City of Hamilton
Report for Information

To:	Mayor and Members General Issues Committee
Date:	May 21, 2025
Report No:	PW25032
Subject/Title:	Heat Response Strategy - Feasibility of Shade and Misting Stations in Priority Locations **(Outstanding Business List)**
Ward(s) Affected:	City Wide

Recommendations

That Report PW25032 respecting the Heat Response Strategy – Feasibility of Shade and Misting Stations in Priority Locations **BE RECEIVED** for information**.**

Key Facts

- Report PW25032 responds to direction to report back on the feasibility of installing shade structures in areas identified using heat and equity mapping, and the installation of misting stations in priority locations.
- A review of the City-owned properties overlaid with heat mapping shows some opportunities for additional shade and cooling installations.
- Provision of shade and water drinking fountains is a standard consideration for park development/redevelopment and will continue to be prioritized for future projects.
- Appendix “A” of Report PW25032 provides examples of heat mapping overlaid with park locations, spray pads, and water drinking fountains.

Financial Considerations

There are no financial considerations as a result of Report PW25032.

As information, the anticipated typical costs of heat strategy amenities are listed below:

- 7.3m by 7.3m sun shelter is $90,000.
- A spray pad in a new location (not replacing an existing) is $900,000 on average.
- Misting stations can range in costs from $10,000 to $50,000, depending on servicing, complexity, and scale.
- A water drinking fountain is $65,000, including new servicing.

Background

On April 29, 2024, Public Health Committee approved the Heat Response Strategy (BOH24010) Report, which included the following direction:

(c) That the Director of Environmental Services, Public Works report to the General Issues Committee regarding the feasibility of installing shade structures in areas identified using heat and equity mapping, and the installation of misting stations in priority locations (Action Number 7 and 9).

Analysis

Staff reviewed heat mapping to see areas where response to heat events would be most impactful. It was evident that most of Wards 1-4 experience high average summer temperatures. Areas of the remaining urban area also shows impact from high average summer temperatures. The Niagara Escarpment lands and other natural open space areas show as ribbons of cooler landscape through the City, clearly illustrating the negative impact of the built environment leading to higher urban temperatures.

The City of Hamilton is already well serviced with spray pads, which is a part of the overall City Heat Response Strategy. During heat warnings, spray pads offer relief through extended hours of use. Select spray pads are identified to open earlier in the season in anticipation of hotter spring temperatures. Spray pads offer cooling both through access to the water features, but also through the mist that is generated from the spray jets, essentially acting as misting stations for people adjacent to them. Staff assess that a misting station at a park with a spray pad would be duplication of this benefit, and therefore would recommend that other locations be prioritized for installation of misting stations.

Misting Stations

For parks without spray pads, misting stations can be considered for installation when those parks are up for redevelopment. The installation of a misting station is similar to a water drinking fountain, with water servicing requirements, footings, and accessible path access. Misting stations will be most effective in areas that people can easily access. The first installation of a misting station was at Pier 8 as part of the parkland development. The use, maintenance, and longevity of the misting station has not yet been evaluated to be able to apply lessons learned. In general, misting stations are designed to spray water into the air, and with small water droplets evaporating there is no water accumulation on the ground.

In most cases, parks are already the places where people go for heat relief, and misting stations may provide more impact to heat relief if considered on other City lands.

Facilities in the high summer temperature areas would be an ideal place to test the effectiveness and use of a misting station. Libraries and recreation centres are gathering places already, and have access to water servicing, hard surfaced spaces, and staff to monitor. Buildings with external water sources may be ideal to trial temporary options during heat events. Staff can consider a trial at a location in a high summer heat area as part of an upcoming redevelopment/development project.

Shade Structures

Many parks already provide shade through shade structures and trees, and park redevelopments already consider provision of shade as a standard design item.

Shade structures are best placed where people congregate in larger areas, with accessible surfacing leading to, and underneath, the structure. Shade structures provide instant shade, where trees take time to establish and grow to a point where shade is provided. Smaller, bench-scale shade structures do not provide effective shade options for most situations because of sun movement and shade casting changes throughout the day. Shade structures also do not provide the ecosystem benefits of trees, and do not help to counteract the overall urban heat island effect, as the structures themselves can absorb and radiate heat. Therefore, shade structures should not be considered as replacement of trees for shade, rather as an additional measure for heat relief for residents.

There is no legislation that applies to misting stations specifically, however, water servicing requires compliance with backflow prevention legislation. Building code applies to shade structures.

If these items are incorporated into existing and planned capital projects, there are no staffing implications for the planning and installation. Ongoing operating impacts will be identified as part of the capital budget approval, including additional staff resources as required.

Alternatives

N/A

Relationship to Council Strategic Priorities

The implementation of shade structures and misting stations will support and improve Strategic Priorities identified by Council in the following areas:

1. Sustainable Economic & Ecological Development
    1.1. Accelerate our response to climate change
2. Safe & Thriving Neighbourhoods
    2.1. Provide vibrant parks, recreation and public space

Previous Reports Submitted

Heat Response Strategy (BOH24101), Public Health Committee, April 29, 2024

Consultation

Staff from the following City Departments were consulted in the development of this Report:

- Lynda Lukasik, Director of Office of Climate Change Initiatives, Planning and Economic Development
- Chris Herstek, Director (Acting) of Corporate Facilities and Energy Management, Public Works
- Kevin MacDonald, Director, Healthy Environments, Public Heath, Healthy and Safe Communities

Appendices and Schedules Attached

Appendix A: Heat Mapping Overlaid with Park, Spray Pad, and Water Drinking Fountains for Select Areas in the City of Hamilton

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