environment and Climate Change Canada.

icleicanada.org/project/advancing-adaptation/
Addressing Extreme Heat in City Housing

Introduction

The City of Hamilton is working to address extreme heat preparedness in City-owned apartment buildings. In order to determine the best course of action, the City conducted a survey to better understand how apartment residents were faring during extreme heat events in target buildings. Based on the results of the surveys, the City planned and prioritised the implementation of building programs to assist in reducing the effects that extreme heat has on residents. Through additional in-person events, resilient actions were chosen which included the purchasing and installation of air conditioning units, in-building cooling rooms, and the distribution of heat wave information sheets in the spring and summer of 2022.

Municipal Profile

Population: 569,355
(2021 Census of population by Statistics Canada)

Municipal Budget: $2.69B annual


Top climate risks: Flooding, extreme weather, extreme heat, and drought

Project Overview

As the Ontario climate changes, periods of extreme heat are becoming increasingly common with record-breaking temperatures being recorded each year. The average mean temperature in Hamilton has increased by 0.9°C since 1970, and the city has experienced periodic heat waves during the spring and summer months. The city implemented a heat warning program starting in 2008. During the 2020’s, the city will face a higher frequency of days and nights where temperatures will soar above 30°C, and the average temperature is expected to increase by 1.5°C.

Much of Hamilton’s housing is already several decades old and was built to protect people from extreme cold, rather than extreme heat. Housing occupied by renters, elderly, or socially isolated individuals typically does not provide cooling and therefore puts these residents at greater risk. Additionally, the urban heat island effect amplifies hot temperatures in urban centres that lack natural greenspace. The increase in temperatures results in an increase in physical illnesses, vector-borne diseases, psychological illnesses, general health and wellbeing, and mortality.

Given the risks associated with extreme heat due to climate change, the Healthy and Safe Communities City Department led an initiative to improve the climate change resilience of the city and its inhabitants through the use of community-engaged problem solving. This included a community survey for tenants, information sheets detailing nearby cooling centres and transportation routes, in-person information-gathering events, as well as the implementation of in-building cooling centres and in-apartment air conditioning units.

The Approach

Understanding and Assessing Impacts

The City of Hamilton identified 22 community climate change impacts and approximately 50 corporate impacts in their Climate Adaptation Plan (2022). The key climate change impacts include flooding, extreme weather, extreme heat, and drought. The data informing these impacts was sourced from the Climate Atlas of Canada, produced by the Prairie Climate Centre, and supported by Environment and Climate Change Canada. Other data pertaining to freezing rain, wind, and other extreme weather events were taken from various academic literature.

Implementation

The City of Hamilton began by distributing a thoughtful and informed survey, which was initially developed by McMaster University, to assess heat impacts of at-risk seniors within four city owned apartment buildings, two of which are dedicated to seniors. The surveys were created by the Extreme Heat Working Group, which was formed together with the City of Hamilton’s Healthy and Safe Communities department, Hamilton Poverty Roundtable, ACORN Hamilton, Environment Hamilton, and community advocates. The survey engaged residents to better understand how tenants with and without air conditioning units are experiencing extreme heat and how they could protect themselves. The efforts made to engage with residents went above and beyond typical tactics that are often used for public engagement. Paper surveys were mailed to each unit. Residents could either drop off completed surveys with their building offices (staff would then scan and email it to the Project Manager) or photograph the completed survey with their phone and email it to the Project Manager (or scan and email to the Project Manager) or with their building offices (staff would then photograph the completed survey with their phone and email it to the Project Manager or scan and email to the Project Manager) or with the City of Hamilton’s Healthy and Safe Communities department, Hamilton Poverty Roundtable, ACORN Hamilton, Environment Hamilton, and community advocates.

“...When something isn't working it's important to understand why, rather than defaulting to “let's do what we've always done, but moreso.”
In-person events were also held in April of 2022 to share information with residents on extreme heat, self-care and neighbour-care strategies during extreme heat, the proposed project, options for infrastructure including cooling rooms, outdoor shaded areas, and air conditioners. Food was provided both to attract participants and honour their contributions to the project.

After reviewing the feedback received from residents through the surveys and in-person events, the City was able to identify which actions were most helpful. Tenants identified many project ideas that would be helpful to combat extreme heat and its effects, and installing air conditioning in apartment units was mentioned the most frequently. Posters were mounted beside the elevators on the top 4-5 floors of each apartment building, which encouraged residents to contact the Project Manager to request an air conditioning unit for their apartment. 50 air conditioning units were purchased to cool apartment units. The air conditioner model was determined based on feedback provided by City Housing staff with knowledge of the square footage and other related requirements. Prioritised tenants included those living on the top 4-5 floors, as they experienced the most extreme temperatures and would benefit the most from an air conditioning unit. Vulnerable groups such as the elderly and those who were unable to leave their apartments were also prioritised for air conditioning installations.

Two new in-building cooling rooms were identified, with each one providing access to the adjacent apartment tower residents as well. Posters and information were distributed in the buildings without cooling rooms to ensure residents were aware of this option. Thirteen Kupp chairs (horizontally stacking folding chairs, partially wheeled) were also ordered for the seniors’ cooling room for easy and accessible seating. Information sheets were also created and distributed which informed residents tips for managing extreme heat at low or no-cost and details to access nearby City cooling centres by transit or active transportation. A shaded area was to be installed as part of this project at one of the seniors buildings to provide a space for residents to cool off outside; however barriers with the procurement of a shade structure in time for this project prevented this.

Funding
Funding from the Canada Ontario Agreement was delivered through ICLEI Canada’s Advancing Adaptation and provided $30,000 to the City of Hamilton. This was used to fund survey completion incentives, printing, mailing, and distribution of community surveys to tenants residing in the targeted buildings. Funding was also allocated for the production and distribution of information sheets, air conditioners, chairs, building check-ins, and materials (posters) to promote community engagement. The City of Hamilton’s contribution to the project exceeded $15,000 which helped fund further costs and municipal work related to the facilitation of workshops, community surveys, community team engagement, and solutions.

Partnerships
- City Housing
- Hamilton Roundtable for Poverty Reduction
- ACORNh Hamilton
- Environment Hamilton
- City Housing Property Managers
- City Housing residents
- Social Planning Research Council
- City of Hamilton’s Healthy and Safe Communities Department
- Key community members

Engagement
The City engaged with many stakeholders through the creation of, delivery, and use of community surveys and in-person events. Ultimately, this helped identify supportive actions that would benefit tenants in subsidised housing and building community resilience to extreme heat. Building managers and residents were also engaged as well as members of an Extreme Heat Working Group, which assisted in indicating worthwhile adaptation actions such as the implementation of cooling rooms, air conditioners, and shaded outdoor areas.

Challenges
- Procurement challenges, included 3-4 week delays in the delivery of air conditioning units, and the inability to install a shade structure at the seniors City building.
- The COVID-19 pandemic caused project delays due to the constant switching between in-person and online community engagement meetings and activities, which ultimately delayed the project by a few months.
- COVID-19 safety measures prohibited the hand-delivery of resources such as the community surveys, which resulted in delays in responses related to the use of mailing services.
- Keeping participants engaged and involved when responses from City staff were not always provided in a timely manner.
- There was intention to purchase outdoor misting stations and folding beds for the in-building cooling room. The city had difficulty sourcing and leveraging funds and so these actions were not implemented.
- Lead staff changed near the end of the project; however, the original lead staff were able to support and continue participating until project end.
- Ceiling Fans were removed from the list of available options for residents due to the difficulty of getting someone in to install them.
- Hamilton’s Climate Change Adaptation Plan was being completed during the implementation of the project, which caused delays due to competing priorities.
Positive Successes

- Thoughtful and persistent community engagement valued the time of the residents, many of which were within a vulnerable population, to identify the best extreme heat actions. These included the provision of food at events and gift cards to value participation in the survey.
- In-room cooling was delivered to the most vulnerable residents through the installation of air conditioning units.
- Created information sheets detailing nearby cooling centres and steps to increase resilience to extreme heat events.
- In-building cooling centres implemented, reducing the need to travel to nearby cooling centres and providing easier cooling options.

Indicators

- 900 community surveys mailed to tenants
- 900 information sheets distributed
- 2 new cooling rooms
- Poster and information was distributed in two buildings without cooling rooms to make sure residents knew where to find the new nearby cooling rooms
- 13 new chairs were installed in the senior’s building cooling room
- 50 air conditioners purchased for tenants
- 2 extreme heat information events held in April for community engagement and public input

Co-Benefits

The project assisted in building community resilience against the climate change impact of extreme heat through many means. These actions also contributed to addressing the following issues:

- Community engagement
- Improved resident support networks
- Reduced health stresses due to extreme heat

Next Steps

The initiatives completed by Hamilton through the Advancing Adaptation project set an excellent precedent for future climate adaptive projects and strategies. By consulting with the community regarding the most worthwhile adaptation strategies at the project outset, Hamilton has set an excellent example of community-engaged climate adaptation actions. The project has already been presented and discussed during the seniors advisory committee, and the project may be expanded to include other City-owned buildings next year. The Climate Action Strategy was approved by Council and includes the Climate Change Implementation Adaptation Plan which will further assist in improving urban resilience to climate change impacts through engaging the public, including those most vulnerable to climate change impacts.

Options for the construction of an outdoor shaded area at one of the senior’s buildings are being researched including the a possible shade sail and designated seating to improve the aesthetic appeal of the building as well as provide valuable shade to shelter residents from extreme heat.

Meanwhile, additional tree planting has been happening in the area through other projects (Green Venture) which will indirectly benefit neighbourhood residents.

The City of Hamilton’s Climate Change Impact Adaptation Plan prioritizes the creation of buddy systems/help-your-neighbour programs. City staff are implementing this action by assisting in the arrangement of a Neighbours Network for tenants. The network will involve having interested tenants check-in with other tenants to see how they are coping with extreme heat and provide assistance if necessary. These networks have the potential to reduce the risk of heat related illness within the community.

Key Learnings

- Collaborative and empowering community projects can be very successful, but the municipal project lead needs to include “maintaining enthusiasm and participation” in the work plan. Keeping working groups, committee members, and the general public engaged and participating with many other competing demands and priorities.
- Not everyone has internet access and not everyone is comfortable online, so it’s important to find other ways for people to engage and participate. Online surveys and virtual workshops are fine but they won’t reach everyone, particularly in lower-income and more marginalised communities. Make getting involved as easy as possible and remove every barrier you can. For example, we found ways for people to return their paper surveys without needing stamps or access to the Internet.
- Acknowledge that people are donating time and expertise with tangible rewards wherever possible - all areas of expertise should be valued.

COPY THIS!

- Survey to City Housing Residents
- Extreme Heat Communication
  - Beat the Heat
  - Cool Down Here
- Extreme Heat Survey Research

Poster displayed in Cooling Room