

PURPOSE

The Purpose of this report is to seek a Council resolution to support an application submitted to the Community Emergency Preparedness Fund under the Disaster Risk Reduction – Climate Adaptation, Small-Scale Structural Project stream.

This project addresses lessons learned from previous extreme heat responses and aligns with recent hazard, risk, vulnerability analysis (HRVA) work. This project will also compliment the Extreme Heat Vulnerability Dashboard regional Project. This project entails designing and building public cooling infrastructure in the form of misting stations. Misting stations will be installed in strategic locations across the City in order to mitigate risk and provide accessible cooling areas for all those in need during extreme heat events. The stations will be located in areas easily accessible to vulnerable populations identified through HRVA work.

BACKGROUND

Extreme heat is a significant threat to the region and had substantial impacts on the community. In the summer of 2021, we experienced several heat domes and in 2022 we experienced heat warnings. In 2021 there were no policies, procedures or guidelines in place around extreme heat events and municipalities were left trying to figure out how best to respond. After lessons learned from 2021, a BC HARS Pilot 2022 was developed by a BC Heat Committee comprised of subject matter experts in weather and health. Staff developed a City of Victoria extreme heat plan based off the BC HARS and local risks and vulnerabilities.

Many significant improvements and initiatives were implemented in 2022 and the City's response to extreme heat was very successful and well received. Excellent and clear communications, activation of misting stations and cooling centres, additional water fountains, mapping of resources, and collaboration with stakeholder organizations were some of the many successes.

Although the misters that were built by our Public Works and Engineering department were a great success and solution for the short term, it was discovered that they are easily broken and can be tampered with. In order to continue the deployment of misting stations during extreme heat events, more robust infrastructure is required.

ISSUES & ANALYSIS

Due to changes in the climate, British Columbia is experiencing an increase in annual summer temperatures and extremely hot days. On average, Canada is warming at about double the magnitude of global warming, and British Columbia is warming faster than many parts of Canada. Episodes of very hot weather, also known as heatwaves, are dangerous for the health and wellbeing of our communities and can cause illness and death. In response to the increase in frequency and severity of extreme heat events, a BC HARS (Pilot 2022) was developed which was intended to alert the public about the risks of heat, facilitate the development of a community response to help people at highest risk, and provide individuals with information and other resources to help them take protective actions before and during extreme heat events.

In response to the increased risk of heat events and heat related illness and death, the City of Victoria developed an extreme heat response plan. This plan was developed through collaboration with stakeholder organizations and experts such as Environment Canada and Climate Change, Emergency Management BC, Island Health, Health Emergency Management BC, etc. The plan

was activated this past summer of 2022 with the activation of 11 temporary misting stations and 3 cooling centres. The misting stations were built in-house by City Public Works and Engineering staff and were very successful at their intended purpose of cooling the public, but were easily tampered with and broken. Due to their success, and after action reviews the City recognizes the need for more robust public cooling misting stations.

An understanding of social, cultural and environmental impacts of extreme heat comes from HRVA's as well as the regional heat risk assessment and mapping project. All hazards, risks, and vulnerabilities will continue to be analyzed through a disaster risk reduction and climate adaptation lens. The installation of misters in priority strategic areas will address social, cultural and environmental impacts. Water use was measured this past year during the activation of misting stations during heat events and was minimal compared to the adverse impacts on health and safety of the heat. The misters will be designed to have the lowest impact on water use possible to serve the intended purpose of reducing negative impacts on health and safety from extreme heat events. Having a water bottle filling station on the misters will reduce the use of single use plastic water bottles.

A letter was distributed to municipalities by Island Health, Health Emergency Management BC, and First Nations Health Authority which provided information on extreme heat events, those most vulnerable to extreme heat (elderly people who live alone, socially isolated people, people who use substances, people who are materially and socially deprived, and people who are insecurely housed). This letter also outlined signs of heat related illness, potential actions to prepare for heat events, and actions during an extreme heat emergency. The City takes an all-hazards approach and a multi-pronged approach to Disaster Risk Reduction and Climate Adaptation and therefore has and continues to implement these recommendations. The misting stations are just one prong of this holistic approach. Recommendations in the letter include the following, which align with the misting station plan:

- setting up outdoor cooling stations in close proximity to highly vulnerable client populations
- distributing water to at-risk populations outdoors (e.g. portable water stations)

OPTIONS & IMPACTS

Option 1: Support the UBCM grant application submitted to the Community Emergency Preparedness Fund under the Disaster Risk Reduction – Climate Adaptation, Small-Scale Structural Project stream (recommended).

Option 2: That Council declines the endorsement of the UBCM CEPF grant fund application.

Accessibility Impact Statement

All extreme weather response plans and initiatives consider accessibility and address the needs for all citizens of Victoria, including accessible transportation between resources and accessible warming and cooling centres. Identification of vulnerabilities will be completed, and misting station locations and design will address these vulnerabilities.

2019 – 2022 Strategic Plan

This project aligns with the City of Victoria's 2019-2022 Strategic Plan objective of Health, Well-Being and a Welcoming City. This report and its directions are directly aligned with Strategic Objective 6: Climate Leadership and Environmental Stewardship and specifically the implementation of the City's Climate Leadership Plan.

Impacts to Financial Plan

This grant does not require budget contribution from the City of Victoria. City of Victoria staff will provide in-kind contribution through their time spend on planning and project management. The ongoing maintenance, set-up/activation, deactivation and storage of the misters will require staff time in order for this project to be sustainable.

Official Community Plan Consistency Statement

Emergency Management activities align with the Official Community Plan goals outlined in Section 18 – Emergency Management:

- Victoria is prepared to deal with known hazards and emerging threats, to limit the adverse impacts of events, and effectively manage emergencies;
- Victoria is able to respond rapidly and effectively to all emergencies, including events with long-term impacts and recovery times; and
- Victorians can rely on significant local sources for food, energy, and materials to meet daily needs under emergency conditions.

CONCLUSIONS

This project will assist the City of Victoria in reducing negative impacts from extreme heat events on the health and safety of all those who live, work and play in the City.

Respectfully submitted,

Tanya Patterson
Emergency Program Coordinator

Daniel Atkinson
Acting Fire Chief

Report accepted and recommended by the City Manager

List of Attachments

CEPF, Disaster Risk Reduction – Climate Adaptation 2022/23 Application Form