

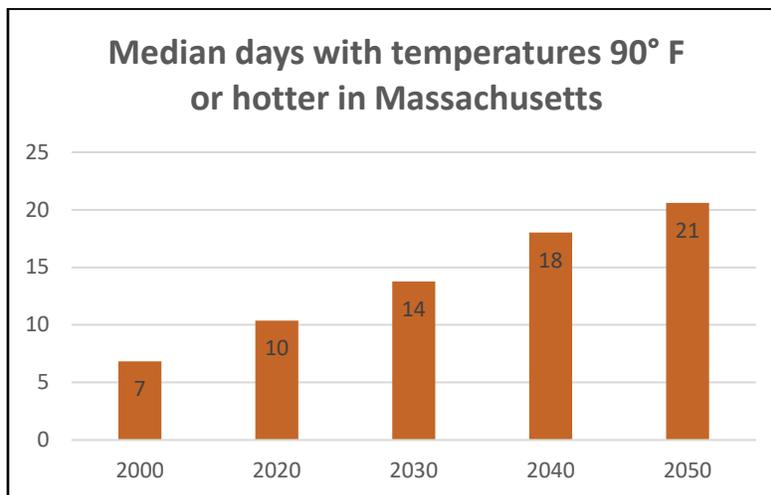


# Town of Winchester Heat Response Strategy

March 10, 2022

## Statement of Need

**Heat is a growing problem in Winchester.** Climate change is causing more extreme weather, including heat waves, and it will get worse. Projections from the Massachusetts Executive Office of Energy and Environmental Affairs show that the number of very hot days (over 90 degrees) each year will double from about 10 per year now to over 20 by 2050 (see below chart). That is just the median number – individual years might see significantly more high heat days.



Source: Resilient MA ([resilientma.org](http://resilientma.org)), a program of the Mass. Executive Office of Energy and Environmental Affairs.

Winchester prioritized creation of this *Heat Response Strategy* as the “Highest High Priority” climate-related initiative in a 2020 climate preparedness report, noting that “The risk of heat to the Town’s most

vulnerable populations and emerging vector borne diseases is a major concern.” (see pages 7 and 14 of [Winchester’s 2020 Municipal Vulnerability Preparedness Report](#)).

Of particular concern in Winchester is our growing population over 65 years old, who are often living alone in older homes, often without access to adequate (or sometimes any) air conditioning. Some lack easy transport to municipal buildings that serve as cooling centers. Compounding the threat of high heat is the fact that asthma and cardiovascular conditions can be much more serious for our senior population. As noted by the [National Institutes for Health](#), seniors are at higher risk of heat-related illnesses – some of which can be life threatening – than the general population.

**Winchester is not well prepared to cope with high heat** compared to municipalities in Florida, Texas, southern California and similar areas that have long planned for, and dealt with, high heat. One of the key challenges Winchester must overcome to address the threat of future heat waves is a lack of public understanding about that threat. Many commentators have suggested that the seemingly slow-motion nature of climate change is a major contributor to our society’s inadequate response so far. Since, on average, each year is only slightly hotter than the previous one, it can be difficult to perceive an immediate threat worthy of attention or action. The mainstream media often reflects this lack of urgency. Worse, when the media does run stories about future heat waves, they seldom provide any suggested solutions that individuals can undertake to prepare. This can lead to a dangerous combination of ignorance about the problem, and feelings of hopelessness about the solutions. Yet it is indeed getting hotter, and some important solutions are already in hand.

**Heat is identified as a significant concern** in Winchester’s [All Hazards Mitigation Plan](#), [Master Plan](#), [Climate Action Plan](#), [Municipal Vulnerability Preparedness Plan](#), [Heat Statement](#), and an initial assessment of resources by the Winchester Council on Aging. However, there has been *no coordinated Town-wide strategy* to plan for the dangers of extreme heat. This *Heat Response Strategy* was written to meet that need. It includes recommendations for projects and initiatives that would help prepare Winchester and its residents for a future with significantly higher temperatures. Recommendations from the above plans and the Heat Statement are identified in the below list of measures recommended in this Heat Response Strategy.

The recommendations described in the following sections come from the documents cited in the preceding paragraph, as well as valuable input from key stakeholders.<sup>1</sup>

## **Recommendations for Heat Response Strategy**

The threat of extreme heat to Winchester residents must be met with a sustained and multi-faceted campaign. The campaign should include educational events, printed and web resources; efforts to add air conditioning to older homes; designated cooling centers; plans to identify and transport the most vulnerable residents to cooling centers, and more. Following is a list of proposed measures to help prepare Winchester for a future with increasing temperatures:

- Conduct outreach campaigns to identify residents vulnerable to heat emergencies

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<sup>1</sup> Special thanks to Health Director Jen Murphy, Fire Chief Rick Tustin, Jenks Center Director Phillip Beltz, Recreation Director Nick Cacciolfi, Winchester Housing Authority Executive Director Susan Cashell, Winchester Public Library Director Ann Wirtanen, members of the Climate Action Advisory Committee, and resident Tom Howley for their invaluable input on drafts of this *Strategy*.

- Create a heat emergency transportation strategy for residents on the Council on Aging’s List of Vulnerable Winchester Residents
- Designate official cooling centers in Winchester and ensure they have sufficient staffing, resources and backup generator capacity
- Help provide air conditioning units for residents in need
- Create heat preparedness resources and add to Town website
- Public information campaign
- Hold heat preparedness presentations and workshops
- Study the potential for public water-focused outdoor recreation facilities including sprinkler parks and beaches
- Study methods to preserve and increase Winchester’s tree canopy cover

**Conduct outreach campaign to identify residents vulnerable to heat emergencies.** The Council on Aging maintains a voluntary List of Vulnerable Winchester Residents. As of February 2022, there are 25 individuals on the list. There are likely many more in our town. We need to rigorously identify residents who should be included on the voluntary list. Priority residents should include seniors who lack air conditioning and other individuals with health conditions that make them more susceptible to heat-related health impacts.<sup>2</sup> This outreach campaign should be designed and led by the Council on Aging and Health Department, with assistance from the Police Department, Fire Department, churches and social workers.

*This measure also appears in the 2020 Municipal Vulnerability Preparedness Plan in Section 6.3: Moderate Priorities, and Winchester’s 2021 Heat Statement (tactic 1).*

**Create a heat emergency transportation strategy for residents on the Council on Aging’s List of Vulnerable Winchester Residents.** In a heat emergency, some residents may need help with transportation to a cooling center or hotel. The need for transportation assistance should be noted in the List of Vulnerable Winchester Residents database. If the number of Vulnerable Residents needing transportation is low enough, residents could probably be transported with existing vehicles (the Jenks Shuttle and the planned new Jenks wheelchair van, perhaps supplemented by passenger vehicles driven by volunteers). If the number of residents needing transportation is too large for existing and planned vehicles and drivers, plans should be put in place to increase transportation resources. This transportation strategy should be designed and led by the Council on Aging, with input from the Health Department, churches and social workers.

**Designate official cooling centers in Winchester and ensure they have sufficient staffing, resources and backup generator capacity.** During periods of extreme heat, cooling centers serve an important role in providing air conditioned venues where residents can comfortably spend time. Cooling centers are locations intended for daytime and in some cases early evening use. Unlike an emergency shelter intended for 24x7 use, cooling centers are not intended for use as overnight accommodations because they do not have beds, shower and cooking facilities.

Buildings appropriate for use as cooling centers have the following attributes:

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<sup>2</sup> It was the author’s original intention to prioritize inclusion of Winchester Housing Authority (WHA) residents in this Heat Response Strategy. However, all 112 Chapter 667 public housing units for senior and disabled citizens managed by WHA have recently been retrofitted with air source heat pumps, which provide both heating and cooling. This greatly reduces the risk that WHA residents will be exposed to extended periods of high heat.

- Sufficient air conditioned space and seating to accommodate a substantial number of guests (for purposes of this document: 30 or more) during daytime hours
- Spaces that are regularly open to the public for recreational use, not just on special occasions or during an emergency
- Adequate bathroom facilities
- First aid kits and defibrillators
- Entertainment (books and magazines, televisions, computers with Internet access, etc.)
- Ideally: A backup generator with sufficient capacity to maintain air conditioning during grid power loss
- Ideally: sufficient staff to allow for temporary increases to meet demand during extreme heat vents. This may require additional resources from the Town budget or from charitable donations.

Recommended cooling centers are:<sup>3</sup>

- The Jenks Center
- Winchester Public Library (although it lacks emergency backup power)

Use of public schools as cooling centers is theoretically possible, because some schools have air conditioned spaces and school use is generally lower during the summer when extreme heat events are more likely. However, while some school buildings have been designated by the Town as *emergency shelters* (see next paragraph), they are not designed or staffed for regular public recreational use like the Library and Jenks Center. For this reason, schools are not recommended as *cooling centers*.

The need for overnight accommodations, including official emergency shelters, appears to be low. According to Fire Chief Rick Tustin, in his 35 years with the Town an emergency shelter was only set up once in response to flooding in 2001 (at Ambrose Elementary School), and only a single resident took advantage of the shelter. According to Chief Tustin and Jenks Center Director Phillip Beltz, anecdotally most vulnerable Winchester residents who lack air conditioning choose to go to hotels or stay with relatives, friends or neighbors when there are emergencies such as extreme heat that make staying at home unsafe or uncomfortable. That is helpful, because the Town's designated primary emergency shelters (the High School, Middle School, and Lincoln and Ambrose Elementary Schools) lack air conditioning, backup generators for spaces that are air conditioned, or both.

Implementation of this strategy should be led by a working group including Council on Aging / Jenks Center staff, Library staff, the Sustainability Director and Health Director. The working group should, among other things, create a checklist of needed resources that should be available at all cooling centers.

*This strategy also appears in the 2020 Municipal Vulnerability Preparedness Plan in Section 6.1: Highest High Priorities; the 2020 Climate Action Plan under measure CR1: Public Health and Safety; and Winchester's 2021 Heat Statement (measure 5).*

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<sup>3</sup> The Sanborn House is a potential cooling center, but currently lacks central air conditioning. According to Tom Sevigny, President of the Winchester Historical Society (WHS), this has been a topic of discussion for years, but the estimated \$200,000+ cost is too high. The WHS is discussing alternatives, including phasing the project one floor at a time, but the project may be too expensive without additional outside funding.

**Help provide air conditioning units for residents in need.** Due to steadily rising temperatures, few new homes are constructed without central air conditioning. In addition, many older homes have been retrofitted with air conditioning. However, central AC was not typically installed in homes until after the 1970s and many Winchester homes constructed before that time still lack central AC. Window units can provide relief in individual rooms, most importantly bedrooms, but some residents may have trouble affording window units or properly installing them without assistance. A quantity of window AC units could be purchased and stockpiled at the Jenks Center or elsewhere so that they were available in a heat emergency when stores might become sold out. Council on Aging or other staff, as well as volunteers, could be recruited to help install window units where needed. Potential funding sources include:

- The Asa Fletcher Fund (controlled by Select Board);
- En Ka Society;
- Minuteman Senior Services;
- Requests posted on the Winchester Residents Facebook page (this has been successful previously; some Winchester residents have donated window units to those in need, coordinated by the Jenks Center);
- The Sustainability Fund (if successfully authorized by the legislature in response to Winchester's home rule petition approved at fall 2021 Town Meeting);
- Massachusetts state grants for residential air conditioning, especially for elderly and vulnerable populations including air source heat pumps (which both heat and cool).

The following questions and considerations should be addressed in the formulation of this strategy:

- It is assumed that air conditioning units would be permanently donated to those at risk (not distributed and collected back);
- A trigger for air conditioning unit distribution should be determined. For example: a forecasted several-day period of extended heat exceeding 90 degrees;
- It may be desirable to distribute air conditioning units well in advance of any heat emergency. For example, the Town could identify the top 50-100 most vulnerable residents, work to understand their situation, and proactively provide them with air conditioning units. Over a period of years, the number of vulnerable residents who lack air conditioning units would be steadily reduced.
- Some vulnerable residents may need help installing window air conditioning units at the beginning of each cooling season, and removing them for storage at the end of the cooling season. A plan to provide such assistance should be devised.

Development of this program should be led by the Council on Aging, with assistance from the Sustainability Director. *This strategy also appears in Winchester's 2021 Heat Statement (tactic 9).*

**Create heat preparedness resources and add to Town website.** Existing and planned programs and strategies to address risks associated with high heat need to be made available to the public. In addition to promotional campaigns (See next strategy below and also Appendix A: Communications Channels), information should be housed on the Town website ([www.winchester.us](http://www.winchester.us)) so that it is available at all times and organized in a logical manner.

- Resources and information should include:
  - Why extreme heat is a public health concern now and especially in the future;
  - How to make homes an effective refuge from heat through weatherization and air conditioning. The benefits of heat pumps, which efficiently provide both cooling and

- heating, should be emphasized because they have the added value of reducing net carbon pollution compared to oil or gas heating systems;
  - How to obtain a donated or subsidized window air conditioning unit;
  - A list and details about Winchester’s cooling centers; and
  - A list of appropriate water-based or shaded outdoor recreational facilities.
- Web-based resources should be located on the Town’s Sustainability Department website, the Health Department website, and the Town Manager’s Emergency Management Information website. To avoid duplication of materials, one website should contain most of the information, with the other websites linking to that primary site. The Jenks Center’s website should also contain a link to these Town resources.

The Sustainability Director will work with the Health Department and Town Manager’s office to implement this strategy.

*This strategy also appears in Winchester’s 2030 Master Plan (Strategy C1.3 and C4.2) and Winchester’s 2021 Heat Statement (tactic 2).*

**Public information campaign.** The programs and initiatives included in this Heat Response Strategy will only be useful if residents are aware of them. The Town should initiate and maintain a public information campaign about the hazards of extreme heat and available Town resources. This campaign should become a regular part of Town communications via social media, the Notify Me list, the Jenks Newsletter, and ideally in church and school newsletters. Information should direct people to heat preparedness content on the Town website. The campaign should also include in-person and virtual presentations (see next measure, below).

The Sustainability Director will work with the Town Manager’s office, Council on Aging, Health Department and others to design and implement this public information campaign.

*This strategy also appears in Winchester’s 2030 Master Plan (Strategies C1.3 and C4.2); the 2016 All Hazards Mitigation Plan (p. 3-32); the 2020 Climate Action Plan under measure CR1: Public Health and Safety; and Winchester’s 2021 Heat Statement (measure 2).*

**Hold heat preparedness presentations and workshops.** To educate Winchester residents about the magnitude of the threat of future heat waves, as well as solutions available to individuals, families and Town government, a series of educational events should be held at the following locations (where possible, the events should be recorded so that they can be viewed later):

- The Jenks Center
- Winchester Public Library
- Winchester School for Chinese Culture
- Chamber of Commerce
- Rotary Club
- Local Churches
- WinCam cable access channel
- Town Hall (for Town employees)
- Precinct meetings with Town Meeting Members

This initiative will be complementary to, and a part of, the public information campaign described in the previous measure in this Heat Preparedness Strategy and should be led by the same entities.

*This strategy also appears in Winchester's 2021 Heat Statement (tactic 4).*

**Study the potential for public water-focused outdoor recreation facilities including sprinkler parks and beaches.** Some residents own swimming pools or beachfront vacation homes, but the majority of Winchester residents do not have private water-based recreational facilities. Winchester should study the potential for sprinkler parks on public land throughout town. The Town should also study needed improvements to Shannon Beach and Borggaard Beach that would improve the visitor experience. Shannon Beach (also known as Sandy Beach) is a state-owned beach located in Winchester on Upper Mystic Lake along the Mystic Valley Parkway. Because it is state-owned, any study or improvements would need to be coordinated, funded and executed by the Massachusetts Department of Conservation and Recreation. Borggaard Beach and Splash Park are located on Wedge Pond adjacent to the Packer-Ellis tennis courts on Lake St. The beach and splash park have been closed for two years and the bath house and other physical structures and equipment are in need of significant repair. Before investing in Borggaard Beach and Splash Park, concerns about water quality in Wedge Pond should be resolved.

Implementation of this measure will be led by the Recreation Department, Department of Public Works, and Sustainability Director.

*This strategy also appears in Winchester's 2021 Heat Statement (measure 8 and tactic 6).*

**Study methods to preserve and increase Winchester's tree canopy cover.** Trees reduce risks associated with extreme heat in several ways:

- Trees provide shade that can substantially reduce ground-level temperatures;
- When trees shade homes, the internal temperature of those homes and resulting need for air conditioning is reduced; and
- Trees emit moisture into the air via evapotranspiration, which can have a significant cooling effect.

The protection and enhancement of Winchester's tree canopy is an important measure that should be taken to help reduce future risks associated with extreme heat. Measures could include educational programs for residents, contractors and developers about the importance of maintaining large, mature trees; greater municipal investment in street tree planting and maintenance; a tree preservation bylaw; and perhaps other measures.

This measure is already being studied by a joint working group comprised of members of the Planning Board, Conservation Commission, and Climate Action Advisory Committee, supported by the Town Planner and Sustainability Director.

*This strategy also appears in Winchester's 2030 Master Plan (Strategy C3.3); the 2020 Municipal Vulnerability Preparedness Plan (Section 6.2.4); the 2020 Climate Action Plan under measure CR4: Green Infrastructure; and Winchester's 2021 Heat Statement (measure 4).*

## Appendix A: Communication Channels

The following communications channels are suggested for use in disseminating information about hazards associated with high heat, as well as Town resources available to residents.

- Town website: Health Department, Sustainability Department, and Town Manager's [Emergency Management page](#);
- Town automated calls and emails via the [Winchester Aware Community Notification System](#): controlled by Fire Department (residents must opt-in);
- Social media: Town Facebook and Twitter feeds (Town staff sometimes also post social media items on the Town Resident Facebook page);
- "Notify Me" sign-up form on town website;
- Jenks Center Newsletter;
- Council on Aging voluntary List of Vulnerable Winchester Residents;
- School newsletters;
- Faith community newsletters;
- Winchester School of Chinese Culture;
- Winchester Chamber of Commerce;
- Electronic sign board out near Stop and Shop;
- Winchester Public Library Display Cases;
- Other channels (the above list should not be considered exhaustive).