TOWN OF WESTON

MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM

Community Resilience Building Workshop
Summary of Findings Report
June 2020

Prepared for the Town of Weston, MA, by Kim Lundgren Associates, Inc. with a grant from the Massachusetts Executive Office of Energy & Environmental Affairs

KLA | KIM LUNDGREN ASSOCIATES, INC.

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Town of Weston
Community Resilience Building Workshops
Summary of Findings

I. OVERVIEW

Driven by the desire to assess its vulnerabilities, build community resilience, and expand its potential to address hazards caused by climate change, the Town of Weston chose to pursue certification from the Massachusetts Municipal Vulnerability Preparedness (MVP) program. In the summer of 2019, the Town received funds to start a town-wide conversation about climate change and its effects on the community. The MVP program provides funding for cities and towns in Massachusetts to plan for climate change resilience and implement priority projects. The state provides communities funding to complete vulnerability assessments and develop action-oriented resilience plans. Communities who complete the MVP program become certified as an MVP community and are eligible for action grant funding. This Summary of Findings Report presents the results from the five-month effort.

Observed and predicted changes to the climate in Weston were a large motivator for becoming an MVP certified town. Climate changes are taking shape through four primary hazards:

- **Intense Storms**: The frequency and severity of intense storms—including nor'easters, ice storms, hurricanes, windstorms, and heavy precipitation events—are increasing.
- **Flooding**: Caused by increased precipitation and intense storms, and worsened by periods of drought, inland flooding is the prolonged submerging of land by water. Flooding is expected to become more of a problem as intense storms continue to increase.

- **Heat Waves**: In Massachusetts, a heat wave is defined as three or more days above 90°F. Both the length and frequency of heat waves are expected to increase in the northeast, along with rising annual average temperatures.
- **Drought**: Periods of abnormally dry weather are expected to become an increasingly prominent issue in Massachusetts and can cause crop damage, water supply shortages, and habitat loss.

Combined, these hazards have motivated the Town to begin identifying and implementing actions that will enhance local resilience to these existing conditions and projected changes. More detailed information on these hazards including trends, projections, and impacts can be found in the proceeding section.

Weston has already taken steps to address climate change and ensure community resilience. In 2011, Weston was designated as a Green Community, opening the door for funding from the Massachusetts Department of Energy Resources. The Town has installed solar panels and made a number of energy efficiency upgrades at its schools and municipal buildings. Weston has also taken steps to protect its natural resources through the creation of a water conservation bylaw, water usage studies, and natural resource protection districts. Through programs such as the Weston Emergency Reserve Corps, WestonAlerts, and its Council on Aging volunteer-driven van, Weston is also taking steps to protect the health and safety of its residents. The MVP program allows the Town to further its ability to address current and future climate impacts by proposing specific actions.

In August 2019, the Town of Weston partnered with Kim Lundgren Associates, Inc. (KLA), VHB, and the Charles River Watershed Association (CRWA) to design a process that would allow the Town to become an MVP Community. The typical MVP scope was expanded to include updating the Town's Hazard Mitigation Plan and conducting additional community engagement. The work described in this report is a crucial step in Weston's journey to a more resilient future. To complete the work outlined in this report, the Town worked with the consultant team to:

- Create a Core Team comprised of key internal stakeholders;
- Establish goals for the MVP process;
- Conduct research on historic and projected changes and impacts from climate change;
- Determine an initial set of high-priority hazards;
- Collaboratively design two MVP workshops using the Community Resilience Building process;
- Identify and invite key stakeholders to participate in the MVP workshops;
- Host two MVP workshops where:

    - the highest priority hazards were confirmed;
    - the impacts, strengths, and vulnerabilities to infrastructure, socio-economic systems, and environmental systems were identified;
    - several adaptation actions were created; and
    - a final set of high priority action items were collectively defined and agreed upon by workshop participants;
- Prepare for and host a listening session to discuss the results from the workshop and solicit feedback from the community;
- Design, launch, and report out on an online community survey;
- Design and host two youth-focused events;
- Update the Town's Hazard Mitigation Plan by:
    - Reviewing the current plan;
    - Completing the FEMA-CRB crosswalk;
    - Develop, draft, and finalize an updated HMP; and
    - Facilitate additional meetings for the HMP.

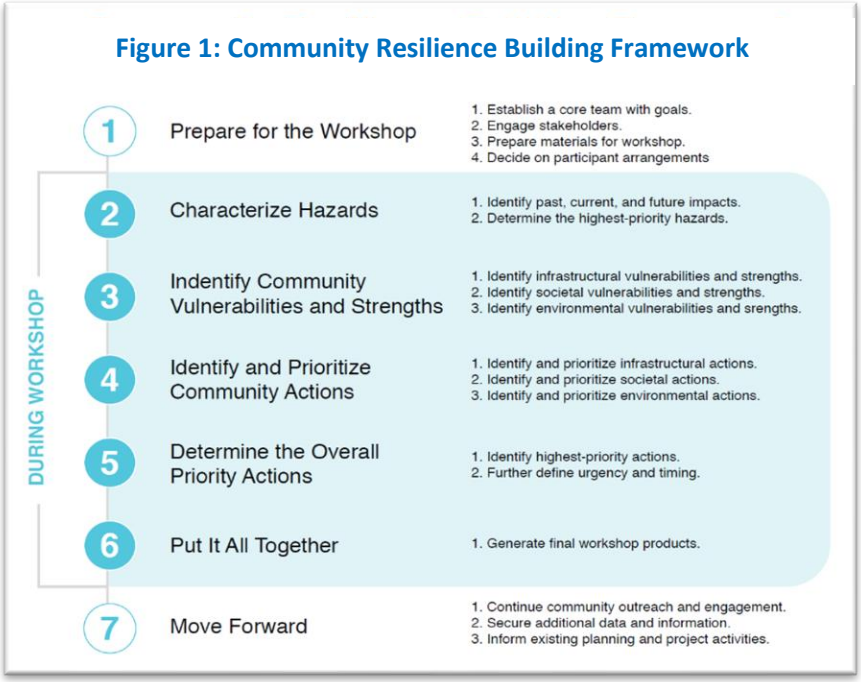
The cornerstone of this work was the two MVP workshops hosted by the Town. The attendees of the workshops represented a diverse group of stakeholders that each brought a specific area of expertise to the table. The workshops served to collaboratively develop solutions that serve the entire Weston community.

This report provides greater detail about the MVP process that Weston followed, and the actions identified as high priorities to enhance local and regional resilience. The Town would like to thank the Massachusetts Executive Office of Energy and Environmental Affairs for their financial and technical support for this effort.

MVP PLANNING PROCESS

In August 2019, KLA and VHB worked with Weston's Town Manager, assistant planner, and a member of the Sustainability Committee to identify individuals to serve on the MVP Core Team *(see Acknowledgments for a list of the members)*. On September 11, 2019, the Core Team members met to learn about the MVP process which is based on the Community Resilience Building Framework *(see Figure 1)*. They learned more about their role as Core Team members, confirmed materials and logistics for the MVP Workshops, brainstormed the top hazards to be discussed at the workshops, and reviewed how Weston can leverage the results of MVP to spark greater community conversation and action on climate change. The Core Team also reviewed maps that that would support the MVP workshops. These maps displayed environmental, socio-economic and infrastructural features of the Town. The maps are available in Appendix 1.

Figure 1: Community Resilience Building Framework



The Core Team identified individuals to participate in two MVP workshops and was careful to ensure that invitees represented the diversity of the community, including key Town departments, schools, environmental groups, Council on Aging, faith-based organizations, and regional organizations.

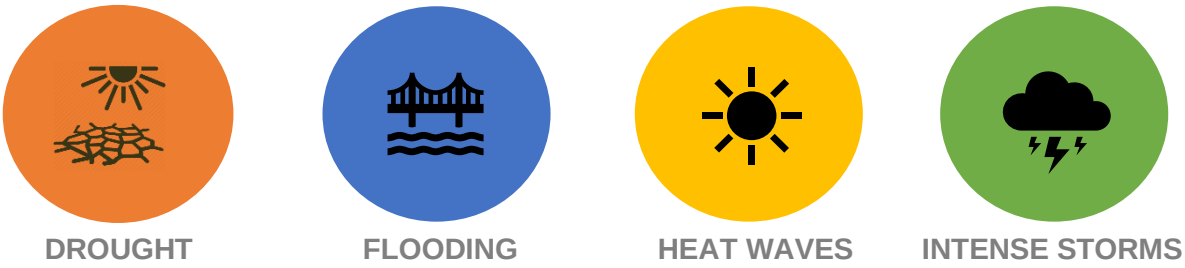
The Town Manager sent invitations to the stakeholders for the MVP workshops for two, four-hour workshops, scheduled for October 15, 2019 and October 22, 2019 from 10:00 am to 2:00 pm. In total, 40 individuals were invited to participate in the MVP workshops *(see Appendix 2 for a list of stakeholders)*.

To engage the larger community in the conversation, the Town hosted a public listening session on November 6, 2019. At this meeting, the consultant team presented on the identified hazards and the results of the previous workshops. The 25 meeting attendees then had the opportunity to share their concerns and proposed solutions through an open house engagement activity with posters for each of the hazards. Outcomes and materials from the Listening Session can be found in Appendix 5, as well as in Section 3 about current concerns and challenges presented by hazards.

Additionally, a listening session was held with 15 Weston High School students, most of whom were members of the Student Environmental Association (SEA). Members of the Sustainability Committee introduced the MVP program and the top four hazards the town identified. Students spilt into groups and brainstormed ways they would like to see Weston be more sustainable in the short term (1-3 year) and long term (3 - 10 years). Outcomes of the youth Listening Session can also be found in Appendix 5.

II. TOP HAZARDS AND VULNERABLE AREAS

The first step in the MVP process was to identify the four main hazards that have historically impacted the community and are projected to continue and possibly worsen as a result of climate change. The hazards were identified by the Core Team and confirmed at the beginning of the MVP Workshops with the stakeholders. The four hazards identified for Weston are:



Like most Massachusetts communities, Weston has seen an increase in the frequency and severity of flooding, heat waves, and intense storm events. These impacts affect everything from the health of the Town's residents and natural environment, to the ability of infrastructure and utilities to provide their services. Appendix 3 provides a summary of the historic trends and projected changes in weather and climate experienced in Weston. This information was foundational to the MVP process as it helped to establish common ground for the stakeholders and discuss what types of changes and associated impacts to expect going forward.

At the MVP Workshops, participants discussed the impacts of the four hazards and articulated features they saw as community strengths and vulnerabilities. These features were discussed as they relate to three community components: Infrastructural, Societal, and Environmental. The workshop attendees were broken into four teams. Each team was tasked with reviewing the details of each feature identified under each of the components. Team members used a matrix to track each feature, whether it was a strength and/or a vulnerability, the hazard that affects it, and the priority and timeline associated with implementation. Below are the features identified by the teams for the three community components:

Infrastructural Features:

- Cell towers
- Communication system
- Dams and culverts
- Emergency response buildings
- Evacuation routes
- Municipal buildings and facilities

- Natural gas lines
- Newton Street
- Pedestrian infrastructure
- Power systems
- Shelters
- Water distribution infrastructure
- Winter maintenance fleet

Societal Features:

- Assisted living facilities
- Businesses
- Fixed/low-income
- Local farmers and beekeepers
- Non-English speakers
- Schools and colleges
- Seniors
- Students
- Those with a disability (physical or mental)
- Unprepared households
- Youth

Environmental Features:

- Charles River
- Dams
- Farms
- Fish habitats
- Flora (native and invasive)
- Open space
- Parks and recreation areas
- Street trees
- Ticks and mosquitoes
- Tree canopy
- Water resources
- Wetlands
- Wildlife and pollinators

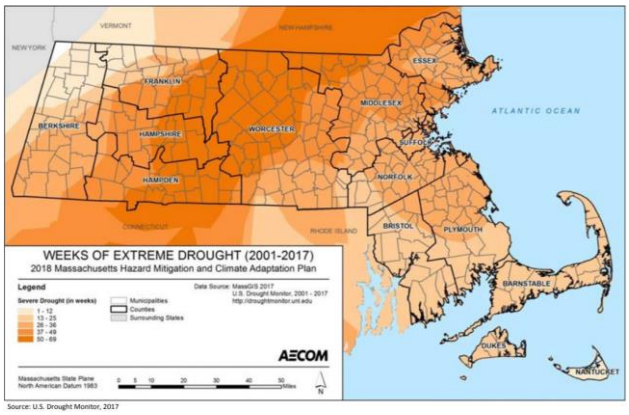
Many of these features were flagged as both strengths and vulnerabilities. As such, workshop participants discussed the specific strengths, as well as vulnerabilities, before identifying actions that sought to enhance strengths and mitigate vulnerabilities. Appendix 4 includes the completed matrices from the group discussions.

III. CURRENT CONCERNS AND CHALLENGES PRESENTED BY HAZARDS

Residents of Weston are already noticing changes to the climate. During the Workshops, participants raised their concerns about these impacts. For the most part, the workshop attendees reported limited disruption to their current way of life but are eager to maintain that trend. Anticipated challenges included protection of the town's vulnerable populations and the threats posed to the community's lifestyle and culture. Highlights from these discussions are captured below, along with more details on each of the four identified hazards.

DROUGHT

Even though more annual precipitation is projected overall, it is anticipated to fall in fewer, more intense events in the winter and spring rather than in smaller more sporadic events throughout the year. Therefore, it is expected that there will be longer periods of time without rainfall, especially in the summer and fall, increasing the potential for drought. In October 2016, 52% of the land area in Massachusetts was in "Exceptional Drought."[1]



FROM THE PUBLIC

Attendees at the public listening session were primarily concerned about:

- Culture of excessive water use
- Tree loss
- Brushfire risk
- Habitat damage

Of concern to the workshop participants was the effect of drought on water supply and wetlands. While Weston receives its drinking water supply from Massachusetts Water Resources Authority (MWRA), participants were concerned about droughts decreasing the supply of water available for the Fire department. Drought will also affect wetland habitat, which makes up 18% of the Town land.

Participants discussed how Weston's high water consumption rates will only exacerbate the effects of drought. Specifically, one group noted that

[1] National Oceanic and Atmospheric Administration. Massachusetts. Retrieved from https://www.drought.gov/drought/states/massachusetts

summer water use in Weston is five times that of winter water use. The group discussed the need for a culture shift to encourage water conservation.

FLOODING

The Commonwealth has experienced 22 flood-related disasters from 1954 to 2017. Middlesex County saw $35.2 million worth of damage from flooding in March of 2010.[2] Flooding disrupts transportation systems, damages infrastructure and property, and exacerbates to public health concerns (e.g., standing water, flooding in basements, mold dissemination). In light of these concerns, MVP Workshop participants agreed that flooding was a serious hazard that warranted consideration.

FROM THE PUBLIC

Attendees at the public listening session were primarily concerned about:

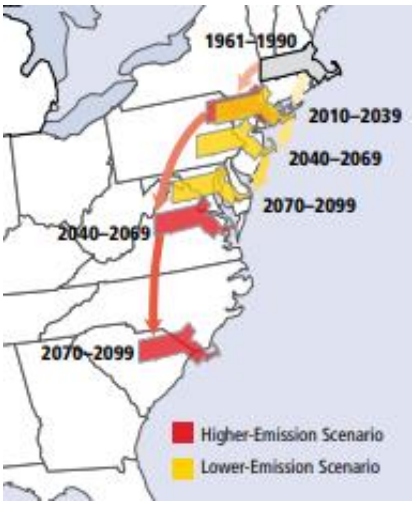
- Impact on gas infrastructure
- Increasing impervious surface covering
- Flooding basements
- Increasing insect populations
- Blocked roadways

Flooding directly impacts many areas and populations in Weston. Areas near dams and along the Charles River are some of the most frequently flooded areas. Workshop participants also noted that access to Norumbega Park is occasionally cut off due to flooding. It was also noted that roads blocked by flooding can be a significant public safety issue if they roads are part of emergency access or evacuation routes. In addition to roads, residents discussed the issue of flooding basements and the resulting property damage.

In Weston, the number of wetlands—covering 18% of the Town—is seen as a strength in controlling flooding. However, several participants noted the increasing pressure to develop in wetland areas, which would significantly decrease flooding mitigation potential.

[2] National Oceanographic and Atmospheric Association. Storm Events Database. 2016.

HEAT WAVES



Extreme heat and heat waves—defined as periods of 3 or more days over 90° F—are on the rise in Weston. The figure to the left demonstrates this point by showing how Massachusetts' climate may seem more like South Carolina's by the end of the century under a "business as usual" greenhouse gas emission scenario.[3] Between 2010 and 2014, there were 11.5 days above 90° F—the highest number since 1950.[4] By mid-century, this number is expected to rise by an additional 10 to 35 days. Not only is there an increase in hot days in the summer, but it is also predicted that there will be a decrease in the number of days under 32° F by 17 or 39 days by mid-century.[5] This information led the MVP Core Team and Workshop participants to prioritize heat waves as one of the four primary hazards in Weston.

FROM THE PUBLIC

Attendees at the public listening session were primarily concerned about:

- Greater energy demand from air conditioning
- The impact on the elderly and disabled
- Diminished recreation options
- Affect on physical and mental health
- Brownouts

The bulk of the discussion around heat waves in Weston centered around the effects of extreme heat on vulnerable populations. Groups discussed concern over keeping children cool while playing outside during the summer, especially in areas lacking shade trees and water fountains. While the Field School has air conditioning, other elementary schools do not, and parents in the group were concerned about their children's ability to focus during hot days. The elderly are also disproportionally affected by high heat days and heat related illnesses. Elderly residents living alone without air conditioning were of particular concern.

Aside from keeping cool, protecting against vector-borne diseases was a top priority. More warm days extends the breeding periods for ticks and mosquitoes, increasing the risk of illnesses such as

[3] Confronting Climate Change in the Northeast. 2007. Union of Concerned Scientists. Retrieved from https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/pdf/confronting-climate-change-in-the-u-s-northeast.pdf

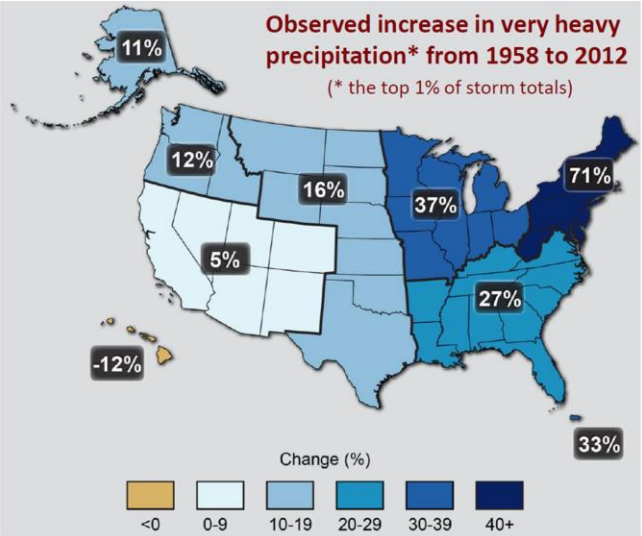
[4] NOAA National Centers for Environmental Information. State Climate Summaries.

[5] Massachusetts Climate Change Projections – Statewide and for Major Drainage Basins. Northeast Climate Adaptation Science Center. MA Climate Change Clearinghouse. 2018.

Lyme disease and EEE. Fortunately, education around best practices to avoid vector-borne diseases was noted as a strength of the Town.

INTENSE STORMS

Over the last several decades, the number and intensity of storms has been on the rise. This includes hurricanes, nor'easters, ice storms, and rainstorms. Research shows that these types of storms are likely to become more frequent, intense, and possibly longer in duration in the future.[6] In New England, there has been a 70% increase in the intensity of rain events between 1958 and 2010.[7]



According to climate projections, the state of Massachusetts may see up to 2.4 additional inches of precipitation by 2050, and up to 3.9 inches by 2100.[8] Intense storms can lead to flooding, property damage, downed trees, power outages, and significant economic disruption.

FROM THE PUBLIC

Attendees at the public listening session were primarily concerned about:

- Power outages
- School closures
- Property damage
- Cost of repairs
- Failure of medical equipment
- Blocked roadways
- Unprepared households

Power outages were the biggest concern among Workshop participants. Specifically, groups pointed to school and business closures, as well as concern for the elderly or medically vulnerable during a power outage. Fortunately, there are quite a few back-up generators in Weston, including at Town Hall, the community center, Maplewood, Brook School Apartments, and several schools. While the conversation centered largely on vulnerable populations, it was also noted that the average

[6] MA Climate Change Clearinghouse. 2019. "Changes in Precipitation." Retrieved from http://resilientma.org/changes/changes-in-precipitation

[7] City of Boston. 2016. Climate Ready Boston.

[8] MA Climate Change Clearinghouse. 2019. "Changes in Precipitation." Retrieved from http://resilientma.org/changes/changes-in-precipitation

household in Weston is not adequately prepared to survive in their home in case of an extended power outage.

Aside from power outages, participants discussed how storms—especially snow and ice storms—can affect local businesses if sidewalks are not promptly cleared. Intense storms can also limit bus service. While Weston will continue to be affected by storms, it is important to note that the Town's communication to residents before, during, and after an extreme weather event was noted as a significant strength.

IV. CURRENT STRENGTHS AND ASSETS

One of the focal points of the MVP Workshops was identifying the Town's vulnerabilities and strengths for the features impacted by the four climate hazards outlined above. Identifying current strengths helps the Town focus on assets they want to protect and maintain. Through the workshop discussions, the Town's protected open space and recreation resources rose to the top as a strength. Workshop participants also highlighted the town's school system, historic resources, tree canopy, and IT system. Overall, Weston is regarded by participants as a place that provides a high quality of life and has a strong community.

V. TOP RECOMMENDATIONS AND STRATEGIES TO IMPROVE RESILIENCE

After identifying Town features, strengths and vulnerabilities, MVP Workshop participants brainstormed a list of potential resilience actions Weston could take to combat the impacts from the four climate hazards. Actions were intended to build on the existing strengths of the Town, while addressing current or future vulnerabilities. This process was conducted individually in each group and

then was followed by a full team prioritization of the actions to identify which steps the Town should take first.

MVP Workshop stakeholders generated a list of over 150 actions. Each participant was asked to vote on their top three priorities across the three community components. The following are the top three actions collectively identified as top priorities for Weston:

- Replace aging culverts under roadways (14)
- Implement an education campaign on sustainable landscaping practices (10)
- Create targeted evacuation plans and routes for vulnerable populations and ensure ADA access at existing facilities (9)

Below are the top actions identified by each group under each community component, organized by priority:

Infrastructure:

- Replace aging culverts under roadways
- Collaborate with utilities to ensure tree trimming of Right-of-Way trees is streamlined and done correctly to minimize power outages caused by falling trees and branches
- Incentivize alternative energy use and educate the public about regulations that affect their ability to install solar panels

Societal:

- Create targeted evacuation plans and routes for vulnerable populations and ensure ADA access at existing facilities
- Develop a Climate Action and Resilience Plan that focuses on deep targeted engagement of and communication to all audiences in Weston
- Create a program to connect volunteer youth with seniors in need of assistance with tasks such as snow shoveling
- Formalize a process for emergency water distribution

Environmental:

- Implement an education campaign on sustainable landscaping practices
- Better protect the natural resources and ecosystem services through wetland protection, education, and forest management
- Replace trees with salt-resistant varieties
- Start a farmer's market in Weston
- Increase shade coverage and water fountains in parks and at playing fields
- Reduce irrigation of MWRA water sources

BLUEPRINTS

In an effort to move quickly to action, the Town of Weston worked with its consultant team to develop implementation blueprints for three of its top actions. Additionally, it should be noted that Weston took immediate action to develop a Climate Action & Resilience Plan, using funding from the MVP Action Grant program. These blueprints detail who is responsible for implementation of each action, the specific steps involved as well as associated timeframes, key partners, and funding sources. Additionally, each blueprint highlights linkages to other Town initiatives or plans; equity considerations, engagement tactics, and metrics of success.

Action: Encourage alternatives for energy use and provide education around existing regulations

DESCRIPTION OF ACTION	Launch a public education campaign to inform Weston residents about the potential to reduce their energy use and the current alternative energy regulations and policies.
CHAMPIONS	● Sustainability Committee, Facilities Department, Sustainable Weston Action Group

IMPLEMENTATION STEPS	PLANNING CONSIDERATIONS		
	Timeframe	Key Partners	Funding Resources
1. Develop a community engagement strategy to identify target audiences and most effective tactics to engage them.	3-4 weeks	• Select Board • Town Manager/Public Information Officer	MVP action grant Volunteer time
2. Create a complete list of existing programs, incentives, rebates, and resources available to residents to help reduce energy use through energy conservation and the use of renewable energy	1-2 months	• Sustainability Committee • SWAG • MassSave • Eversource • National Grid • DOER	MVP action grant Volunteer time
3. Design communication materials (e.g. webpage, one-pager printout, newsletter blurbs) that include the compiled list of alternative energy and energy conservation resources.	1-2 months	• Town Manager/Public Information Officer • Information Systems • Sustainability Committee	MVP action grant Volunteer time

		• SWAG	
4. Partner with community organizations to host/attend events to educate a diverse range of residents about ways to reduce their energy use	6 months	• Schools • Library • Council on Aging • Housing managers • Houses of worship • Town orgs (WCCA, WCL, etc.)	MVP action grant Volunteer time
5. Continue outreach through attendance at events, social media posts, town communications systems, etc.	Ongoing	• Town Manager/Public Information Officer • Information Systems • Sustainability Committee • SWAG	MVP action grant Volunteer time

LINKS TO OTHER PLANS & ACTIONS	EQUITY CONSIDERATIONS
How does this action connect to existing Town goals/actions and other MVP actions? • Expand the use of alternative energy • Encourage efficiency upgrades • Develop a strategy to transition facilities from fossil fuels to renewable energy • Promote heat pumps to minimize the consumption of natural gas • Promote Community Choice Aggregation	*How can the community incorporate equity into the implementation of this action?* • Advocate for programs and rebates that are accessible to low-income residents • Translate communication materials into multiple languages • Host/attend events in spaces accessible and welcoming to all members of the community
MEASURING SUCCESS	**ENGAGING THE COMMUNITY**
How can we measure the progress and success of this action? Outputs: • # of residential rooftop solar arrays • # of enrollments in the Community Choice Aggregation program • # of residents switching from gas to electric systems (existing and new) Outcomes:	*How can we engage the populations that benefit from implementing this action?* • Partner with community organizations to expand outreach beyond residents typically engaged in sustainability initiatives • Tap into partner organizations communication channels (i.e., social media channels, email blasts) • Partner with young people to promote the transition to renewables

• % reduction of community greenhouse gas emissions in buildings	

Action: Implement an education campaign on sustainable landscape practices

DESCRIPTION OF ACTION	*Develop and implement an education campaign that encourages residents, businesses, and partners to implement sustainable landscape practices, such as protecting native species and limiting herbicide/pesticide use.*
CHAMPIONS	● Weston Plant Pollinator Alliance (WPPA) and the Conservation Commission

IMPLEMENTATION STEPS	PLANNING CONSIDERATIONS		
	Timeframe	Key Partners	Funding Resources
1. Compile a list of sustainable landscape best practices and resources through interviews with experts in the field. Topics should include, but are not limited to, protecting native species and limiting herbicide/pesticide use.	1 month	• Landscaping companies • Nurseries • Sustainability Committee • SWAG • Northeast Organic Farming Association (NOFA) • Tree Advisory Group • Lincoln & other regional activists/experts	MVP action grant/volunteer WPPA time
2. Host a series of public events with guest speakers who can speak to implementable design, installation, and maintenance principles.	1-2 years	• Experts listed above • Department of Public Works • Lands Sake Farm • Garden Club	MVP action grant/volunteer WPPA time
3. Develop sustainable landscape guidelines for capital projects	1-2 years	• Conservation Commission • Public Works • Schools • Planning Board • Permanent Building Committee	MVP action grant/volunteer WPPA time

4. Expand distribution of sustainable landscaping best practices through a website page, social media, hosting public landscaping work parties, tabling at existing events, and partnering with local businesses, schools, and organizations.	Ongoing	• Partners in neighboring towns • Town Manager's Office • Schools • WCCA • Board of Health • Sustainability Committee • Tree Advisory Group • Garden Club • NOFA	MVP action grant/volunteer WPPA time

LINKS TO OTHER PLANS & ACTIONS	EQUITY CONSIDERATIONS
How does this action connect to existing Town goals/actions and other MVP actions? Other supported MVP proposed actions: • Create a tree management plan • Improve water conservation education • Promote existing rain barrel program • Increase pervious areas to protect existing natural areas • Educate residents about tree health, the tree ordinance, and pre-storm trimming • Educate residents about how to manage wooding properties • Use trees strategically to reduce irrigation and cooling needs, and to improve erosion control and air quality	*How can the community incorporate equity into the implementation of this action?* • Ensure communications are reaching beyond the normal "choir" • Provide translated resources • Take affordability into account: "Sustainable landscapes on a budget"
MEASURING SUCCESS	**ENGAGING THE COMMUNITY**
How can we measure the progress and success of this action? Outputs: • Attendance at public workshops • Completion of a robust, resource-filled webpage • Visits to webpage Outcomes: • Reduction in pesticide/herbicide use • Improvement in water quality in local waterways • Increase in native species and pollinator habitats	*How can we engage the populations that benefit from implementing this action?* • Flyer in utility bills • Partner with Planning and DPW to engage Town • Host a workshop about incorporating sustainable landscapes into operations with businesses and local institutions • Utilize existing Town communication channels to reach all interested residents

Action: Create targeted evacuation plans and routes for vulnerable populations

DESCRIPTION OF ACTION	*Coordinate with Town staff and local organizations to ensure there are evacuation plans and routes clearly in place and clearly communicated for all, especially those that may require additional assistance, such as the elderly, youth.*
CHAMPION	● Fire Department, Board of Health and Weston Emergency Reserve Corps

IMPLEMENTATION STEPS	PLANNING CONSIDERATIONS		
	Timeframe	Key Partners	Funding Resources
1. Create an inventory of organizations, institutions, and other groups that work with vulnerable populations	1 month	• Affordable Housing Trust • Senior housing • Council on Aging • Schools • Library • Women's Community League • Houses of worship • Information Systems • Boarding schools	Staff time
2. Create a best practice toolkit for organizations, businesses, and residents to prepare evacuation plans and routes, including communication strategies for non-English speakers	3-6 months	• Emergency Management • Police • MBTA Advisory Board • MetroWest Regional Collaborative • MEMA/FEMA	FEMA/MEMA Grant MVP Action Grant
3. Conduct trainings for municipal staff, organizations, businesses, institutions on how to use the toolkit to prepare their own evacuation plans and routes	3-6 months	• Emergency Management • Police • Community organizations • Boarding schools	FEMA/MEMA Grant Staff time
4. Support outreach efforts to increase awareness of evacuation plans and routes, with a special focus on the elderly, youth, boarding students, medically vulnerable, low-income residents, and non-English speakers	Ongoing	• Emergency management • Police • Community organizations • Boarding schools	FEMA/MEMA Grant

LINKS TO OTHER PLANS & ACTIONS	EQUITY CONSIDERATIONS
How does this action connect to existing Town goals/actions and other MVP actions? • Emergency evacuation route for plan for commuter rail • Communication plans when power goes down • Increase the number of available generators in community buildings • Improve ability to contact seniors • Engage businesses and organizations on climate change impacts and preparedness	*How can the community incorporate equity into the implementation of this action?* • Provide toolkit and outreach materials in multiple languages • Partner with community organizations to reach the most vulnerable populations • Incorporate public engagement into the creation of plans to ensure needs of all residents are being met
MEASURING SUCCESS	**ENGAGING THE COMMUNITY**
How can we measure the progress and success of this action? Outputs: • % of businesses, organizations, and institutions with established evacuation plans • Number of residents included in evacuation plans Outcomes: • Established and coordinated town-wide evacuation plans and routes • Increased safety during and after extreme weather events and other emergencies	*How can we engage the populations that benefit from implementing this action?* • Publicize the effort through the Town website, alerts, and social media channels • Partner with community organizations to publicize the effort and results through websites, newsletters, social media, announcements at meetings • Focus groups with vulnerable populations

VI. CONCLUSION AND NEXT STEPS

The MVP process was a first step in starting a conversation about climate change in Weston. As part of the Town's expanded scope for the project, The Town conducted a community survey to gather the concerns and priorities of the broader public. The results of that survey can be found in Appendix 6. Weston is eager to keep the conversation going, while diving into action. As such, Weston is pursuing a full climate action and resilience plan that will build off the work done to date and elevate the conversation and potential for action to the next level. Weston is ready to charge forward into the next phase, seeking to engage the entire community and harness to knowledge of experts in the field to create a comprehensive and ambitions action plan.

ACKNOWLEDGEMENTS

The Town of Weston would like to thank all the Core Team members that made this project a success:

Core Team Members	Affiliation
Chris Fitzgerald	Recreation Department
Dana Orkin	Planning
David Soar	Fire Department
Gary Jarobski	Facilities
Jenn Warner	Weston Public Library
John Field	Building Department
Kara Fleming	Assistant Town Manager
Katharina Wilkins	Sustainability Committee of Weston
Leon Gaumond	Town Manager
Michele Grzenda	Conservation Commission
Mignonne Murray	Council on Aging
Mike Goulding	Police Department
Monyette Vickers	Brook School Apartments
Phoebe Beierle	Sustainability Committee of Weston
Susan Kelley	Finance
Tom Cullen	Department of Public Works
Wendy Diotalevi	Board of Health

Report Citation

Town of Weston (2020). Community Resilience Building Workshop Summary of Findings. Weston, Massachusetts.

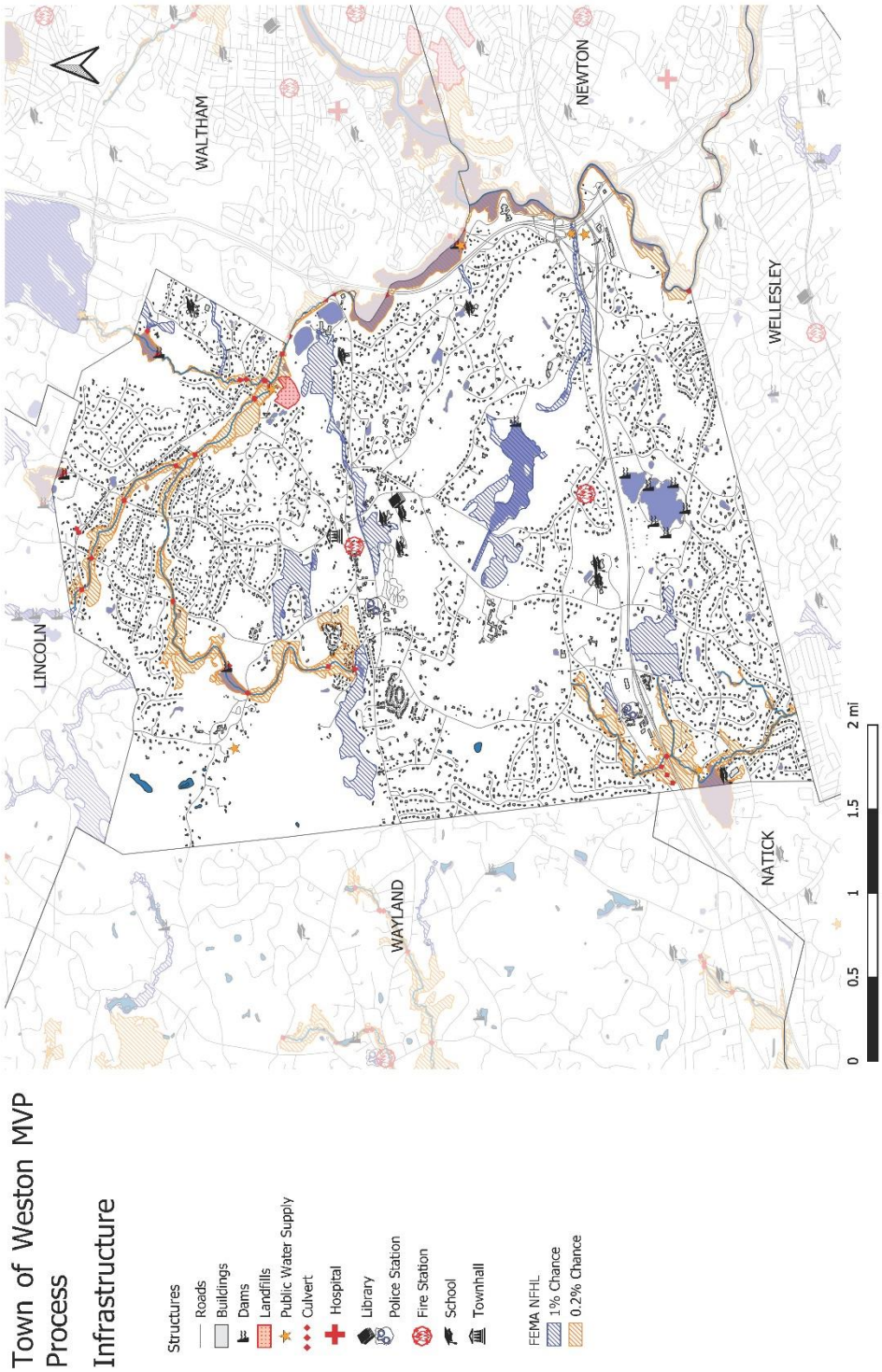
Community Resilience Building Project Team

Name	Title	Affiliation
Leon Gaumond	Town Manager	Town of Weston
Phoebe Beierle	Volunteer Coordinator	Sustainability Committee of Weston
Dana Orkin	Assistant Planner	Planning Department
Kim Lundgren	Lead Facilitator	KLA
Mike Steinhoff	Facilitator	KLA
Angela Cleveland	Facilitator	KLA
Maggie Peard	Facilitator	KLA
Robert Meyer	Facilitator	KLA
Carissa Mills	Facilitator	VHB
Pallavi Mande	Facilitator	Charles River Watershed Association
Lisa Kumpf	Facilitator	Charles River Watershed Association

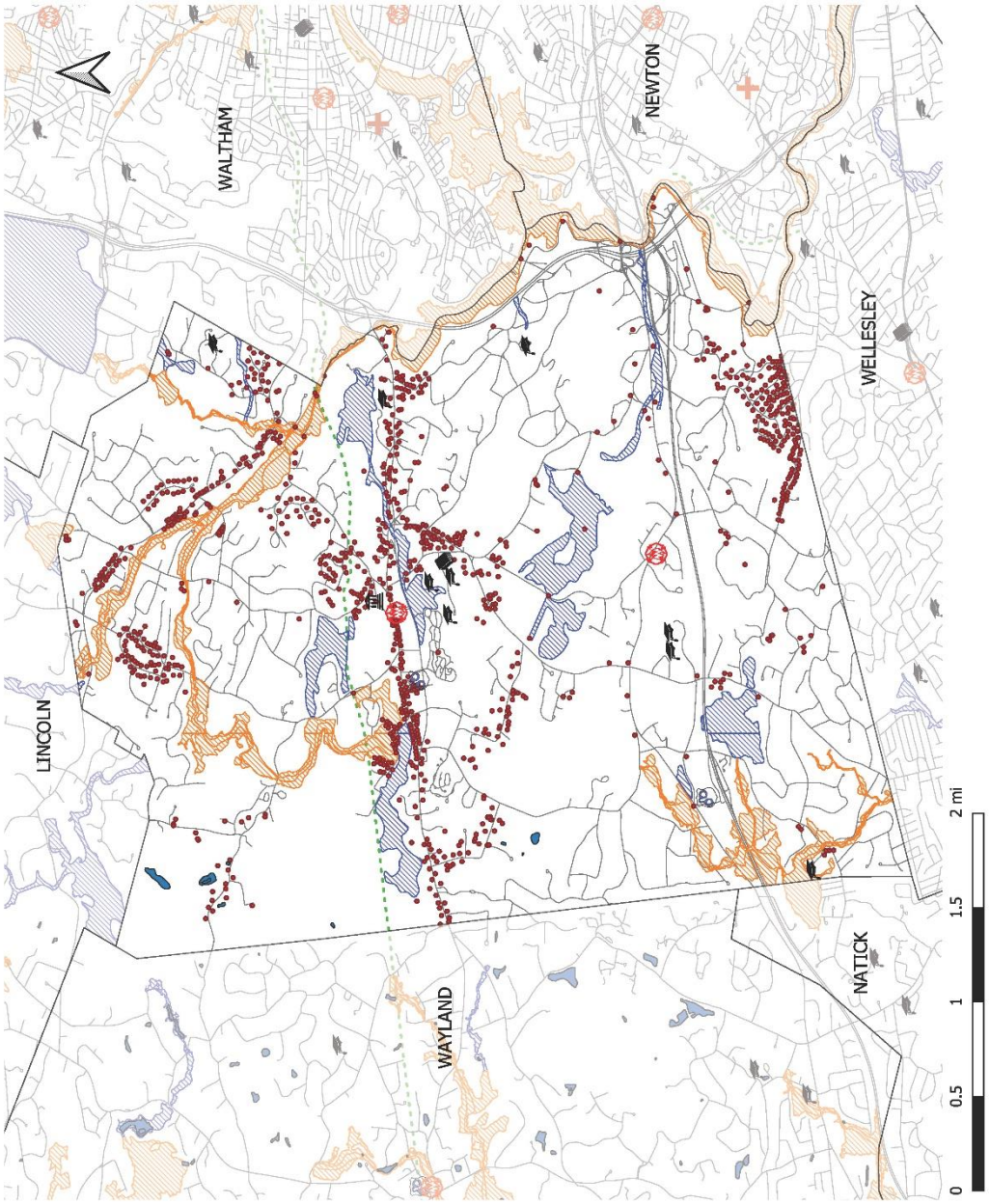
APPENDICES

APPENDIX 1: MAPS FOR MVP WORKSHOPS

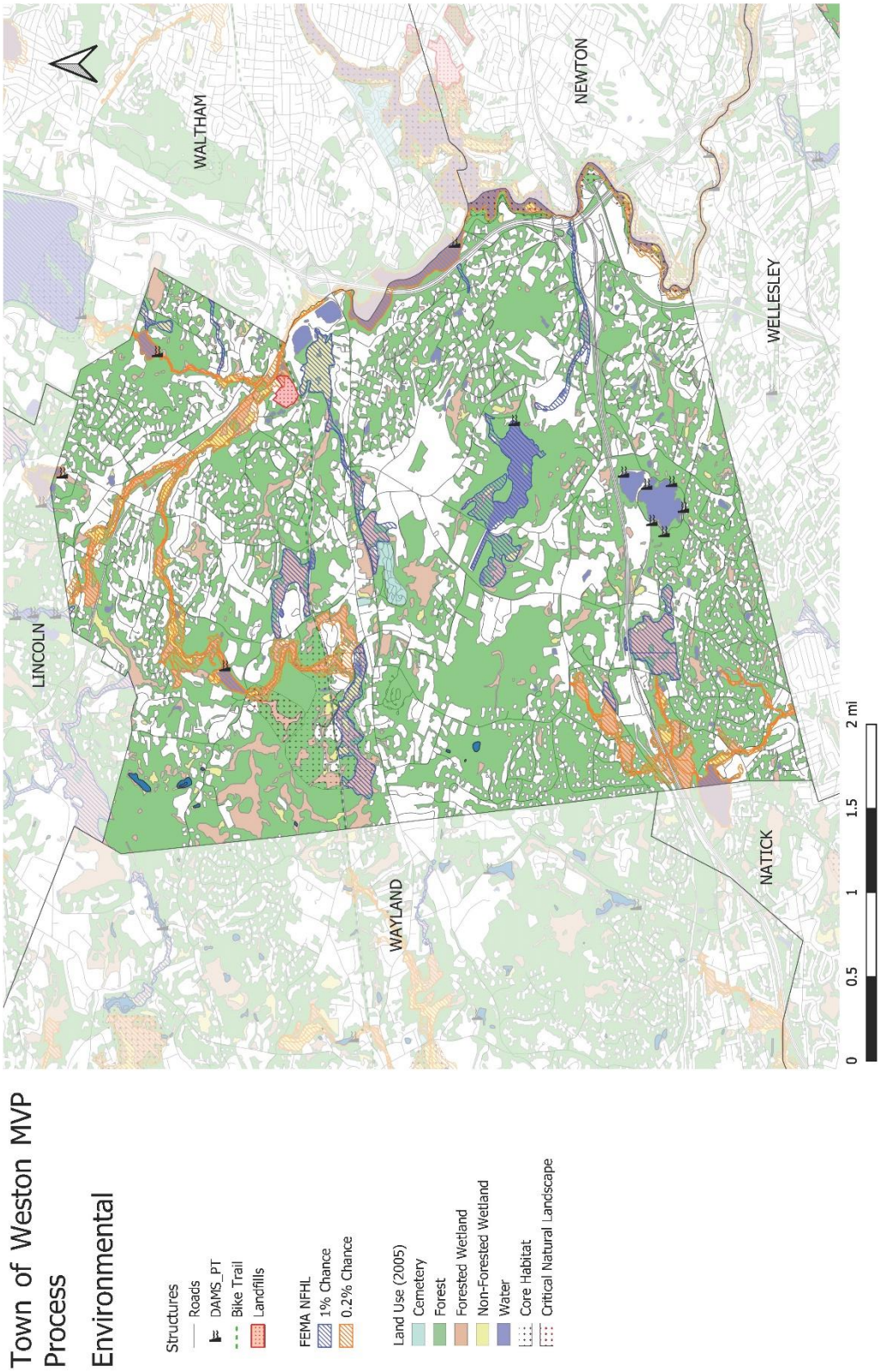
Infrastructure



Societal


Town of Weston MVP
Process
Social
Structures
Roads
Bike Trail
Fire Stations
Hospitals
Libraries
Police Stations
Schools
Townhall
Historic Structures
FEMA NFHL
1% Chance
0.2% Chance
LINCOLN
WALTHAM
NEWTON
WELLESLEY
WAYLAND
NATICK
0
0.5
1
1.5
2 mi

Environmental



APPENDIX 2: MVP WORKSHOP ATTENDEES

Name	Title	Affiliation
Town Leads		
Leon Gaumond	Town Manager	Town of Weston
Phoebe Beierle	Volunteer Coordinator	Sustainability Committee of Weston
Dana Orkin	Assistant Planner	Planning Department
Consultant Team		
Kim Lundgren	Lead Facilitator	Kim Lundgren Associates, Inc. (KLA)
Mike Steinhoff	Facilitator	KLA
Angela Cleveland	Facilitator	KLA
Maggie Peard	Facilitator	KLA
Robert Meyers	Facilitator	KLA
Carissa Mills	Facilitator	VHB
Pallavi Mande	Facilitator	Charles River Watershed Association
Lisa Kumpf	Facilitator	Charles River Watershed Association
Workshop Attendees		
Kara Fleming	Assistant to the Town Manager	Town of Weston
Wendy Diotalevi	Public Health Director	Board of Health
Monyette Vickers	Property Manager	Brook School Apartments
Michele Grzenda	Conservation Administrator	Conservation Commission
Migonne Murray	Executive Director	Council on Aging
Gary Jarobski	Director of Facilities	Facilities
Susan Kelley	Finance Director	Finance
David Soar	Fire Chief	Fire Department
Michael Goulding	Police Chief	Police Department
Thomas Cullen	Director of Operations	Department of Public Works
Stephen Fogg	Town Engineer	Department of Public Works
Christopher Fitzgerald	Recreation Director	Recreation Department
Katharina Wilkins	Chair	Sustainability Committee of Weston

Susan Griffin	Customer and Community Manager	National Grid
Colm McGarry	Pastoral & Youth Minister	St. Julia's Catholic Church
Sarah Masscheplein	Member	Sustainability Committee of Weston
Diana Chapin	Member	Sustainability Committee of Weston
Julie Hyde	Member	WERC
Regina Hajjar	President	Women's Community League
Chris O'Toole	Facilities Director	Meadowbrook School
Lisa Yanakakis	Assistant to the Town Manager	Town of Weston
Jamie O'Connell		Cambridge Water Department
Heather Tecce	Local Coordinator	MEMA
Carolyn Meklenburg	Greater Boston Coordinator	MVP Program
Laurie Bent	Chair	Board of Selectmen
John Field	Building Inspector	Building Department
Tracy Sullivan	Director of Municipal Information Systems	Information Systems

APPENDIX 3: CLIMATE CHANGE SUMMARY

Town of WESTON Massachusetts

Like most Massachusetts communities, Weston has seen an increase in the frequency and severity of intense storm events, flooding, and extreme heat. These impacts affect everything from the health of the Town's residents, natural resources, and infrastructure. Through the Massachusetts Municipal Vulnerability Preparedness (MVP) program, the Town identified four primary climate related hazards: Intense storms, flooding, drought, and heat waves.

Intense Storms

Nor'easters, ice storms, blizzards, hurricanes, and heavy rain events lead to downed trees, power outages, and property damage.

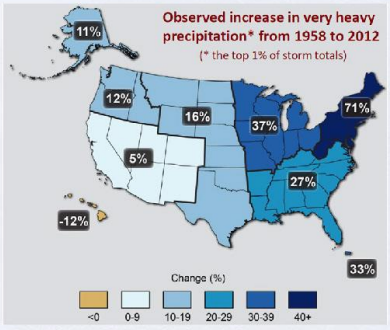
Trends

The Northeast has already seen a 71% increase in the intensity of storm events.

Projections

Climate science indicates that intense storms will continue to increase in both frequency and intensity. Overall, annual precipitation is expected to increase by up to **6 inches by 2050.**

[1] National Oceanographic and Atmospheric Association. Storm Events Database. 2016.



New England's most powerful storms now produce 71% more precipitation during their lifecycles than in 1958. [1]

Flooding

A single intense downpour can cause serious flooding, which can damage critical facilities and infrastructure or close essential roads.

Trends

The Commonwealth has experienced 22 flood-related disaster declarations from 1954 to 2017. Middlesex County saw **$35.2 million** worth of damage from flooding in March of 2010.[1]

Projections

Climate projections indicate up to 10 more days per year with precipitation of more than 1 inch. The increase in the frequency of high-intensity rainfall events will result in an increased risk of flooding.[2]

[1] National Oceanographic and Atmospheric Association. Storm Events Database. 2016.

Warmer weather and standing water also increases the risk of contracting mosquito-borne diseases.

[2] Changes in Precipitation. Resilient MA. Retrieved from: https://www.resilientma.org/changes/changes-in-precipitation.

Drought

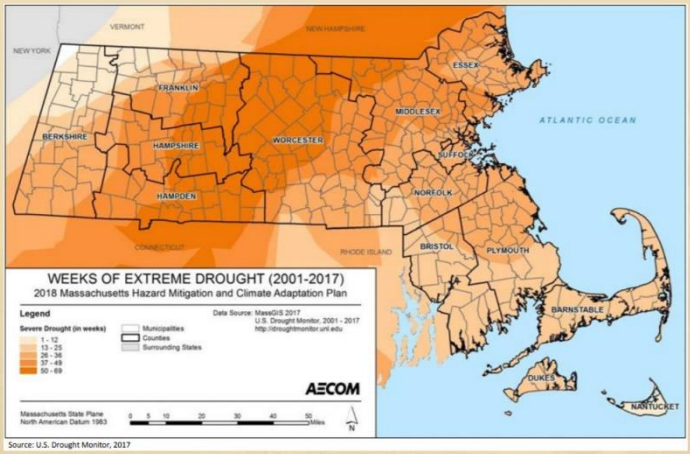
Precipitation will be concentrated in fewer storm events. This can lead to water supply shortages, crop damage, and habitat stress.

Trends

Between 2001 and 2017, Weston saw 26-36 weeks of **severe drought** (water restrictions) and 15-25 weeks of **extreme drought** (water shortages).

Projections

Extended periods of little to no precipitation coupled with rising temperatures are projected to increase the frequency of short-term droughts.



Map Source: Massachusetts Hazard Mitigation and Climate Adaptation Plan.

Heat Waves

An increase in the number of days with high temperatures—particularly days over 90° F—will lead to heat-related illnesses and higher energy demand in the summer.

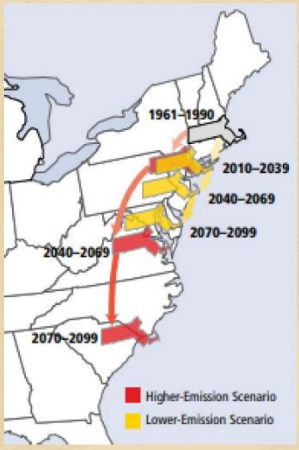
Trends

There were **11.5 days** above 90°F between 2010 and 2014—the highest number **since 1950.** [1]

Projections

Increase in the number of days over 90°F by 2050: **10-35**
Decrease in the number of days under 32°F by 2050: **17-39** [2]

MA could have the climate of South Carolina by the end of the century without emissions reductions driven by the reduced use of fossil fuels.



[1] NOAA National Centers for Environmental Information – State Climate Summaries

[2] Massachusetts Climate Change Projections - Statewide and for Major Drainage Basins. Northeast Climate Adaptation Science Center. MA Climate Change Clearinghouse. 2018

Get Involved!

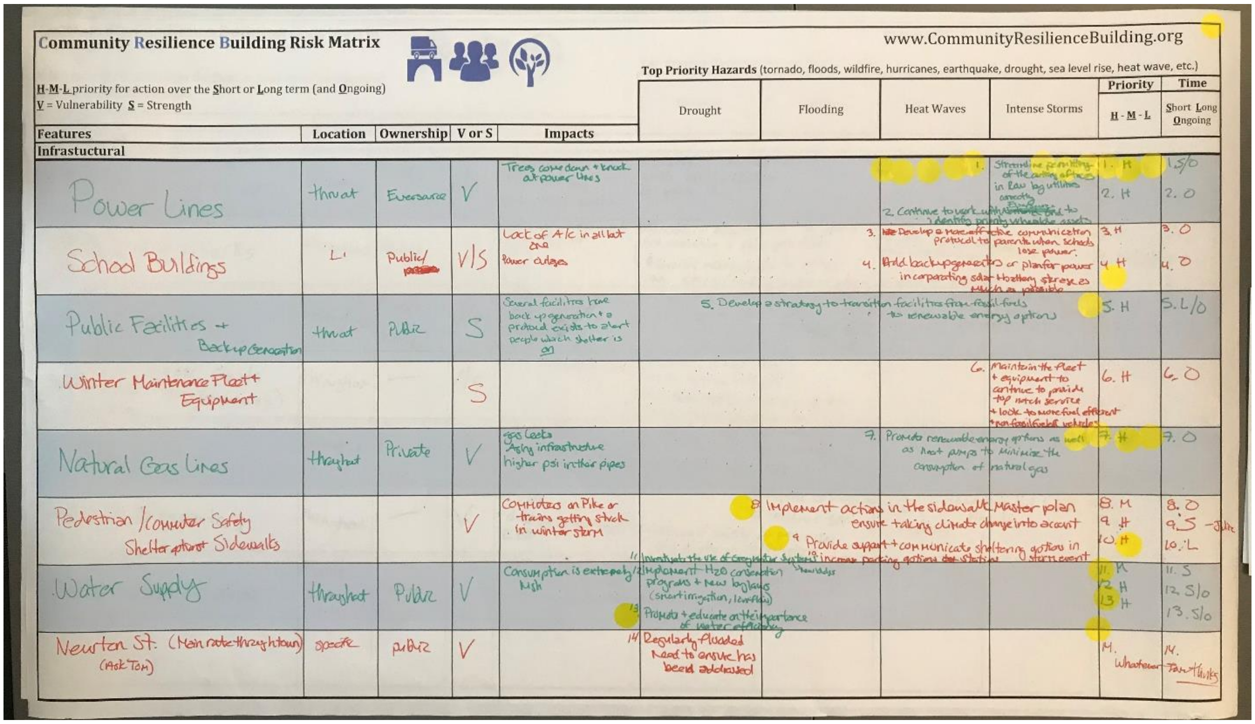
Submit questions, comments, or ideas to Leon Gaumond, Town Manager, at:

gaumond.l@westonmass.org

KLA KIM LUNDGREN ASSOCIATES, INC.
Customized Solutions for the Community You Want

This summary was prepared for the Town of Weston, MA, by Kim Lundgren Associates, Inc. with a grant from the Massachusetts Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness Program

APPENDIX 4: COMBINED MATRICES FROM WORKSHOPS

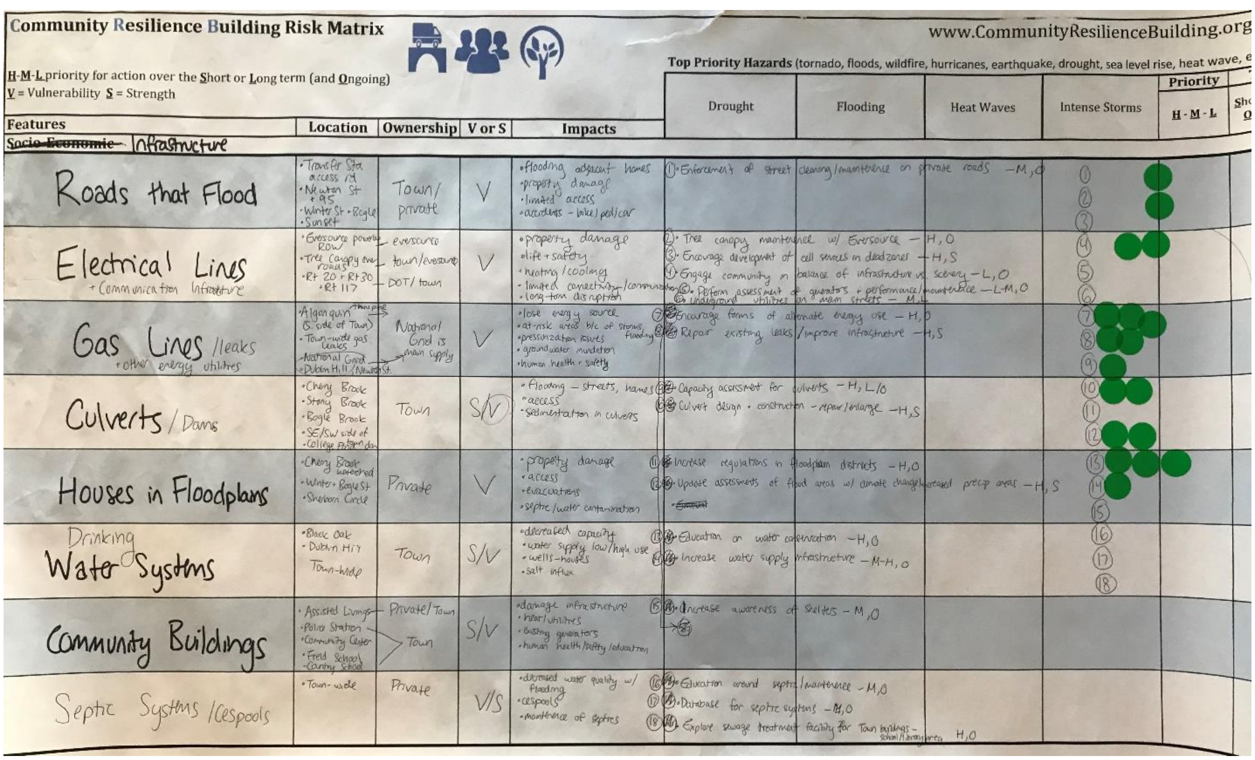


Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L	Time Short Long Ongoing
Infrastuctural										
Power Lines	throut	Eversource	V	Trees come down + knock out power lines			2. Continue to work with Eversource to identify priority vulnerable assets	1. Streamline permitting of the cutting of trees in Row by utilities correctly	1. H 2. H	1. S/O 2. O
School Buildings	L	Public/	V/S	Lack of A/c in all but one Power outages			3. Develop a more effective communication protocol to parents when schools lose power. 4. Add backup generators or plan for power incorporating solar + battery storage as much as possible		3. H 4. H	3. O 4. O
Public Facilities + Backup Generation	throut	Public	S	Several facilities have back up generation + a protocol exists to alert people which shelter is on	5. Develop a strategy to transition facilities from fossil-fuels to renewable energy options				5. H	5. L/O
Winter Maintenance Fleet + Equipment			S					6. Maintain the fleet + equipment to continue to provide top notch service + look to more fuel efficient + non-fossil fuels vehicles	6. H	6. O
Natural Gas Lines	throughout	Private	V	gas leaks Aging infrastructure higher psi in other pipes			7. Promote renewable energy options as well as heat pumps to minimize the consumption of natural gas		7. H	7. O
Pedestrian / Commuter Safety Shelter at / not Sidewalks			V	Commuters on Pike or trains getting stuck in winter storm		8. Implement actions in the sidewalk Master plan ensure taking climate change into account 9. Provide support + communicate sheltering options in storm event 10. increase parking options at station			8. M 9. H 10. H	8. O 9. S – [illegible] 10. L
Water Supply	throughout	Public	V	Consumption is extremely high	11. Investigate the use of Graywater Systems in new bldgs 12. Implement H2O conservation programs + new bylaws (smart irrigation, low-flow) 13. Promote + educate on the importance of water efficiency				11. H 12. H 13. H	11. S 12. S/O 13. S/O
Newton St. (Main route through town) (Ask Tom)	specific	public	V		14. Regularly flooded Need to ensure has been addressed				14.	14. Whatever Tom thinks



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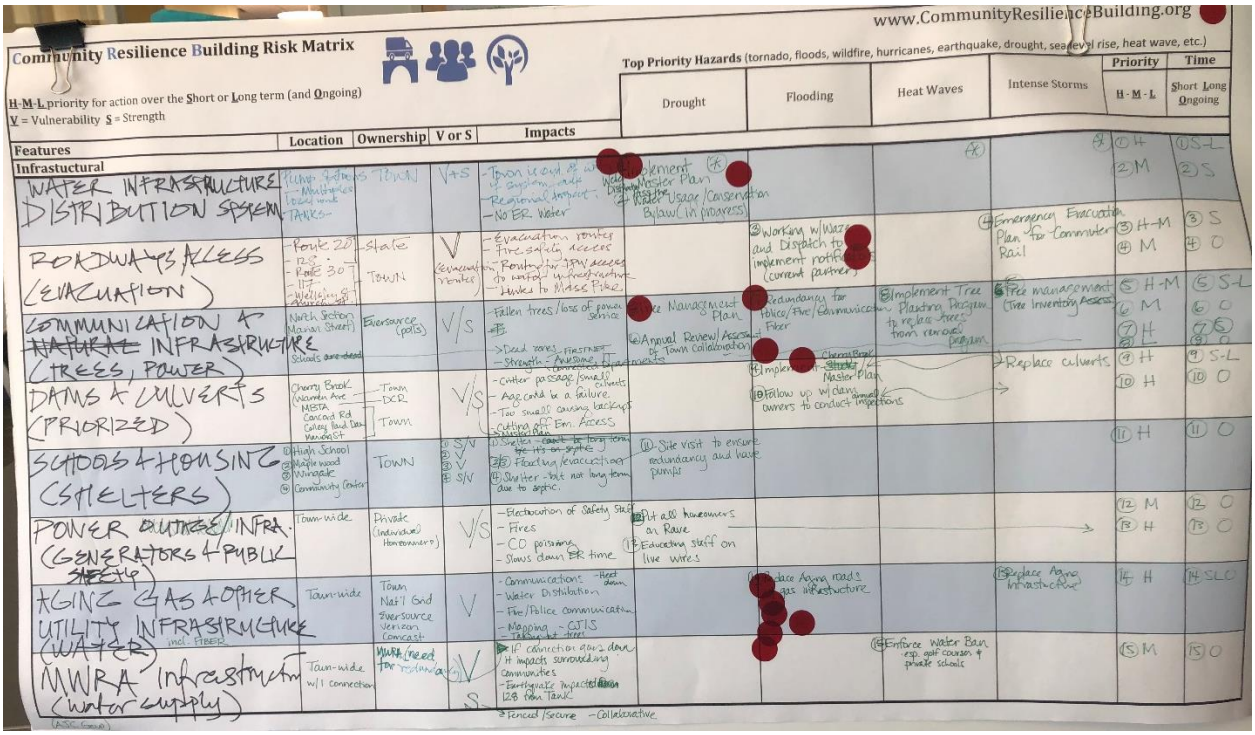
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, e

Features	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L
~~Socio Economic~~ Infrastructure									
Roads that Flood	• Transfer Sta access rd • Newton St + 95 • Winter St + Bogle • Sunset	Town/ private	V	• flooding adjacent homes • property damage • limited access • accidents – bike/ped/car	(1) • Enforcement of street cleaning/maintenance on private roads – M, O				(1) (2) (3)
Electrical Lines + Communication Infrastructure	• Eversource power ROW • Tree Canopy over roads • Rt 20 + Rt 30 + Rt 117	eversource town/eversource DOT/town	V	• property damage • life + safety • heating/cooling • limited connectivity/communication • long-term disruption	(2) • Tree canopy maintenance w/ Eversource – H, O (3) • Encourage development of cell services in dead zones – H, S (4) • Engage community in balance of infrastructure vs scenery – L, O (5) • Perform assessment of generators + performance/maintenance – L-M, O (6) Underground utilities on main streets – M, L				(4) (5) (6)
Gas Lines/leaks + other energy utilities	• Algonquin (S. side of Town) Thru pipe • Town-wide gas leaks • National Grid • Dublin Hill / Newton St.	National Grid is main supply	V	• lose energy source • at-risk areas b/c of storms, flooding • pressurization issues • groundwater inundation • human health + safety	(7) • Encourage forms of alternate energy use – H, O (8) • Repair existing leaks/improve infrastructure – H, S				(7) (8) (9)
Culverts / Dams	• Cherry Brook • Stony Brook • Bogle Brook • SE/SW side of • College Pond dam	Town	S/V	• flooding – streets, homes • access • sedimentation in culverts	(9) • Capacity assessment for culverts – H, L/O (10) • Culvert design + construction – repair/enlarge – H, S				(10) (11) (12)
Houses in Floodplains	• Cherry Brook watershed • Winter + Bogle St • Sherborn Circle	Private	V	• property damage • access • evacuations • septic/water contamination	(11) • Increase regulations in floodplain districts – H, O (12) • Update assessments of flood areas w/ climate change/increased precip areas – H, S				(13) (14) (15)
Drinking Water Systems	• Black Oak • Dublin Hill Town-wide	Town	S/V	• decreased capacity • water supply low/high use • wells – houses • salt influx	(13) • Education on water conservation – H, O (14) • Increase water supply infrastructure – M-H, O				(16) (17) (18)
Community Buildings	• Assisted Livings • Police Station • Community Center • Field School • Country School	Private/Town Town	S/V	• damage infrastructure • heat/utilities • existing generators • human health/safety/education	(15) • Increase awareness of shelters – M, O				
Septic Systems /Cesspools	• Town-wide	Private	V/S	• decreased water quality w/ flooding • cesspools • maintenance of septics	(16) • Education around septic/maintenance – M, O (17) • Database for septic systems – M, O (18) • Explore sewage treatment facility for Town buildings – school/library area H, O				


Community Resilience Building Risk Matrix
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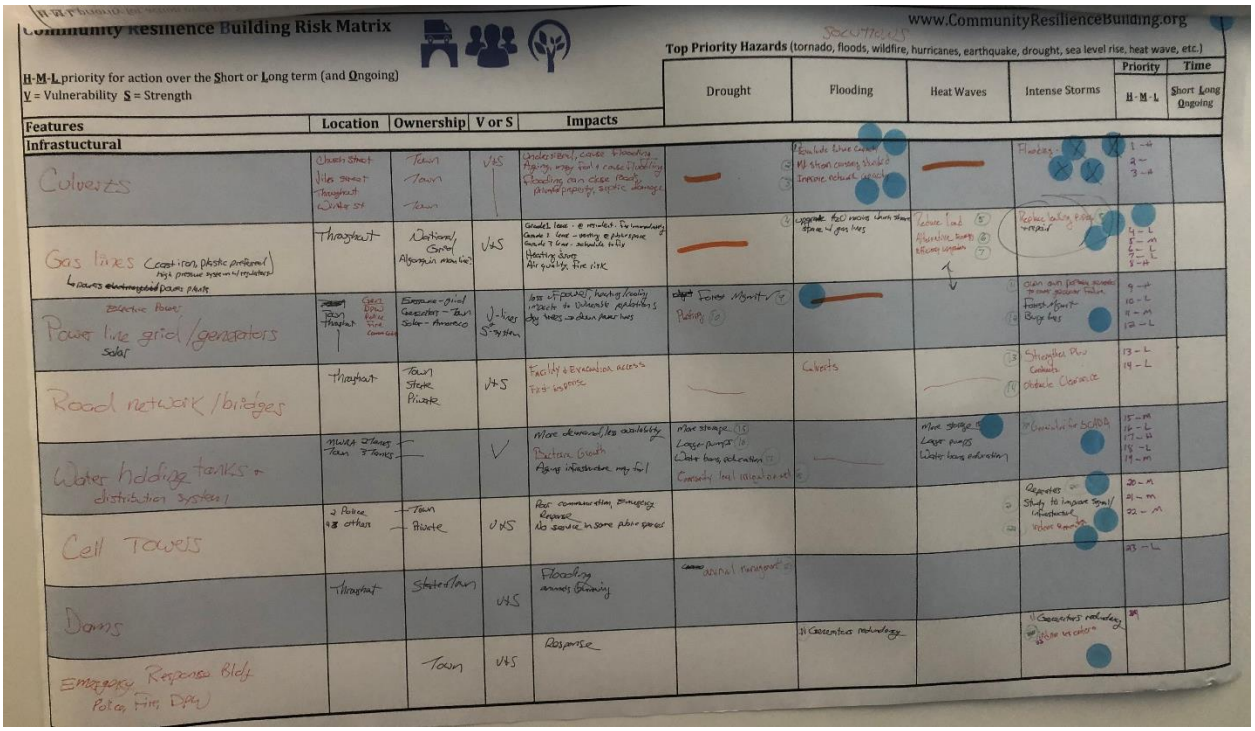
V = Vulnerability S = Strength
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)
Drought
Flooding
Heat Waves
Intense Storms
Priority
Time
Features
Location
Ownership
V or S
Impacts
Infrastructural
WATER INFRASTRUCTURE DISTRIBUTION SYSTEM
ROADWAYS ACCESS (EVACUATION)
COMMUNICATION & NATURAL INFRASTRUCTURE (TREES, POWER)
DAMS & CULVERTS (PRIORIZED)
SCHOOLS & HOUSING (SHELTERS)
POWER OUTAGES/INFRA. (GENERATORS & PUBLIC SAFETY)
AGING GAS & OTHER UTILITY INFRASTRUCTURE (WATER)
MWRA INFRASTRUCTURE (water supply)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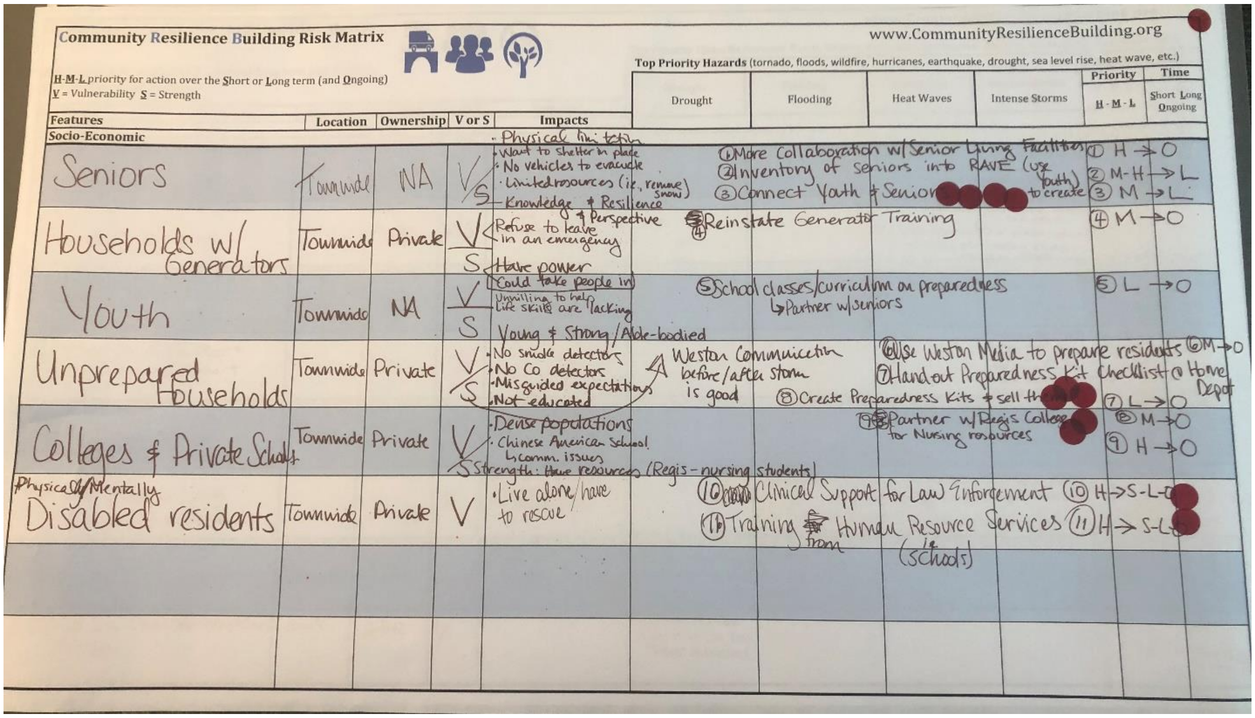
Drought
Flooding
Heat Waves
Intense Storms
Priority
Time
Features
Location
Ownership
V or S
Impacts
Infrastructural
Culverts
Gas lines
Power line grid/generators
Road network/bridges
Water holding tanks & distribution system
Cell Towers
Dams
Emergency Response Bldg

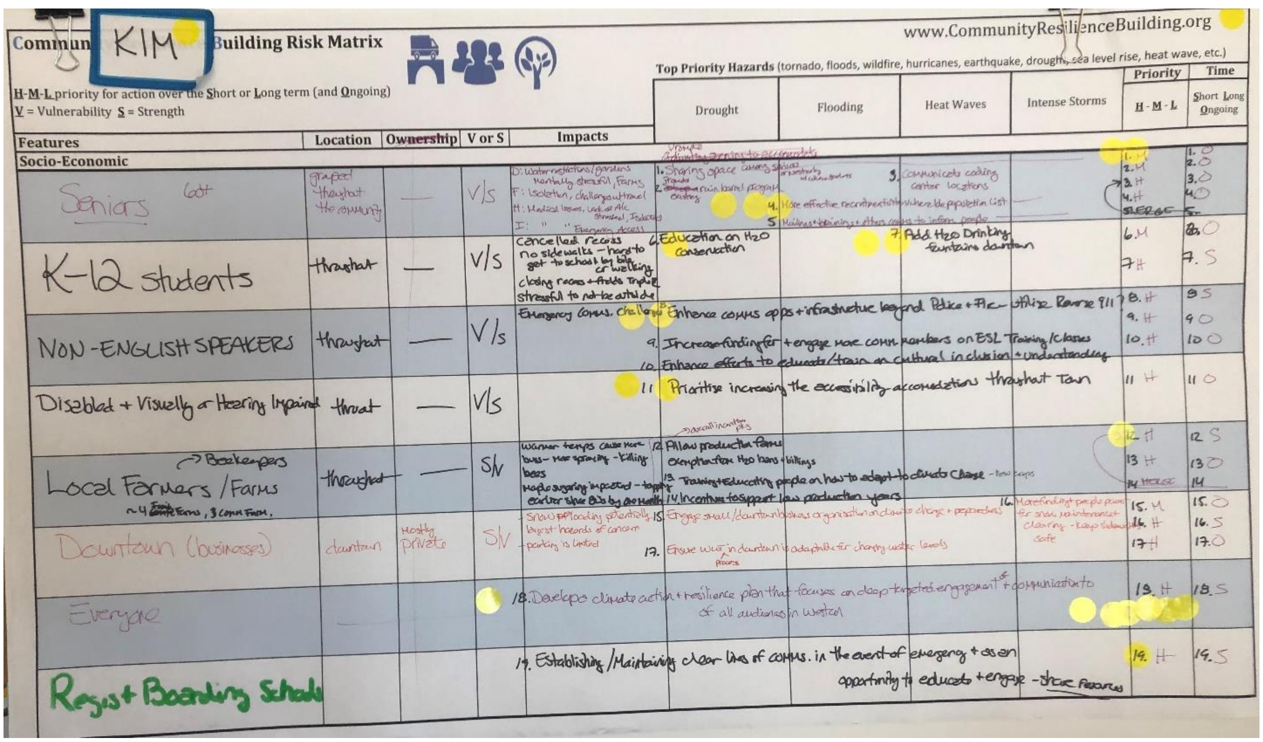


Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L	Time Short Long Ongoing
Socio-Economic										
Seniors	Townwide	NA	V/S	Physical limitation; Want to shelter in place; No vehicles to evacuate; Limited resources (ie, remove snow); Knowledge & Resilience & Perspective	① More Collaboration w/ Senior Living Facilities; ② Inventory of seniors into RAVE (use youth) to create; ③ Connect Youth & Seniors				① H → O; ② M-H → L; ③ M → L	
Households w/ Generators	Townwide	Private	V/S	Refuse to leave in an emergency; Have power; Could take people in	④ Reinstate Generator Training				④ M → O	
Youth	Townwide	NA	V/S	Unwilling to help; Life skills are lacking; Young & Strong / Able-bodied	⑤ School classes/curriculum on preparedness → Partner w/ seniors				⑤ L → O	
Unprepared Households	Townwide	Private	V/S	No smoke detectors; No Co detectors; Misguided expectations; Not educated	Weston Communication before/after storm is good; ⑧ Create Preparedness Kits & sell them		⑥ Use Weston Media to prepare residents; ⑦ Hand out Preparedness Kit Checklist @ Home Depot		⑥ M → O; ⑦ L → O	
Colleges & Private Schools	Townwide	Private	V/S	Dense populations; Chinese American School → comm. issues; Strength: Have resources (Regis - nursing students)			⑨ Partner w/ Regis College for Nursing resources		⑧ M → O; ⑨ H → O	
Physically/Mentally Disabled residents	Townwide	Private	V	Live alone / have to rescue	⑩ Clinical Support for Law Enforcement; ⑪ Training from Human Resource Services (ie schools)				⑩ H → S-L-O; ⑪ H → S-L-O	



Community [KIM] Building Risk Matrix — www.CommunityResilienceBuilding.org

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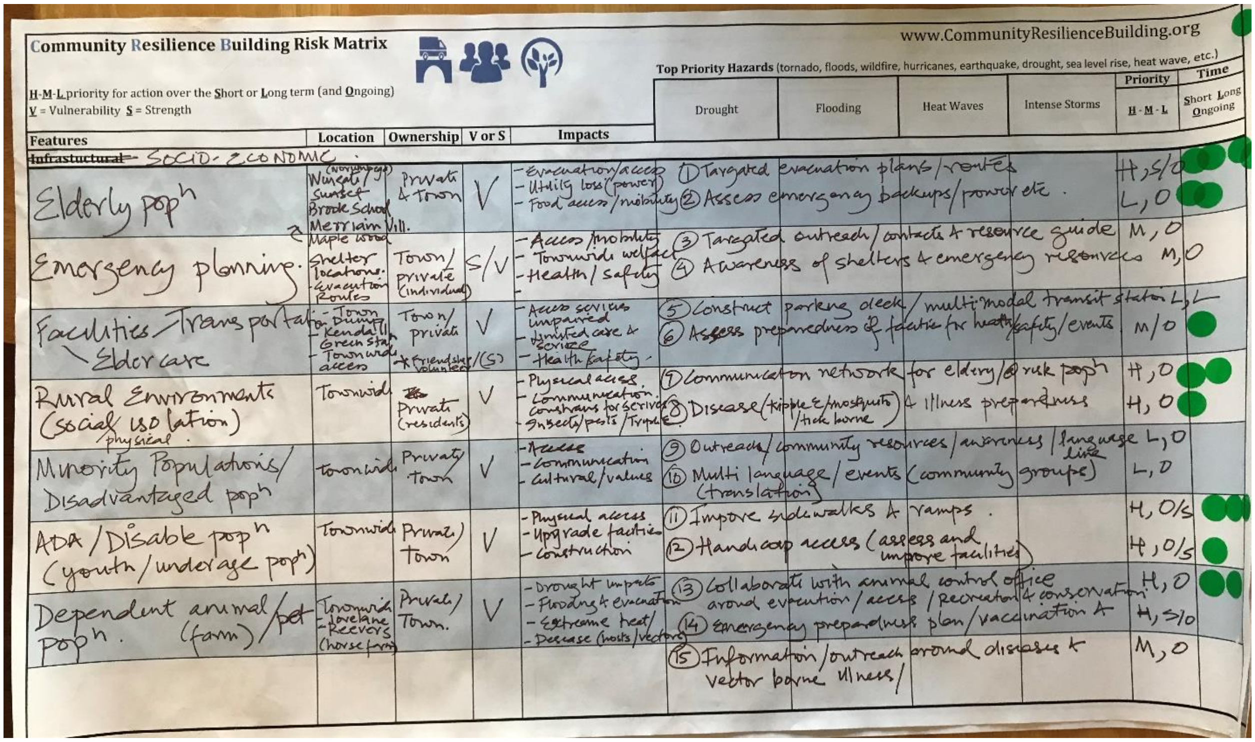
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L	Time Short Long Ongoing
Socio-Economic										
Seniors 60+	grouped throughout the community	—	V/S	D: Water restrictions/gardens mentally stressful, Farms; F: Isolation, challenge w/ travel; H: Medical issues, lack of A/C stressful, Isolation; I: " " Emergency Access	1. Sharing space among seniors; 2. Rain barrel program		4. More effective recruitment of the vulnerable population list; 5. Mailings + trainings + other ways to inform people	3. Communicate cooling center locations	1. M; 2. M; 3. H; 4. H; MERGE	1. O; 2. O; 3. O; 4. O; 5.
K-12 students	throughout	—	V/S	Cancelled recess; no sidewalks - hard to get to school by bike or walking; closing recess + fields; stressful to not be outside	6. Education on H_2O conservation		7. Add H_2O Drinking fountains downtown		6. M; 7. H	6. O; 7. S
NON-ENGLISH SPEAKERS	throughout	—	V/S	Emergency Comms. Challenges	8. Enhance comms apps + infrastructure beyond Police + Fire - utilize Reverse 911; 9. Increase funding for + engage more comm. members on ESL Training / Classes; 10. Enhance efforts to educate/train on cultural inclusion + understanding				8. H; 9. H; 10. H	8. S; 9. O; 10. O
Disabled + Visually or Hearing Impaired	throughout	—	V/S		11. Prioritize increasing the accessibility accomodations throughout Town				11 H	11 O
Local Farmers / Farms → Beekeepers; ~4 Farms, 3 Comm Farm.	throughout	—	S/V	Warmer temps cause more bugs - more spraying - killing bees; Maple sugaring impacted - tapping earlier than 30 days by one month	12. Allow production farms exemption from H_2O bans + billings; 13. Training + Educating people on how to adapt to climate change - new crops; 14. Incentives to support low production years				12. H; 13. H; 14. MERGE	12. S; 13. O; 14
Downtown (businesses)	downtown	Mostly private	S/V	Snow + flooding potentially biggest hazards of concern; parking is limited	15. Engage small/downtown business organization on climate change + preparedness; 17. Ensure WWT in downtown is adaptable for changing water levels			16. More funding + people power for snow maintenance + clearing - keep sidewalks safe	15. M; 16. H; 17. H	15. O; 16. S; 17. O
Everyone				18. Develop climate action + resilience plan that focuses on deep targeted engagement of + communication to all audiences in Weston					18. H	18. S
Regis + Boarding Schools				19. Establishing / Maintaining clear lines of comms. in the event of emergency + as an opportunity to educate + engage - share resources					19. H	19. S


Community Resilience Building Risk Matrix
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Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)
Drought
Flooding
Heat Waves
Intense Storms
Priority
H-M-L
Time
Short Long Ongoing
Features
Location
Ownership
V or S
Impacts
Infrastructural SOCIO-ECONOMIC
Elderly pop^n
Private & Town
V
① Targeted evacuation plans/routes
② Assess emergency backups/power etc.
Emergency planning
Shelter locations
Evacuation Routes
Town/private (individual)
S/V
③ Targeted outreach/contacts & resource guide
④ Awareness of shelters & emergency resources
Facilities-Transportation
Elder care
Town/private
V
⑤ Construct parking deck/multi-modal transit station
⑥ Assess preparedness of facilities for health/safety/events
Rural Environments (social isolation)
Townwide
Private (residents)
V
⑦ Communication network for elderly/at risk pop^n
⑧ Disease (tick & mosquito)/tick borne illness preparedness
Minority Populations/Disadvantaged pop^n
Townwide
Private/Town
V
⑨ Outreach/community resources/awareness/language
⑩ Multi language/events (community groups) (translation)
ADA/Disable pop^n (youth/underage pop^n)
Townwide
Private/Town
V
⑪ Improve sidewalks & ramps.
⑫ Handicap access (assess and improve facilities)
Dependent animal/pet pop^n. (farm)
Townwide
Private/Town.
V
⑬ Collaborate with animal control office around evacuation/access/Recreation & conservation
⑭ Emergency preparedness plan/vaccination &
⑮ Information/outreach around diseases & vector borne illness/
H,S/O
L,O
M,O
M,O
L,L
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H,O
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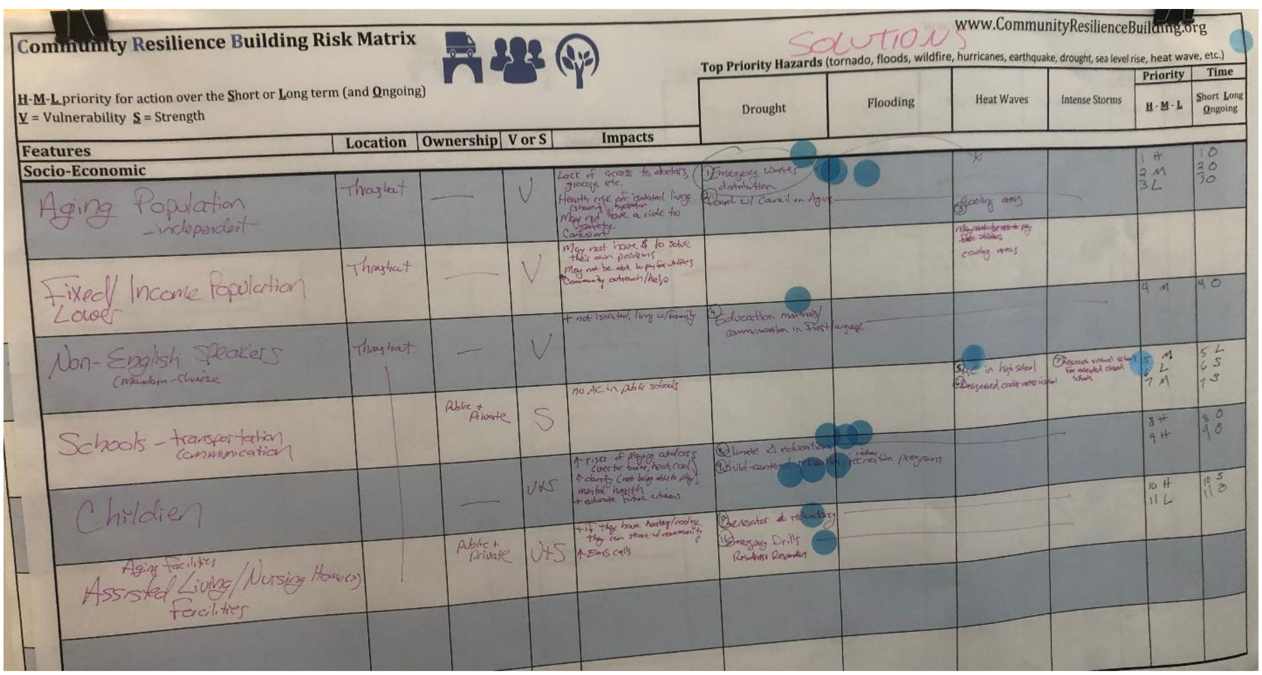
Community Resilience Building Risk Matrix
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SOLUTIONS
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Drought
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Priority
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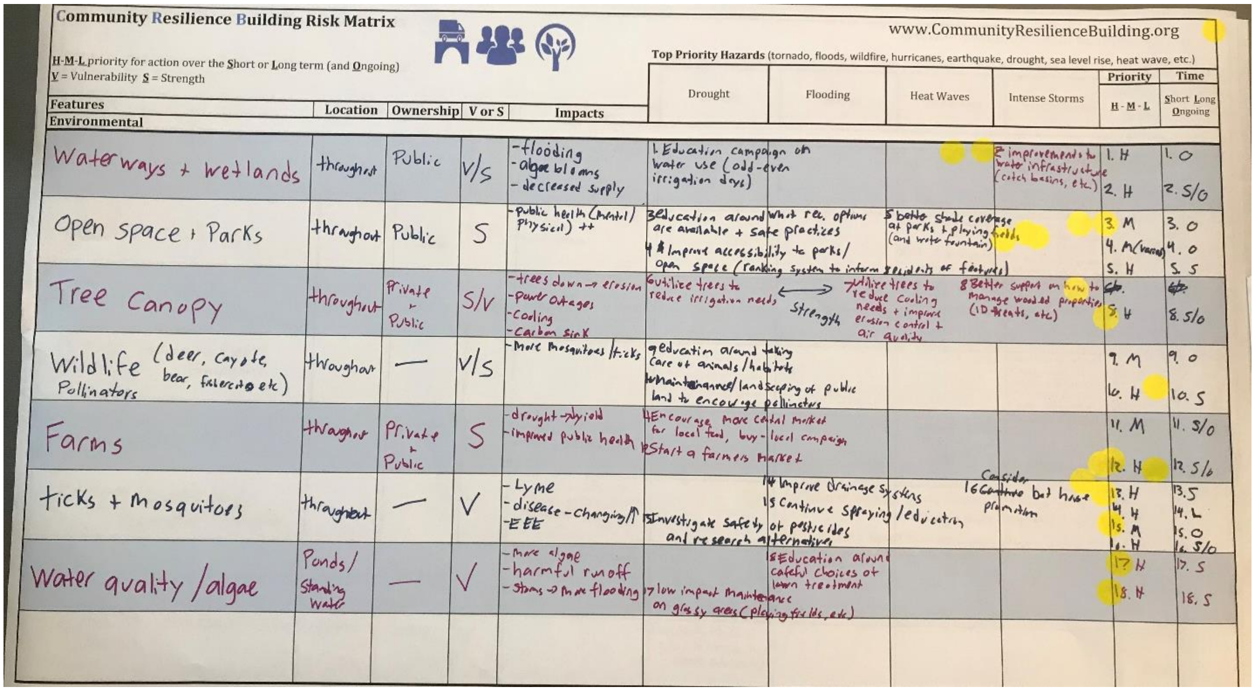
Time
Short Long Ongoing
Features
Location
Ownership
V or S
Impacts
Socio-Economic
Aging Population - independent
Throughout
V
Fixed/Income Population Lower
Throughout
V
Non-English Speakers
Throughout
V
Schools - transportation communication
Public + Private
S
Children
V/S
Assisted Living/Nursing Homes Aging facilities
Public + Private
V+S



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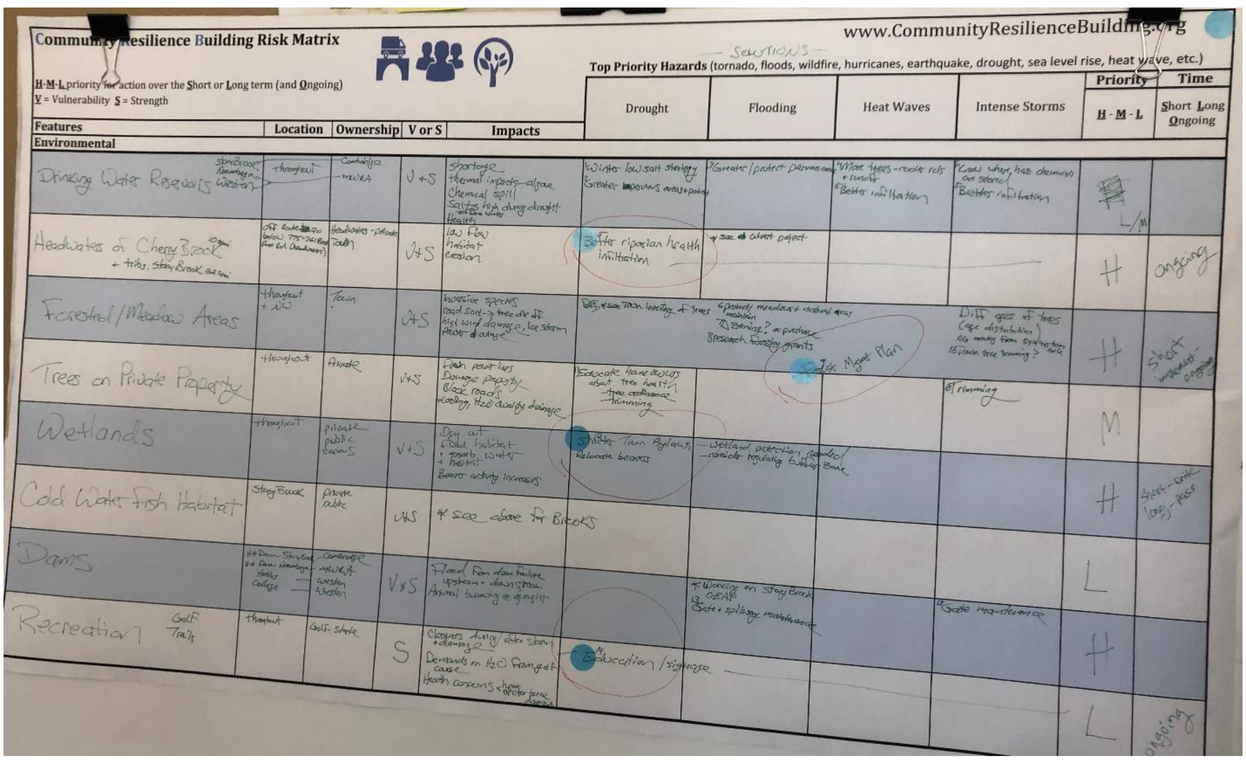
H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features: Environmental	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L	Time Short Long Ongoing
Waterways + wetlands	throughout	Public	V/S	-flooding -algae blooms -decreased supply	1. Education campaign on water use (odd-even irrigation days)			2 improvements to water infrastructure (catch basins, etc.)	1. H 2. H	1. O 2. S/O
Open space + Parks	throughout	Public	S	-public health (mental/physical) ++	3 Education around what rec. options are available + safe practices 4 Improve accessibility to parks/open space (ranking system to inform residents of features)		5 better shade coverage at parks + playing fields (and water fountain)		3. M 4. M (varies) 5. H	3. O 4. O 5. S
Tree Canopy	throughout	Private + Public	S/V	-trees down → erosion -power outages -cooling -carbon sink	6 utilize trees to reduce irrigation needs ⟷ Strength		7 utilize trees to reduce cooling needs + improve erosion control + air quality	8 Better support on how to manage wooded properties (ID threats, etc)	6. 8. H	6. 8. S/O
Wildlife (deer, coyote, bear, fishers etc) Pollinators	throughout	—	V/S	-More mosquitoes/ticks	9 education around taking care of animals/habitats 10 maintenance/landscaping of public land to encourage pollinators				9. M 10. H	9. O 10. S
Farms	throughout	Private + Public	S	-drought → dry yield -improved public health	11 Encourage more central market for local food, buy-local campaign 12 Start a farmers market				11. M 12. H	11. S/O 12. S/O
ticks + mosquitoes	throughout	—	V	-Lyme -disease-changing/↑ -EEE	15 Investigate safety of pesticides and research alternatives	14 Improve drainage systems 15 Continue spraying/education		16 Consider bat house promotion	13. H 14. H 15. M 16. H	13. S 14. L 15. O 16. S/O
Water quality/algae	Ponds/Standing water	—	V	-more algae -harmful runoff -storms → more flooding	17 low impact maintenance on grassy areas (playing fields, etc)	18 Education around careful choices of lawn treatment			17 H 18. H	17. S 18. S

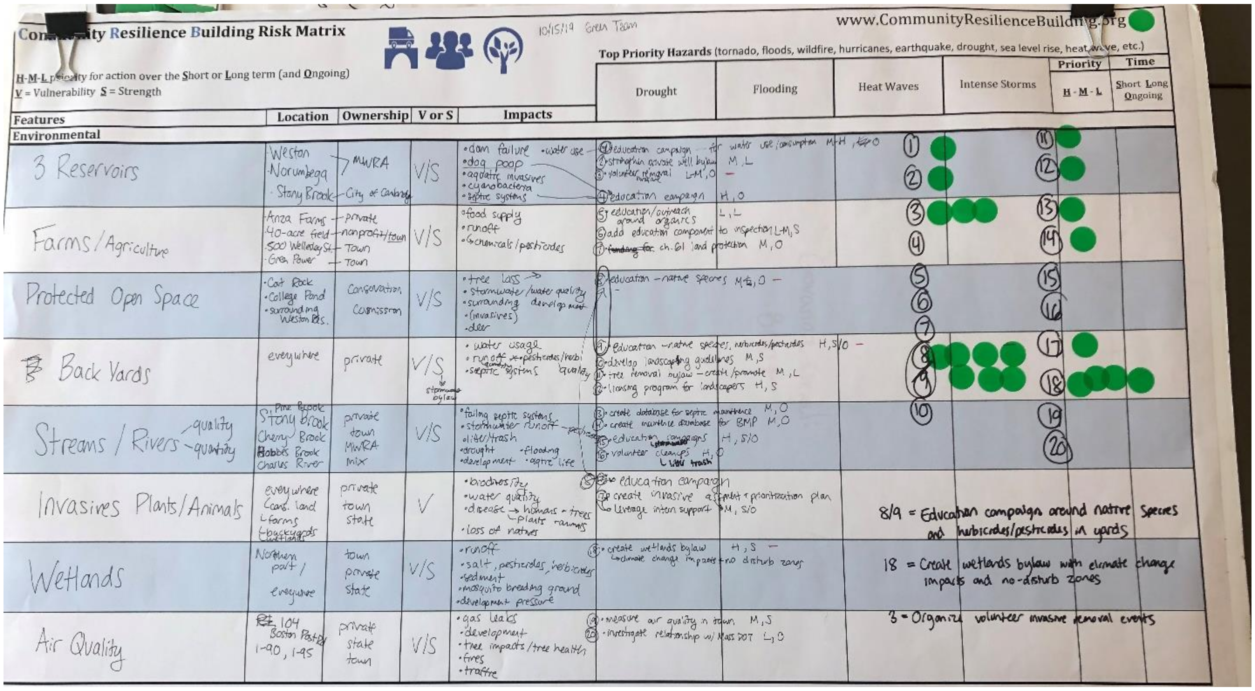


Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

— SOLUTIONS —
Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

Features: Environmental	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H-M-L	Time Short Long Ongoing
Drinking Water Reservoirs (Stony Brook, Nonantum, Weston)	throughout	Cambridge, MWRA	V+S	shortage, thermal impacts-algae, chemical spill, salts high during drought, health	1 Winter low salt strategy 2 Greater impervious areas + protect	3 Greater/protect pervious areas	4 More trees - reduce rds + runoff 6 Better infiltration	5 Know where haz chemicals are stored 5 Better infiltration	L/M	
Headwaters of Cherry Brook + tribs, Stony Brook	Off Route 20 below 775-761 Boston Post Rd (headwaters)	Headwaters - private, Town	V+S	low flow, habitat, erosion	Better riparian health, infiltration	* see culvert project			H	ongoing
Forested/Meadow Areas	throughout + NW	Town	V+S	invasive species, road salt → tree die off, high wind damage, ice storm, power outage	Diff, * see Town inventory of trees	6 protect meadows + natural areas, maintain 7 Zoning? or purchase 8 research forestry grants	Forest Mgmt Plan	Diff ages of trees (age distribution) 10 moving from system trim only 15 Town tree trimming?	H	short, immediate, ongoing
Trees on Private Property	throughout	Private	V+S	down power lines, damage property, block roads, +cooling, H2O quality, drainage	1 Educate homeowners about tree health - tree ordinance - trimming			8 Trimming	M	
Wetlands	throughout	private, public, towns	V+S	dry out, flood habitat, + absorb water + habitat, beaver activity increases	Stricter Town Bylaws, Relocate beavers	- wetland protection needed - consider regulating buffer zone			H	short-write, long-pass
Cold Water Fish Habitat	Stony Brook	private, public	V+S	* see above for Brooks					L	
Dams	HH Dam - Stony Brook, HH Dam - Nonantum, Hobbs, College	Cambridge, MWRA, Weston, Weston	V+S	Flood from dam failure upstream + downstream, Animal burrowing @ dyingsit		* Working on Stony Brook, DEAP, 13 Gate + spillway maintenance		13 Gate maintenance	H	
Recreation (Golf, Trails)	throughout	Golf - State	S	Closures during/after storm + damage, Demands on H2O from golf course, Health concerns + heat, vector borne disease	14 Education/signage				L	ongoing

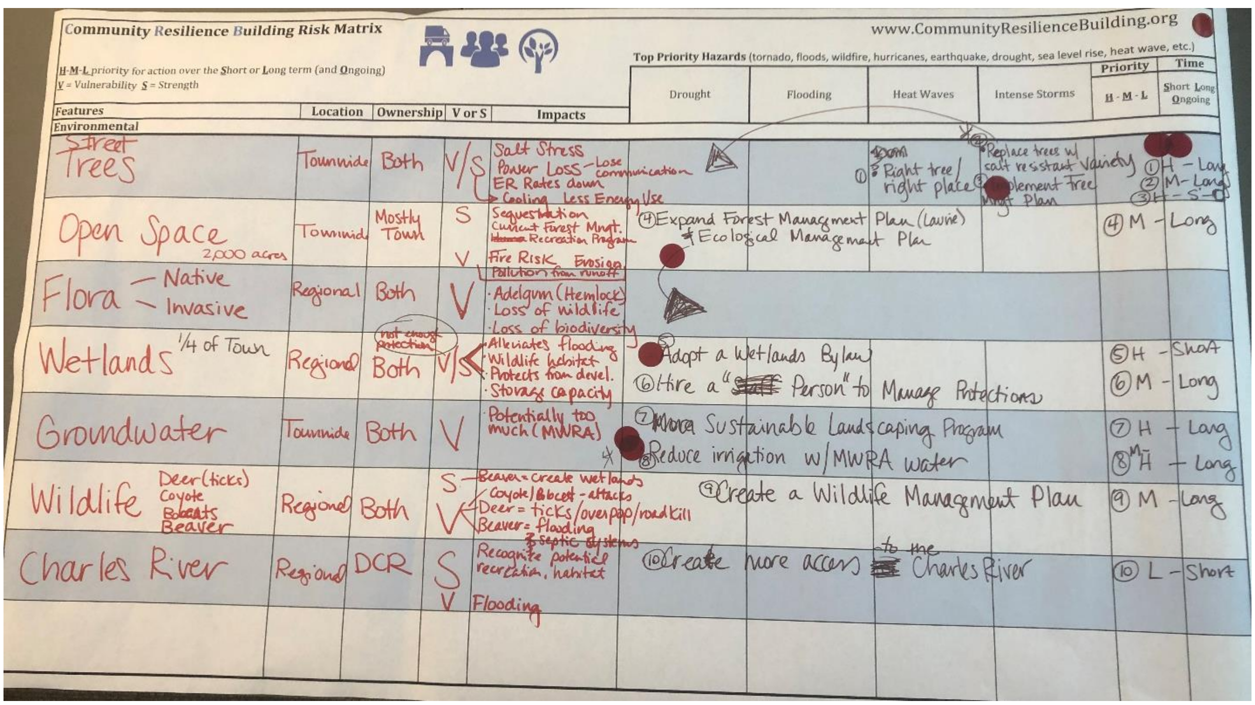


Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.org — 10/15/19 Green Team

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.): Drought, Flooding, Heat Waves, Intense Storms

Features (Environmental)	Location	Ownership	V or S	Impacts	Actions (Drought / Flooding / Heat Waves / Intense Storms)	Priority H-M-L	Time Short Long Ongoing
3 Reservoirs	Weston; Norumbega; Stony Brook	MWRA; City of Cambridge	V/S	dam failure; water use; dog poop; aquatic invasives; cyanobacteria; septic systems	(1) education campaign for water use/consumption M-H, O; (2) strengthen private well bylaw M, L; (3) volunteer removal (invasive) L-M, O; (4) education campaign H, O	(1) (2) (11) (12)	
Farms/Agriculture	Anza Farms; 40-acre field; 500 Wellesley St.; Green Power	private; nonprofit/town; Town; Town	V/S	food supply; runoff; chemicals/pesticides	(5) education/outreach around organics L, L; (6) add education component to inspection L-M, S; (7) ~~funding for~~ ch. 61 land protection M, O	(3) (4) (13) (14)	
Protected Open Space	Cat Rock; College Pond; surrounding Weston Rds.	Conservation Commission	V/S	tree loss; stormwater/water quality; surrounding development; (invasives); deer	(8) education – native species M-L, O	(5) (6) (7) (15) (16)	
Back Yards	everywhere	private	V/S (stormwater bylaw)	water usage; runoff – pesticides/herbicides (quantity, quality); septic systems	(9) education – native species, herbicides/pesticides H, S/O; (10) develop landscaping guidelines M, S; (11) tree removal bylaw – create/promote M, L; (12) licensing program for landscapers H, S	(8) (9) (17) (18)	
Streams / Rivers – quality, quantity	Pine Brook; Stony Brook; Cherry Brook; Hobbes Brook; Charles River	private; town; MWRA; mix	V/S	failing septic systems; stormwater runoff – pesticides; litter/trash; drought; flooding; development; aquatic life	(13) create database for septic maintenance M, O; (14) create maintenance database for BMP M, O; (15) education campaigns (stormwater) H, S/O; (16) volunteer cleanups (litter trash) H, O	(10) (19) (20)	
Invasives Plants/Animals	everywhere; Cons. land; farms; backyards	private; town; state	V	biodiversity; water quality; disease → humans – trees, plants, animals; loss of natives	(8) education campaign; (17) create invasive assessment + prioritization plan; leverage intern support M, S/O	8/9 = Education campaign around native species and herbicides/pesticides in yards	
Wetlands	Northern part / everywhere	town; private; state	V/S	runoff; salt, pesticides, herbicides; sediment; mosquito breeding ground; development pressure	(18) create wetlands bylaw – climate change impacts + no disturb zones H, S	18 = Create wetlands bylaw with climate change impacts and no-disturb zones	
Air Quality	Rt. 104 Boston Post Rd; I-90, I-95	private; state; town	V/S	gas leaks; development; tree impacts/tree health; fires; traffic	(19) measure air quality in town M, S; (20) investigate relationship w/ Mass DOT L, O	3 = Organize volunteer invasive removal events	



Community Resilience Building Risk Matrix — www.CommunityResilienceBuilding.org

H-M-L priority for action over the Short or Long term (and Ongoing)
V = Vulnerability S = Strength

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.): Drought, Flooding, Heat Waves, Intense Storms

Features (Environmental)	Location	Ownership	V or S	Impacts	Actions (Drought / Flooding / Heat Waves / Intense Storms)	Priority H-M-L / Time
Street Trees	Townwide	Both	V/S	Salt Stress; Power Loss – Lose communication; ER Rates down; Cooling – Less Energy Use	(1) Right tree/right place; (2) Replace trees w/ salt resistant variety; (3) Implement Tree Mngt. Plan	(1) H – Long; (2) M – Long; (3) H – S – O
Open Space 2,000 acres	Townwide	Mostly Town	S / V	Sequestration; Current Forest Mngt.; Recreation Program; Fire Risk; Erosion; Pollution from runoff	(4) Expand Forest Management Plan (Lauric) + Ecological Management Plan	(4) M – Long
Flora – Native, Invasive	Regional	Both	V	Adelgum (Hemlock); Loss of wildlife; Loss of biodiversity		
Wetlands ¼ of Town	Regional	Both (not enough protection)	V/S	Alleviates flooding; Wildlife habitat; Protects from devel.; Storage capacity	(5) Adopt a Wetlands Bylaw; (6) Hire a "Person" to Manage Protections	(5) H – Short; (6) M – Long
Groundwater	Townwide	Both	V	Potentially too much (MWRA)	(7) Sustainable Landscaping Program; (8) Reduce irrigation w/ MWRA water	(7) H – Long; (8) M-H – Long
Wildlife – Deer (ticks), Coyote, Bobcats, Beaver	Regional	Both	S / V	Beaver = create wetlands; Coyote/Bobcat – attacks; Deer = ticks/overpop/roadkill; Beaver = flooding & septic systems	(9) Create a Wildlife Management Plan	(9) M – Long
Charles River	Regional	DCR	S / V	Recognize potential recreation, habitat; Flooding	(10) Create more access to the Charles River	(10) L – Short

Community Resilience Building Risk Matrix

Combined

www.CommunityResilienceBuilding.org

Top Priority Hazards (tornado, floods, wildfire, hurricanes, earthquake, drought, sea level rise, heat wave, etc.)

H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

Features	Location	Ownership	V or S	Impacts	Drought	Flooding	Heat Waves	Intense Storms	Priority H - M - L	Time Short Long Ongoing
Infrastructural										
Water infrastructure distribution system	Pump stations (multiple locations) Tanks	Town	V + S	Town is out of water and system tanks Regional impact No ER water	1. Implement water distribution master plan 2. Water usage/conservation bylaw (in progress)				1. H 2. M	1. S-L 2. S
Roadway access (evacuation)	Route 20 128 Route 30 117 Wellesley St Church St	State(first 2)/To	V (evacua	Evacuation routes Fire safety access Routing for DPW access to water infrastructure Links to Mass Pike		3. Work with Waze and Dispatch to implement road access notifications		4. Emergency evacuatio	3. H-M 4. M	3. S 4. O
Communication and infrastructure (trees, power)	North Section (Marion Street) schools	Eversource (poll	V/S	Fallen trees/loss of power service Deadzones Strengths: FirstNet, awesome IT, connected departments	5. Tree management plan 6. Annual review/assessment of Town collaboration	7. Redundancy for Police/	8. Implement Tree planting program to replace t		5. H-M 6. M 7. H 8. L	5. S-L 6. O 7. S 8. O
Dams and culverts (priorized)	Cherry brook Warren brook MBTA Concord Rd College Pond Dam Marion St	Town/DCR	V/S	Critter passage/small culverts Age could be a failure Too small, causing back ups Cutting off Em access Strength: Master Plan		9. Implement Master plan (replace culverts) 10. Follow up with dam owners to conduct annual inspections			9. H 10. H	9. S-L 10. O
Schools and housing (shelter)	1. High school 2. Maplewood 3. Wingate 4. Community Center	Town	S/V V V S/V	1. Shelter 2/3. Flooding/evacuation 4. Shelter but not long term due to septic	11. Site visit to ensure redundancy and have pumps				11. H	11. O
Power outage/infrastructure (generators and public safety	Town-wide	Private (individu	V/S	Electrocution of safety staff Fires CO poisoning Slows down ER time	12. Put all homeowners on Rave 13. Educating staff on live wires				12. M 13. H	12. O 13. O
Aging gas and other utility infrastructure (water)	Town-wide	Town National Grid Eversource Verizon Comcast	V	Communications Heat down Water distribution Fire/police communication Mapping Taking out trees CJIS		14. Replace aging roads and gas infrastructure		15. Replace aging infras	14. H	14. SLO
MWRA infrastructure (water supply)	Town-wide with 1 connection		V/S	If connection goes down, it impacts surrounding communities Earthquake impacted 128 from Tank			15. Enforce water ban esp golf courses and private schools		15. M	15. O
Culverts	Church Street Viles Street Winter Street Throughout	Town	V&S	undersized, cause flooding, aging, may fail and casue flooding. Flooding can close roads, impact private property, and create septic damage.		1. Evaluate future capacity 2. MA streat crossign standards 3. Improve netowrk capacity			1. H 2. - 3. H	
Gas lines (most are cast iron, plastic preferred)	Throughout	National Grid Algonquin	V&S	Grade 1 leak- at residence, fix immediately Grade 2 leak- vent at a public space Grade 3 leak- schdule repairs Heating issues, air quality, fire risk		4. upgrade water mains which share space with gas lines.	5. Reduce load 6. Alternative energy 7. Efficiency upgrades	8. Replace/repair leaking pipes	4. L 5. M 6. L 7. L 8. H	

				quality, fire risk						
Electric power grid/generators	Throughout Generators exist at: DPW, Police, Fire, Community Center	Grid-Eversource Generators-Town Solar-Amaresco	V&S	loss of power, heating/cooling, imapcts to vulnerable populations, dry trees are more likely to fall and take down power lines	9. Forest Management 10. Planting			11. Purchase portable generator to cover generator failures 12. Bury power lines	9. H 10. L 11. M 12. L	
Road network/bridges	Throughout	Town, State, private	V&S	facility and evacuation route access		3. Improve culvert network		13. strengthen plow contracts 14. Obstacle clearance	13. L 14. L	
Water holding tanks and distribution system	Throughout	MWRA- 2 tanks Town- 3 tanks	V	more demand, lexx availability, bacteria growth, aging infrastructure may fail.	15. more storage 16. larger pumps 17. water bans/education 18. community level irrigation network		15. more storage 16. larger pumps 17. water bans/education 18. community level irrigation network	18. genereator for SCADA	15. M 16. L 17. H 18. L 19. M	
Cell Towers- no service in some public spaces	Police and Throughout	Town- 2 Others- 4	V&S	Poor communication, slow emergency response.				20. repeaters 21. Study to improve signal/infrastrucutre 22. Indoor repeaters	20. M 21. M 22. M	
Dams	Throughout	State and Town	V&S	Flooding, animals burrowing in dams during low water	23. animal management				23. L	
Emergency Response bulidings (Police, Fire, DPW)		Town	V&S	Compromised response time	11. Purchase portable generator to cover generator failures.			11. Purchase portable generator to cover generator failures.		
Power lines	Throughout	Eversource	V	Trees come down and knock out power lines			2. Continue to work with Eversource to identify priority vulnerable assets	1. Streamline permitting of the cutting of trees in ROW and ensuring it is done correctly	1. H 1. H	1. S/O 2. O
School buildings	Throughout	Public	V/S	Lack of A/C in all but one Power outages			3. Develop a more effective communication protocol for parents when schools lose power 4. Add back up generators or plan for power incorporating solar and battery storage as much as possible		3. H 4. H	3. O 4. O
Public facilities and back up generation	Throughout	Public	S	Several facilities have back up generation and a protocol exists to alert people which shelter is on	5. Develop a strategy to transition facilities from fossil fuels to renewable energy options				5. H	5. L/O
Winter maintenance fleet and equipment			S					6. Maintain the fleet and equipment to continue to provide top notch service and look to more fuel efficient and non-fossil fuel vehicles	6. H	6. O
Natural gas lines	Throughout	Private	V	Gas leeks Aging infrastructure Higher PSI in pipes			7. Promote renewable energy options as well as heat pumps to minimize the consumption of natural gas		7. H	7. O
Pedestrian/commuter safety shelter options and sidewalks			V	Commuters on Pike or train getting stuck in winter storm	8. Implement actions in the sidewalk master plan--ensure taking climate change into account 9. Provide support and communicate sheltering options during storm events 10. Increase parking options at stations				8. M 9. H 10. H	8. O 9. S 10. L
Water Supply	Throughout	Public	V	Consumption is extremely high	11. Investigate use of grey water systems (new buildings) 12. Implement water conservation programs and new bylaws (smart irrigation, low flow, etc) 13. Promote and educate on the importance of water efficiency				11. M 12. H 13. H	11. S 12. S/O 13. S/O
Newton Street (main route through town)--Ask Tom	Specific	Public	V		14. Newton St. is regularly flooded--need to ensure this has been addressed					

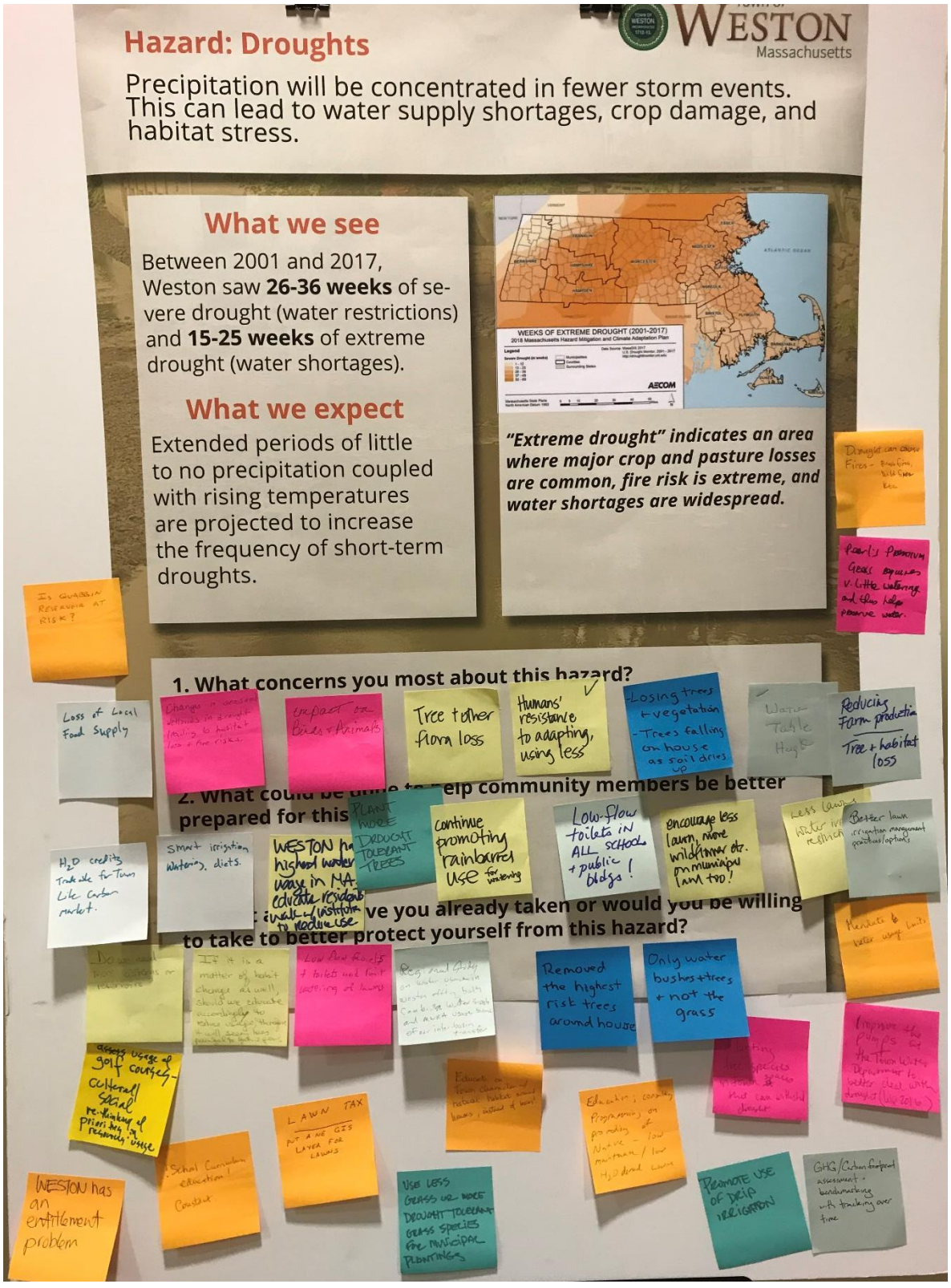
Socio-Economic										
Seniors (60+)	Grouped throughout the commun		V/S	D: Water restrictions/gardens, mentally stressful, farms F: Isolation, challenges with travel H: Medical issues, lack of A/C, stressful, isolated I: Medical issues, emergency access	1. Sharing space 2. Promote existing rain barrel program	4. More effective recruitment into vulnerable population list 5. Mailings and trainings and other committees to inform people	3. Communicate cooling center locations		1. M 2. M 3. H 4. H	1. O 2. O 3. O 4. O
K-12 students	Throughout		V/S	Cancelled recess, no sidewalks (hard to get to school by bike or walking), closing recess and fields for EEE, stressful to not be outside	6. Education on H20 conservation		7. Add H2O drinking fountains downtown		6. M 7. H	6. O 7. S
Non-English speakers	Throughout		V/S	Emergency Comms Challenge	8. Enhance comms apps and infrastructure beyond Police and Fire -- use reverse 911 9. Increase funding for and engage more comm members on ESL Training/classes 10. Enhance efforts to educate/train on cultural inclusion and understanding				8. H 9. H 10. H	8. S 9. O 10. O
Disabled + visually or hearing impaired	Throughout		V/S		11. Prioritze increasing the accessibility accomodations throughout town				11. H	11. O
Local beekeepers and farmers/farms (4 family farms, 3 con	Throughout		S/V	Warmer temps cause more bugs-->more spraying-->killing bees, maple sugaring impacted, tapping earlier since 80s	12. Allow production farms exemption for H20 bans and billings, and incentives to support low production years 13. Training and educating people on how to adapt to climate change (i.e. new crops)				12. H 13. H	12. S 13. O
Downtown (business)	Downtown	Mostly private	S/V	Snow and flooding potentially largest hazards of concern, parking is limited	14. Engage small/downtown business organizations on climate change and preparedness 16. Ensure WWT process in downtown is adaptabile for changing water levels			15. More funding and people power for snow maintenance and clearing--keep sidewalks safe	14. M 15. H 16. H	14. O 15. O 16. O
Everyone					17. Develop a climate action and resilience plan that focuses on deep targeted engagement of and comı				17. H	17. S
Regis and boarding schools					18. Establishing/maintaining clear lines of communication in the event of emergency and as an opport				18. H	18.S
Aging population (independent)	Throughout	_	V	Lack of access to doctors, grocery stores, etc. Health risk of isolated living (shoveling, hydration) May not have a ride to safety Confusion	2. Coordinate with Council on Aging		1. Encourage water distrubution 3. Cooling areas		1. H 2. M 3. L	1. O 2. O 3. O
Fixed/lower income population	Throughout	_	V	May not have $ to solve their own problems May not be able to pay for utilities Community outreach/help			Cooling areas			
Non-English speakers (Mandarin)	Throughout	_	V	+ not isolated, living with family	4. Education materials/communications in first language				4. M	4. O
Schools (transportation/communication	Throughout	Public/Private	S	No A/C in public schools			5. A/C in high school 6. Designated cooler areas in school	7. Research virtual schools for extended school closures	5. M 6. L 7. M	5. L 6. S 7. S

Children	Throughout	__	V/S	Increased risks of playing outdoors (vector born diseases, heat, cold) Mental health '+ educate future citizens	8. Climate change education 9. Child-centered relaxation/indoor recreation programs	8. H 9. H	8. O 9. O
Assisted living/nursing home facilities	Throughout	Public/Private	V/S	+ if they have heating/cooling, they can share with community Increased EMS calls	10. Generator and redundancy 11. Emergency drills (resident and responders)	10. H 11. L	10. S 11. O
Seniors	Townwide	NA	V/S	Physical limitation Want to shelter in place No vehicles to evacuate Limited reources (ie remove snow) Knowledge and resilience and perspective	1. More collaboration with senior living facilities 2. Inventory of seniors into RAVE (use youth) 3. Connect youth and seniors	1. H 2. M-H 3. M	1. O 2. L 3. L
Households with generators	Townwide	Private	V/S	Refuse to leave in an emergency Have power--could take people in	4. Reinstate generator training	4. M	4. O
Youth	Townwide	NA	V/S	Unwilling to help Life skills are lacking Young, strong, able-bodied	5. School classes/curriculum on preparedness--partner with seniors	5. L	5. O
Unprepared households	Townwide	Private	V	No smoke detectors No CO detectors Misguided expectations Not educated	6. Use Weston media to prepare residents 7. Hand out preparedness kit checkist at Home Depot 8. Create preparedness kits and sell them	6. M 7. L 8. M	6. O 7. O 8. O
Colleges and private schools	Townwide	Private	V/S	Dense populations Chinese-Am school--communication issues Strength: have resources (regis--nursing students)	9. Partner with Regis College for nursing resources	9. H	9. O
Physically and mentally disabled residents	Townwide	NA	V	Live alone, have to rescue	10. Clinical support for law enforcement 11. Training from Human resources services (ie schools)	10. H 11. H	10. SLO 11.SLO

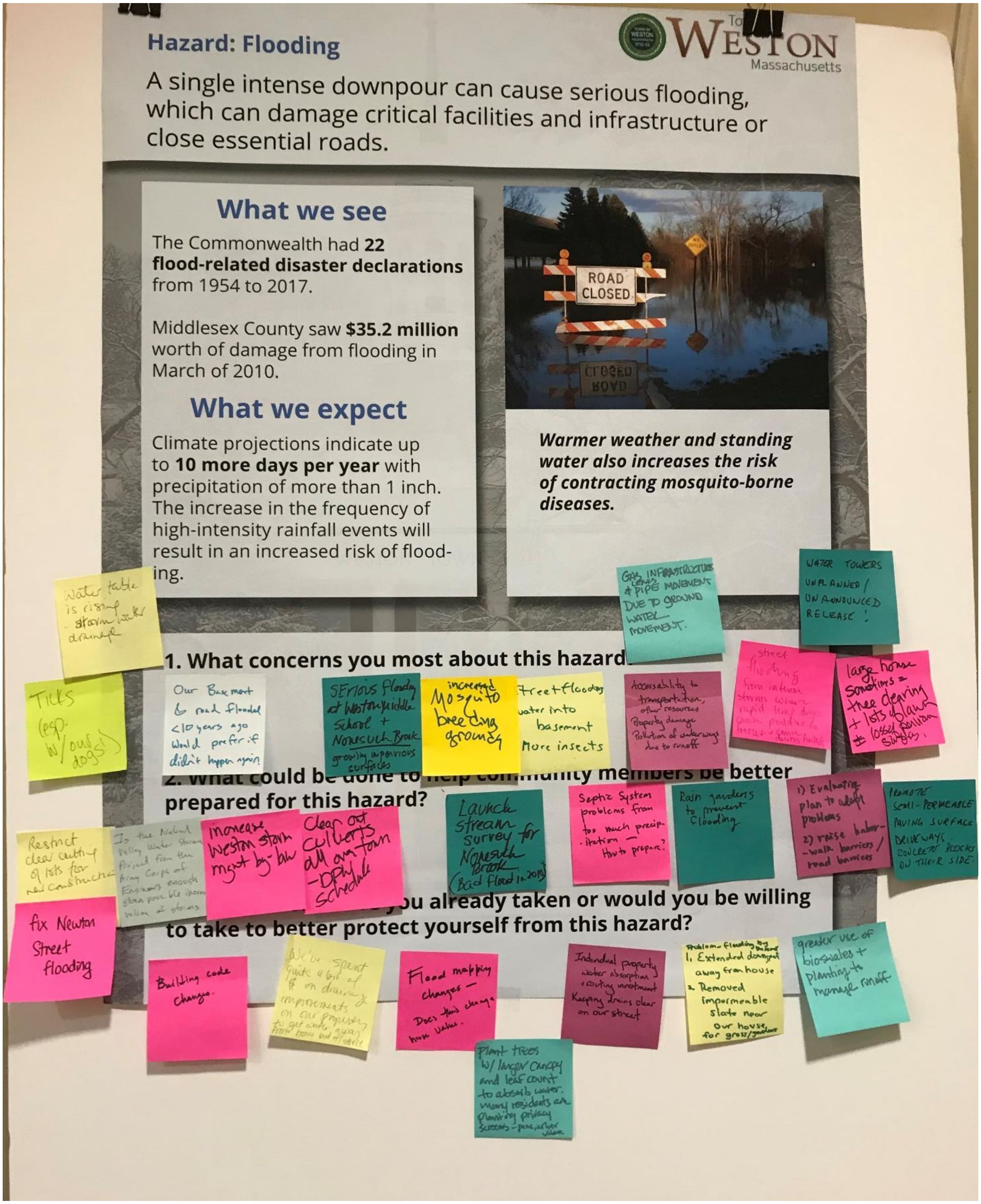
Environmental

Drinking Water Resources [*most of our discussion talked about this important resource but then later it came to light that water from those reservoirs is all diverted. Is Weston repsonsible for being good stewards? Some say lcool tax dollars should not pay for it, others said it's the moral thing to do. No final agreement.*]	Stony Brook Res. Norumbega Res. Weston Res.	Cambridge MWRA MWRA	V and S	***Water is diverted to other towns so impacts are less to Weston.*** Water shortage Termal impacts- algae Chemical spill High salt levels Human health	1. Winter low-salt strategy 2. Greater pervious areas, protect existing natural areas	2. Greater pervious areas, protect existing natural areas	3. More trees to cool the roads and runoff. 4. Better riparian health/infiltration.	4. Better riparian health/infiltration. 5. Know where hazardous chemicals area stored.	1. L/M 2. M 3. L/M 4. H 5. L/M	1. short 2. ongoing 3. ongoing 4. ongoing 5. short
Watershed waters (headwaters of Cherry Brook, Stony Brook, and tributaries)	throughout	headwaters on private property. Most other public.	V and S	Low flow Changes in habitat Bank erosion	4. Better riparian health/infiltration.	**4. Better riparian health/infiltration.** **see recent culvert project for additional actions	4. Better riparian health/infiltration.		4. H	4. ongoing
Forested/Meadow Areas (Open Space)	throughout, mainly in the NW	Town	V and S	Invasive specis Road salt- tree die off Damages from high winds and ice Cause power outages (+)cooling effect, improve water and air quality, improve water infiltration	**see Town inventory of trees for action items.	5. Protect meadows and natural areas. 6. consider zoning changes or purchasing open land to keep it from being developed. 7. research forestry grants.		**8. Forest Management Plan-** appropriate age and species distribution can increase resilience. 9. Town tree trimming program. **National Grid is moving from a 5 year to a 4 year trim cycle.	5. H 6. H 7. M 8. H 9. H	5. ongoing 6. short 7. short 8. Short-write plan; Ongoing-implement 9. ongoing
Trees on Private Property	throughout	Private	V and S	Down trees from high winds or ice can cause power outages or block roads. Damage to property.	10. Educate homeowners about tree health, the tree ordinance, and pre-storm trimming.				10. M	10. Ongoing
Wetlands	throughout	Various	V and S	Dry out/change in habitat Increase in beaver activity (may be more likely to dam upstream of a wetland during drought periods) (+) absorb flood waters, create habitat	**11. Update Town Bylaws to include wetland protection. Consider regulating the buffer zone.** 12. Beaver relocation program for nusaince beavers.				11. H 12. L	11. Short-write bylaws; Long- pass bylaws 12. ongoing
Cold Water Fish Habitat	throughout	On private and public land	V and S	Low flow Changes in habitat	4. Better riparian health/infiltration.				4. H	4. ongoing
High Hazard Dams	Stony Brook Norumbega Hobbs College	Cambridge MWRA Weston Weston	V and S	Flooding upstream or downstream from dam failure. Animal burrowing in dam during low water.		13. Gate and spillway maintenance. **Cambridge is working on Stony Brook Dam Emergency Action Plan		13. Gate and spillway maintenance.	13. H	13. ongoing
Recreation (Golf and Trails)	throughout	Golf- State Trails- Town	V and S	Closures during/after a storm, damage Water demand by golf course Health concerns- heat, lightning, vector-born diseases	**14. Educate residents on storm dangers and health concerns.**				14. L	14. ongoing
Waterways and wetlands	Throughout	Public	V/S	Flooding Algae blooms Decreased supply	1. Education campaign on water use (odd-even irrigation days)			2. Improvement to water infrastructure (catch basins, etc.)	1. H 2. H	1. O 2. S/O
Open space and parks	Throughout	Public	S	+ Public health (mental and physical)	3. Education around what recreation options are available and safe practices 4. Improve accessibility to parks/open space and provide and ranking system to inform residents of features)		5. Increase shade coverage and water fountains in parks and at playing fields		3. M 4. M (varies) 5. H	3. O 4. O 5. S
Tree canopy	Throughout	Private + public	S/V	Trees down leading to erosion Power outages '+ cooling '+ carbon sink	6. Utilize trees strategically to reduce irrigation and cooling needs, and improve erosion controll and air quality			7. Educate property owners about how to manage wooded properites (ID threats, etc)	6. M 7. H	6. O 7. S/O
Wildlife and pollinators	Throughout	_	V/S	More mosquitoes/ticks	8. Education around taking care of animals/habitats 9. Maintenance and landscaping of public land to encourage pollinators				8. M 9. H	8. O 9. S
Farms	Throughout	Private + public	S	Decreased yield from drought '+ improved public health	10. Begin a buy-local campaign 11. Start a farmers market				10. M 11. H	10. S/O 11. S/O
Ticks and mosquitoes	Throughout	_	V	Lyme, EEE Diseases changing/increasing	12. Investigate safety of pesticides and research alternatives 13. Improve drainage systems 14. Continuing spraying and education 15. Consider bat house promotion				12. H 13. H 14. M 15. H	12. S 13. L 14. O 15. S/O
Water quality and algae	Ponds/standing water	_	V	More algae Harmful runoff Storms causing more flooding	16. Low impact maintenance on grassy areas (playing fields, etc)	17. Education around careful choices of lawn treatment			16. H 17. H	16. S 17. S
Street Trees	Townwide	Private + public	V/S	- salt stress - power loss-lose communication ER rates down + Cooling less energy	2. Replace trees with salt resistant variety		1. Right tree/right place	3. Implement Tree Management plan	1. H 2. M 3. H	1. L 2. M 3. H-S-O
Open space (2000 acres)	Townwide	Mostly Town	S/V	+ Sequestration + Current forest management + recreation program - fire risk -erosion - pollution from runoff	4. Expand forest management plan (Laurie) and ecological management plan				4. M	4. L
Flora (native, invasive)	Regional	Private + public	V	Aldegum (hemlock) - loss of wildlife - loss of biodiversity						
Wetlands (1/4 of town)	Regional	Private + public	V/S	- not enough protection + alleviates flooding + wildlife habitat + protects from development + storage capacity	5. Adopt a Wetlands Bylaw 6. Hire someone to manage protections				5. H 6. M	5. S 6. L
Groundwater	Townwide	Private + public	V	Potentially too much (MWRA)	7. Sustainable landscaping program 8. Reduce irrigation with MWRA water				7. H 8. M-H	7. L 8. M-H
Wildlife (deer--ticks, cayote, bobcats, beaver)	Regional	Private + public	S/V	+ beaver--create wetlands - cayote/bobcat--attack - deer--ticks/overpop/roadkill - beaver--flooding and septic systems	9. Create a wildlife management plan				9. M	9. L
Charles River	Regional	DCR	S/V	Recognize potential recreation, habitat flooding	10. Create more access to the Charles River				10. L	10. S

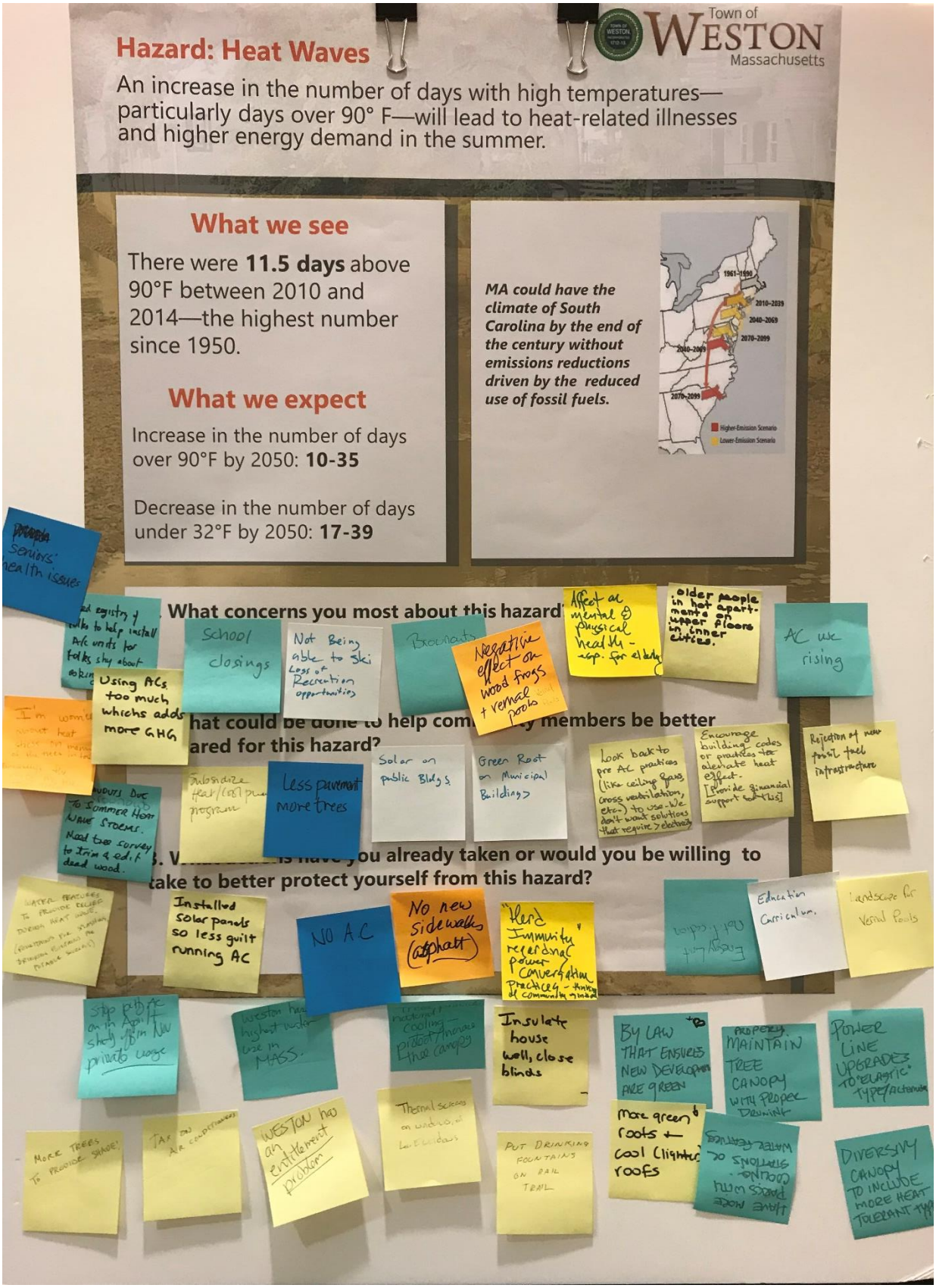
APPENDIX 5: COMMUNITY INPUT FROM LISTENING SESSION



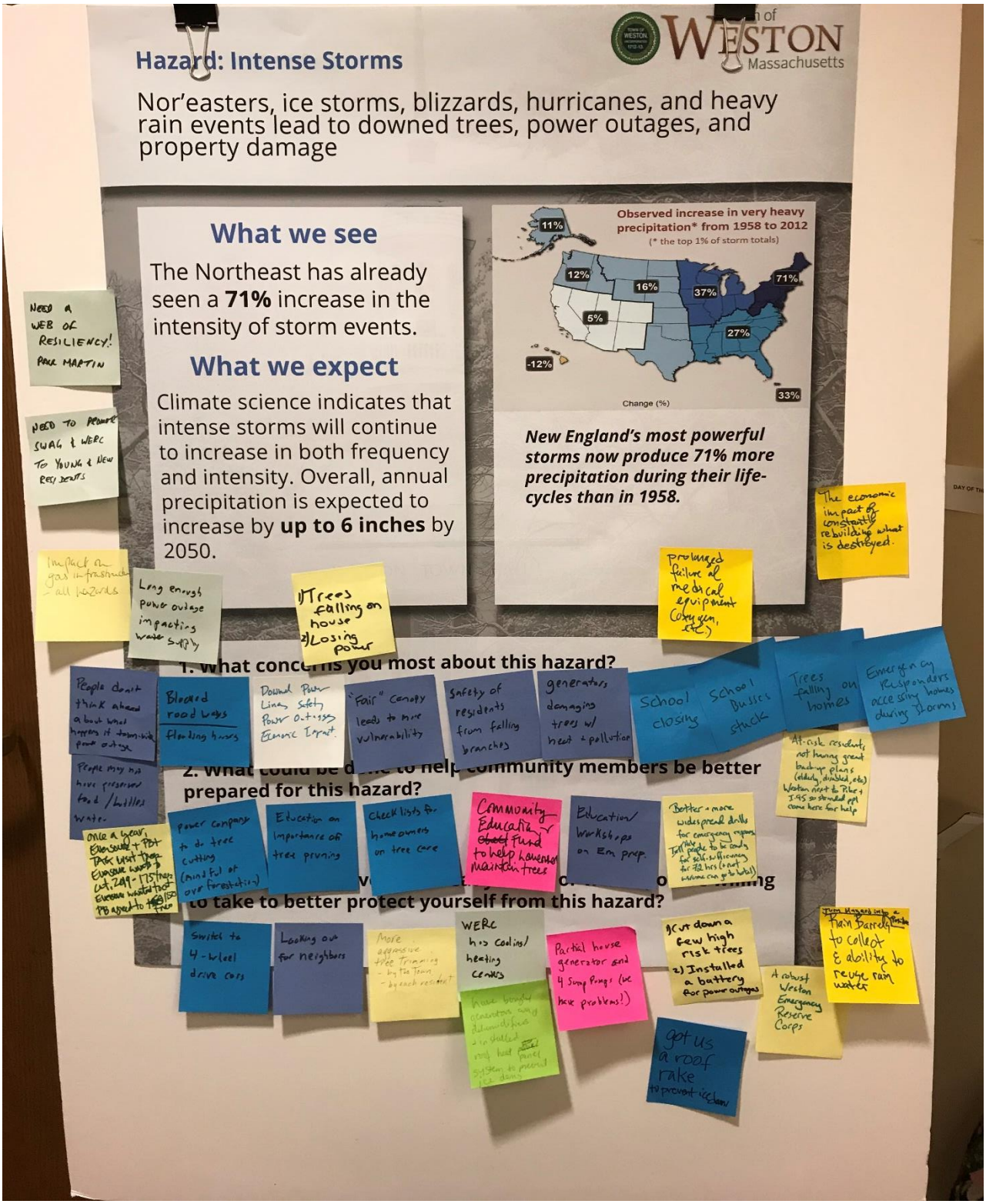
Concerns	What can be done?	Action taken or willing to take
Impact on gas infrastructure	H20 credits tradable for Town like carbon market	Pearl's Premium grass requires very little watering and thus helps preserve water
Weston has highest water use in Mass	Smart irrigation water diets	Use less grass or more drought tolerant grass species for municipal plantings
Quabbin Reservoir at risk?	Plant more drought tolerant trees	Lawn tax. Put a NE GIS layer for lawns
Brushfire, wildfire	Educate residents on how to reduce water use	Educate to reduce usage so it seems less painful for future generations
Loss of local food supply	Continue promoting rain barrel use for watering	Low flow faucets and toilets and limit watering of lawns
Reducing farm production	Low-flow toilets in all school and public buildings	Educate on Town character with natural habitat around houses, instead of lawns
Trees and habitat loss	Better lawn irrigation management practices/options	Only water bushes and trees and not the grass
Changes in seasonal wetlands in drought leading to habitat loss and fire risks	Less lawns	Removed the highest risk trees around house
Impact on birds and animals	Water irrigation restrictions	Education; consulting programming on promotion of native, low maintenance/low h20 demand lawns
Trees and other flora loss	Encourage less lawn, more wildflower etc. (on municipal lawns too	Promote use of drip irrigation
Humans' resistance to adapting, using less	Do we need more cisterns or reservoirs?	
Losing trees and vegetation	School curriculum educations	
Trees falling on house as soil dries up	Improve the pumps at the Town water dept to better deal with drought (like 2016)	
Water table height	Assess usage of golf courses--cultural/social rethinking of priorities in resource usage	
Weston has an entitlement problem	Mandate water usage limits	
	Plant tree species in town spaces that are resistant to drought	
	GHG/carbon footprint assessment benchmarking with tracking over time	
	Regional study on water usage in Weston effecting both Cambridge water supply and MWRA usage because of our inter-basin transfer	


Hazard: Flooding
WESTON
Massachusetts
A single intense downpour can cause serious flooding, which can damage critical facilities and infrastructure or close essential roads.
What we see
The Commonwealth had 22 flood-related disaster declarations from 1954 to 2017.
Middlesex County saw $35.2 million worth of damage from flooding in March of 2010.
What we expect
Climate projections indicate up to 10 more days per year with precipitation of more than 1 inch. The increase in the frequency of high-intensity rainfall events will result in an increased risk of flooding.
ROAD CLOSED
Warmer weather and standing water also increases the risk of contracting mosquito-borne diseases.
1. What concerns you most about this hazard?
Water table is rising - storm water drainage
Ticks (esp. w/ our dogs!)
Our Basement & road flooded <10 years ago Would prefer if didn't happen again
Serious flooding at Weston Middle School + Nonesuch Brook growing impervious surfaces
increased Mosquito breeding grounds
Street flooding water into basement More insects
Accessability to transportation, other resources Property damage Pollution of waterways due to runoff
GAS INFRASTRUCTURE & PIPE MOVEMENT DUE TO GROUND WATER MOVEMENT.
WATER TOWERS UNPLANNED / UNANNOUNCED RELEASE!
2. What could be done to help community members be better prepared for this hazard?
Restrict clear cutting of lots for new construction
increase Weston storm mgmt by-law
Clear out culverts all over town - DPW schedule
Launch stream survey for Nonesuch Brook (Bad flood in 2018)
Septic System problems from too much precipitation — How to prepare?
Rain gardens to prevent flooding
1) Evaluating plan to adapt problems 2) raise baker-walk barriers / road barriers
PROMOTE SEMI-PERMEABLE PAVING SURFACE DRIVEWAYS. CONCRETE BLOCKS ON THEIR SIDE.
fix Newton Street flooding
3. What actions have you already taken or would you be willing to take to better protect yourself from this hazard?
Building code changes.
Flood mapping changes — Does this change house value.
Individual property water absorption + routing investment Keeping drains clear on our street
1. Extended downspout away from house 2. Removed impermeable slate near our house, for grass/gardens
greater use of bioswales + planting to manage runoff
Plant trees w/ larger canopy and leaf count to absorb water.

Concerns	What can be done?	Action taken or willing to take
Impact on gas infrastructure	Fix Newton Street flooding	Rain gardens to prevent flooding
Water table is rising--storm water drainage	Restricts clear cutting of lots for new constructions	Building code changes
Ticks (esp. with our dogs)	Clear out culverts all over town -- DPW schedule	We've spent quite a bit of $ on drainage improvements on our property to get water away from home but off streets
Our basement and road flooded less than 10 years ago. Would prefer if it didn't happen again	Promote semi-permeable paving surface driveways. Concrete blocks on their side	Flood mapping changes. Does this change home value?
Serious flooding at Weston Middle school and Nonesuch Brook	Launch stream survey for Nonesuch Brook (bad flood in 2010)	Plant trees with larger canopy and leaf count to absorb water.
Growing impervious surfaces	Evaluate plan to adapt problems	Many residents are planting privacy screens (pine, etc.)
Increases mosquito breeding grounds	Raise harbor walk barriers/road barriers	Individual property water absorption and routing investment
Large homes sometimes = tree clearing and lots of lawn and loss of pervious surface	Once a year Eversource and Planning Board and TAG visit trees Eversource wants to cut. 2019: Eversource wanted to cut 175, PB agreed to 150 trees	
Street flooding		Keeping drains clear on our street
Water in basement		Extended downspout away from house to avoid basement flooding
More insects		Removed impermeable slate near our house for grass/gardens
Accessibility to transportation, other resources, property damage, pollution of waterways due to runoff		Greater use of bioswales and planting to manage runoff
Gas infrastructure leaks and pipe movement due to ground water movement		
Water towers are unplanned/unannounced release		
Street flooding from intense storms where rapid temp drops cause puddles to freeze and causes driving hazard		
Is the natural valley water storage project from the army corps of engineers enough given possible increased volume of storms?		
Septic system problems from too much precipitation. How to prepare?		


Hazard: Heat Waves
An increase in the number of days with high temperatures—particularly days over 90° F—will lead to heat-related illnesses and higher energy demand in the summer.
Town of WESTON Massachusetts
What we see
There were 11.5 days above 90°F between 2010 and 2014—the highest number since 1950.
What we expect
Increase in the number of days over 90°F by 2050: 10-35
Decrease in the number of days under 32°F by 2050: 17-39
MA could have the climate of South Carolina by the end of the century without emissions reductions driven by the reduced use of fossil fuels.
1961-1990
2010-2039
2040-2069
2070-2099
Higher-Emission Scenario
Lower-Emission Scenario
What concerns you most about this hazard?
What could be done to help community members be better prepared for this hazard?
What have you already taken or would you be willing to take to better protect yourself from this hazard?
Seniors' health issues
School closings
Not Being able to Ski Loss of Recreation opportunities
Negative effect on wood frogs + vernal pools
Affect on mental & physical health - esp. for elderly
older people in hot apartments on upper floors in inner cities.
AC use rising
Using ACs too much which adds more GHG
Less pavement more trees
Solar on public Bldgs
Green Roof on Municipal Buildings
Look back to pre AC practices (like ceiling fans, cross ventilation, etc.) to use - We don't want solutions that require > electricity
Encourage building codes or practices that alleviate heat effect. [Provide financial support to this]
Rejection of new fossil fuel infrastructure
Installed solar panels so less guilt running AC
NO AC
No new sidewalks (asphalt)
"Herd Immunity" reversal power conversation Practices
Education Curriculum
Landscape for Vernal Pools
Insulate house well, close blinds
BY LAW THAT ENSURES NEW DEVELOPMENT ARE GREEN
PROPERLY MAINTAIN TREE CANOPY WITH PROPER DEBRIS
POWER LINE UPGRADES TO "ELASTIC" TYPE/ALTERNATIVE
More green roofs + cool (lighter) roofs
DIVERSIFY CANOPY TO INCLUDE MORE HEAT TOLERANT

Concerns	What can be done?	Action taken or willing to take
Impact on gas infrastructure	Tax on air conditioners	Installed solar panels so less guilt running AC
Senior health issues	Tree survey to trim and edit dead wood	No AC
Using A/C too much which adds GHGs	Subsidize heat/cool pump program	Maintain tree canopy with proper pruning
School closings	Less pavement, more trees	Landscape for vernal pools
Need registry of folks to help install A/C units for folks shy about asking	Solar on public buildings	Insulate house well, close blinds
Heat stress on trees in town, especially on the town green	Green roof on municipal buildings	No new sidewalks (asphalt
Not being able to ski, lack of recreation opportunities	Rejection of new fossil fuel infrastructure	Thermal screens windows, or low e windows
Brownouts	Look back to pre-AC practices (ceiling fans, cross ventilation, etc.) to use. We don't want solutions that use electricity	Energy limit notification
Negative effect on wood frogs and vernal pools	Encourage building codes or practices to alleviate heat effects (provide financial support for this	Trees provide natural cooling--protect/increase tree canopy
Effect on mental and physical health, esp. for elderly	More trees to provide shade	Education curriculum
AC use rising	Water features to provide relief during heat wave (fountains for splashing/drinking)	
Older people in hot apartments on upper floors in inner cities	By law that ensures new development is green	
Brownouts due to summer heat wave storms	More green roofs and cool (lighter) roofs	
Weston has an entitlement problem	Have parks with cooling stations or water features	
	Put drinking fountains on rail trail	
	Power line upgrades to "elastic" type	
	Diversity canopy to include more heat tolerant trees	


Hazard: Intense Storms
Nor'easters, ice storms, blizzards, hurricanes, and heavy rain events lead to downed trees, power outages, and property damage
What we see
The Northeast has already seen a 71% increase in the intensity of storm events.
What we expect
Climate science indicates that intense storms will continue to increase in both frequency and intensity. Overall, annual precipitation is expected to increase by up to 6 inches by 2050.
Observed increase in very heavy precipitation* from 1958 to 2012
(* the top 1% of storm totals)
11%
12%
16%
37%
71%
5%
27%
-12%
33%
Change (%)
New England's most powerful storms now produce 71% more precipitation during their life-cycles than in 1958.
1. What concerns you most about this hazard?
2. What could be done to help community members be better prepared for this hazard?
to take to better protect yourself from this hazard?

Concerns	What can be done?	Action taken or willing to take
Long enough power outage impacting water supply	Promote SWAG and WERC to young and new residents	Switch to 4 wheel drive cars for ice storms
Impact on gas infrastructure	Web of resiliency	Looking out for neighbors
Trees falling on house	Power company to do tree cutting (mindful of over forestation)	Have bought generators and dehumidifiers and installed roof heat panel system to prevent ice dams
Losing power	Education on importance of tree planting	More aggressive tree trimming by the town and by each resident
Prolonged failure of medical equipment (oxygen, etc.)	Checklists for homeowners on tree care	WERC has cooling/heating centers
Economic impact of constantly rebuilding what is destroyed	Community education fund to help homeowners maintain trees	Got a roof rake to prevent ice dams
People don't think ahead about what happens if power outage is town wide	Education workshops on emergency prep	Partial house generator and 4 sump pumps (we have problems!)
Blocked roadways	Better and more widespread drills for emergency response. Help people to be ready for self-sufficiency for 72 hours (and not assume can go to hotel)	A robust Weston Emergency Reserve Cops
Flooding houses		Turn hazard into a positive with rain barrels to collect and ability to reuse rainwater
People may not have preserved food and bottled water		Cut down a few high risk trees
Downed power		Installed a battery for power outages
Lines safety		
Power outages		
Economic impact		
"Fair" canopy ranking leads to more vulnerability		
Safety of residents from falling branches		
Generators damaging trees with heat and pollutions		
Schools closing		
Emergency responders accessing homes during storms		
School buses stuck		
At risk residents not having great back-up plans (elderly, disabled, etc.) Weston next to Pike i-95 so stranded people come here for help		
Trees falling on homes		

Youth Listening Session

Below are a list of proposed climate actions developed by Weston High School students during a youth focused listening session in January, 2020. The * indicates where multiple students proposed the same or similar idea.

IMPACTS: How youth can help reduce impacts of climate change on an individual level

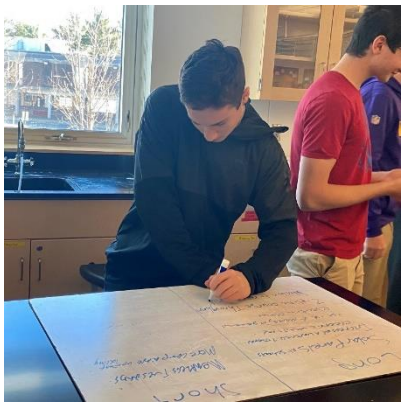
- Plant based diets
- Using cleaner cars
- Having less children
- Flying less

SHORT TERM SOLUTIONS

- Earth day activities
- Make the area more electric-car friendly (superchargers)
- Encourage plant based diets/ more meatless options***
- More campaigns against idling
- Educational posters around town to promote sustainable living
- Carpooling
- Trail walks or hiking days (students could qualify for community service hrs)
- Reduce paper use in schools

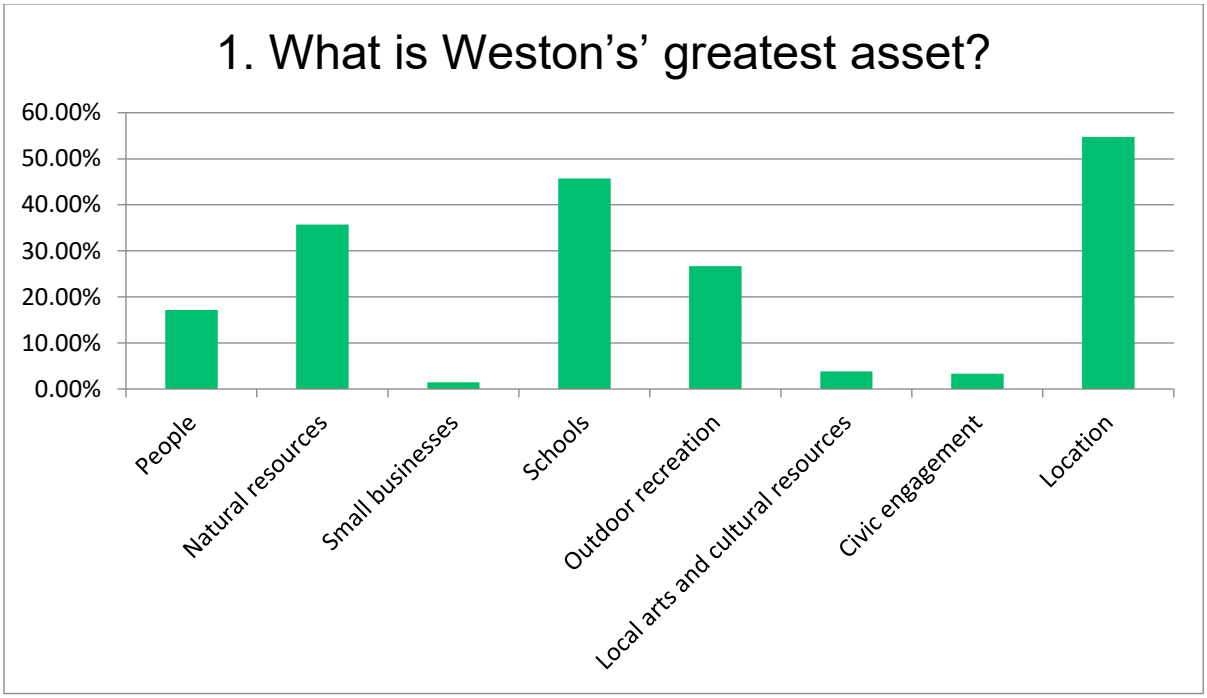
LONG TERM SOLUTIONS:

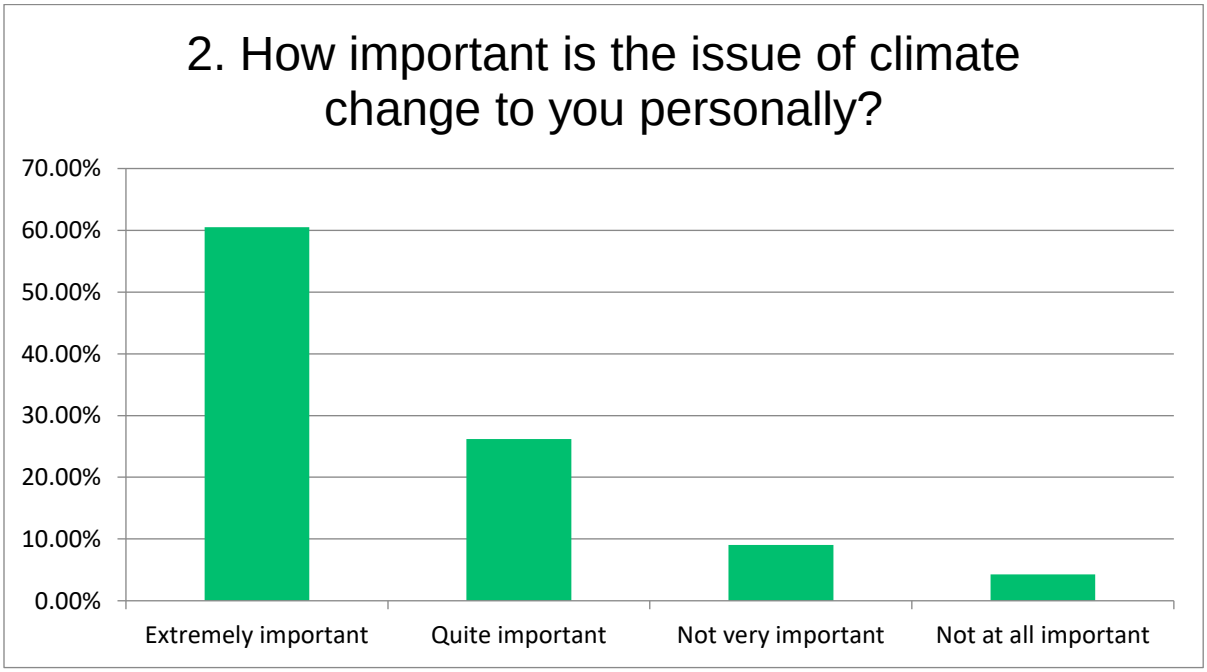
- Solar panels at Town schools
- Improve transportation and parking; zipline course throughout Town to reduce cars on the road
- Decrease stigma and increase awareness for electric cars; build solar powered chargers
- Reduce use of heat and gas
- Reduce water usage through an education campaign; create an App
- Turn waste into energy
- Plant trees as a school event

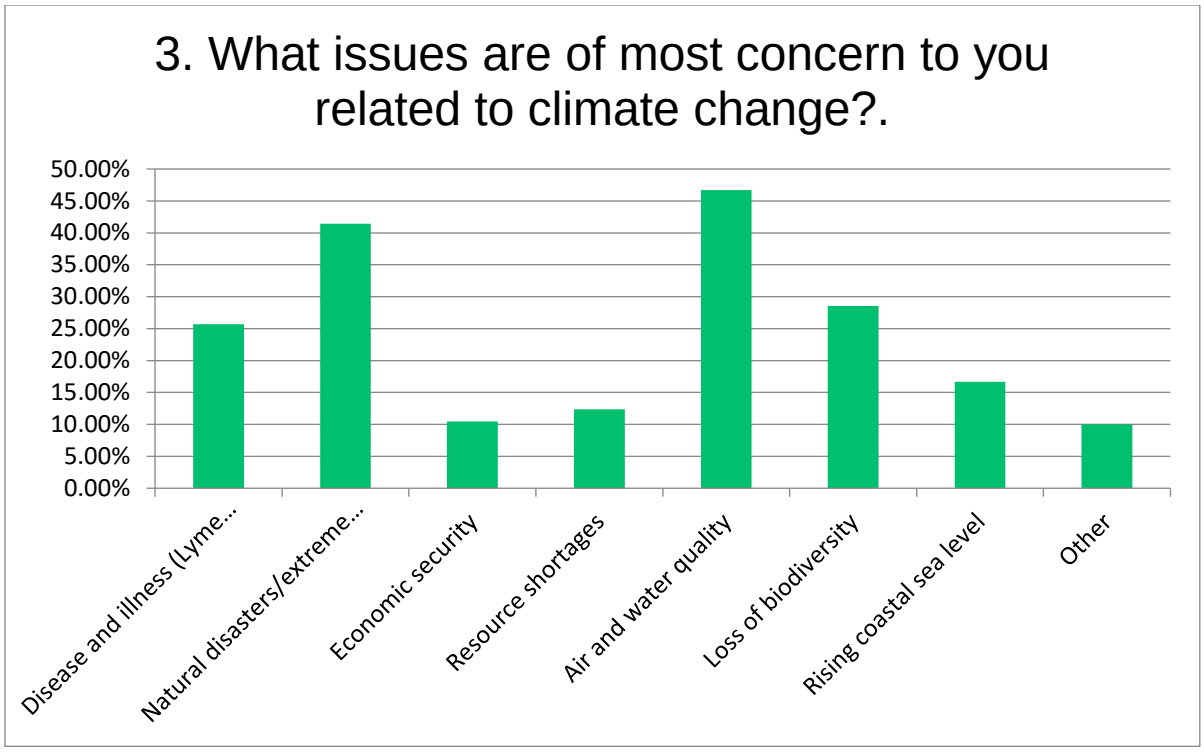


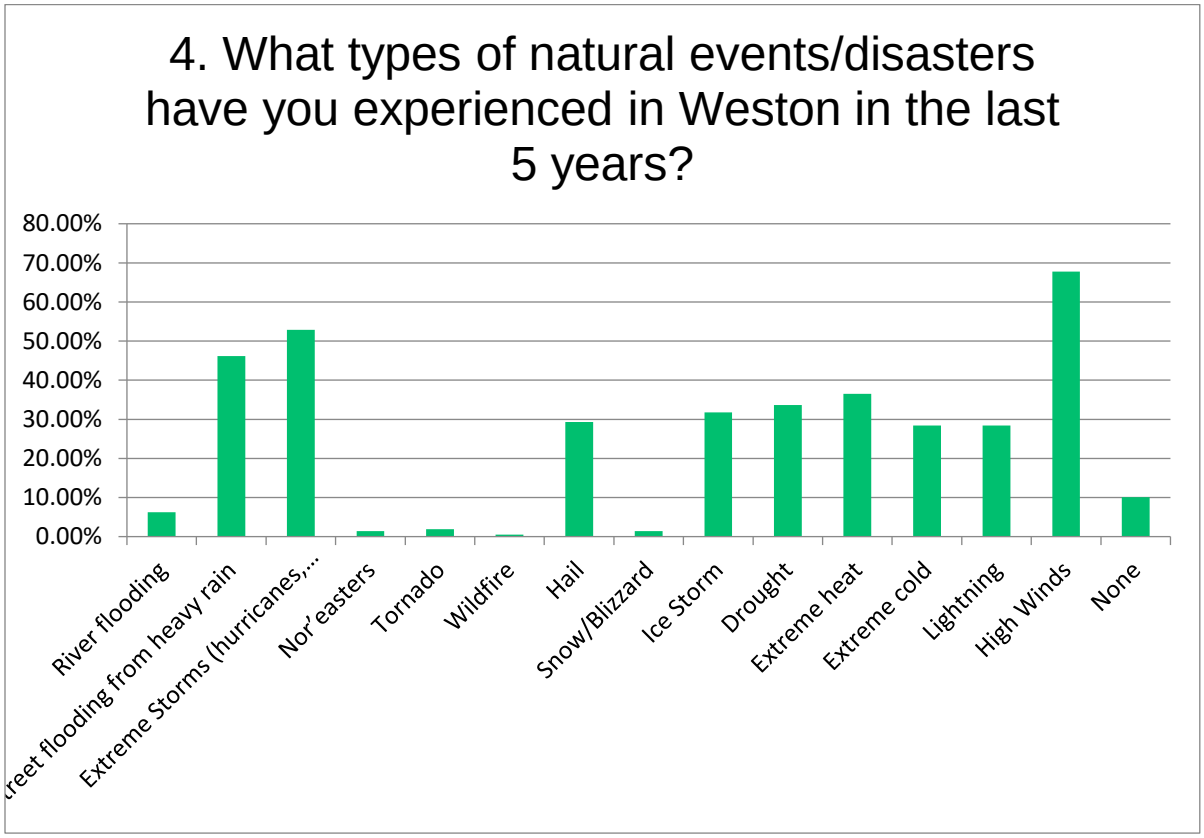
APPENDIX 6: RESULTS FROM COMMUNITY SURVEY

In order to gain an understanding of Weston residents' top concerns and priorities when it comes to climate change, the project team launched a public survey in March of 2020. This survey serves as a starting point of an ongoing conversation with the public about climate change, sustainability, and resilience. There were 218 responses. The results from the survey are shown below.

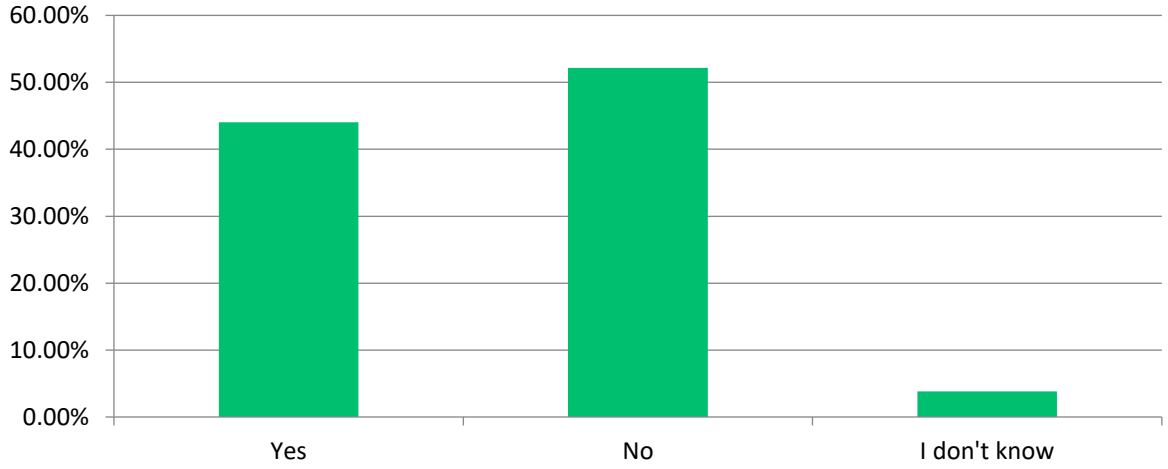




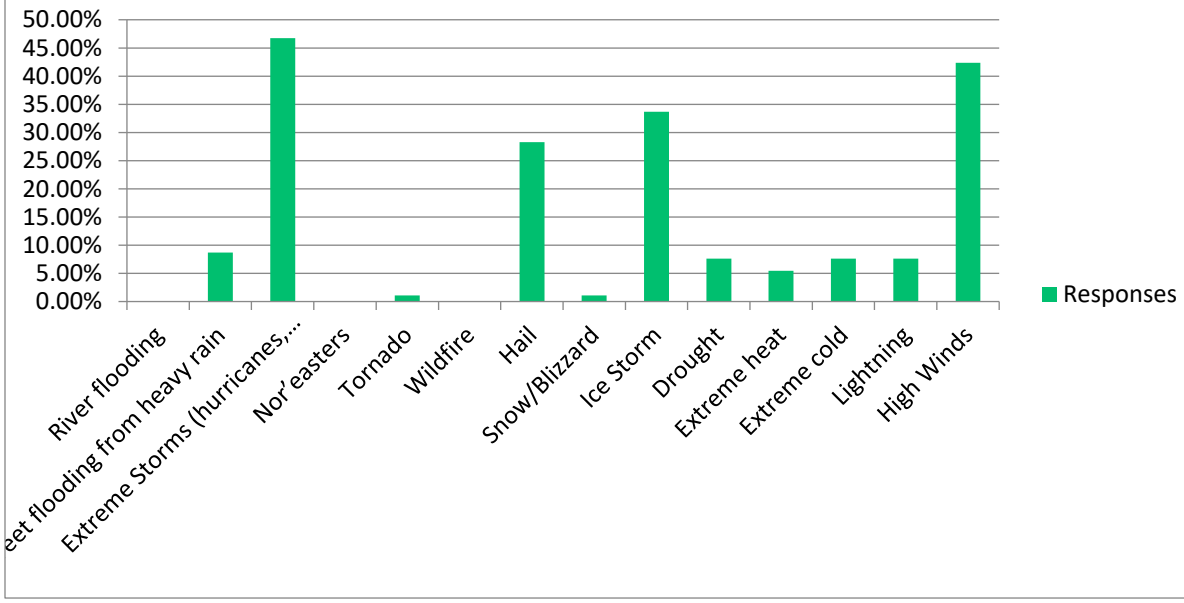

3. What issues are of most concern to you related to climate change?.
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Disease and illness (Lyme...
Natural disasters/extreme...
Economic security
Resource shortages
Air and water quality
Loss of biodiversity
Rising coastal sea level
Other


4. What types of natural events/disasters have you experienced in Weston in the last 5 years?
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
River flooding
treet flooding from heavy rain
Extreme Storms (hurricanes,...
Nor'easters
Tornado
Wildfire
Hail
Snow/Blizzard
Ice Storm
Drought
Extreme heat
Extreme cold
Lightning
High Winds
None

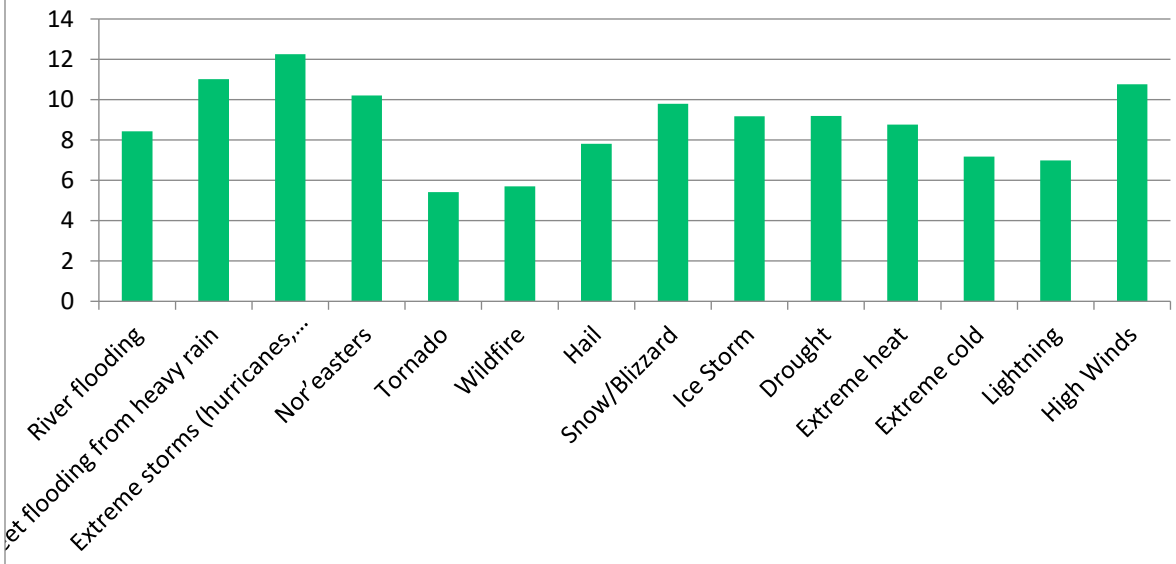
5. Have you, in the last five years, experienced any form of damage to your business or home from any of the natural hazards you indicated above?



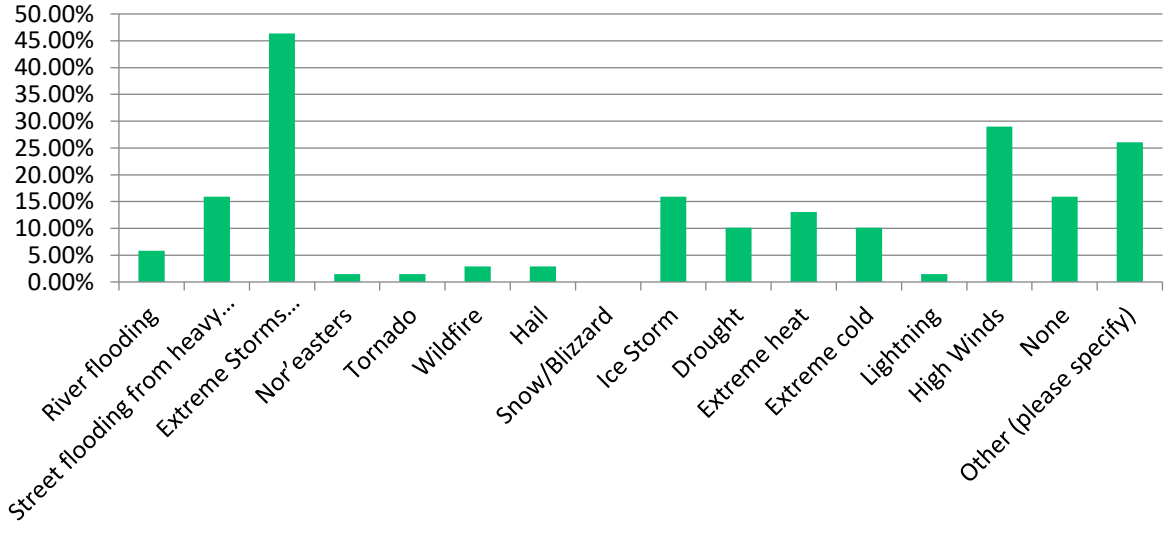
6. From which hazards have you experienced any form of damage to your business or home?

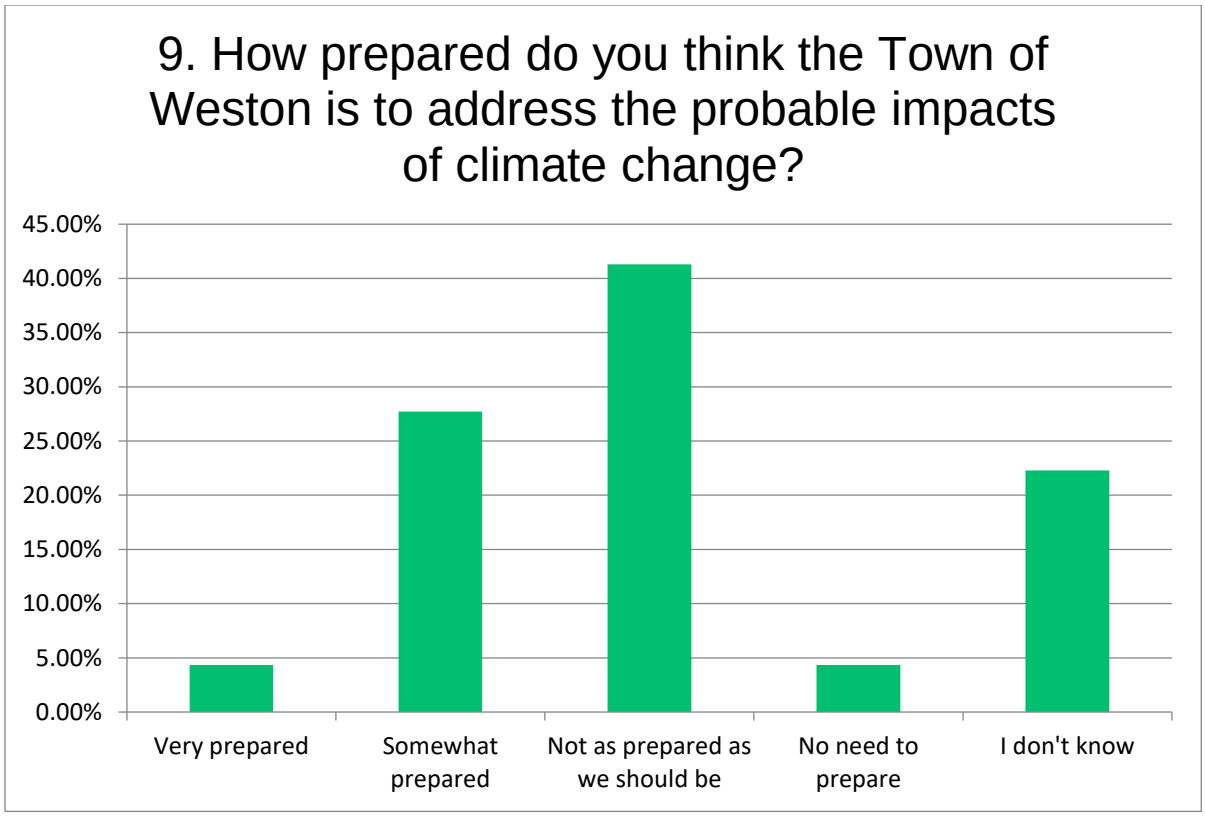


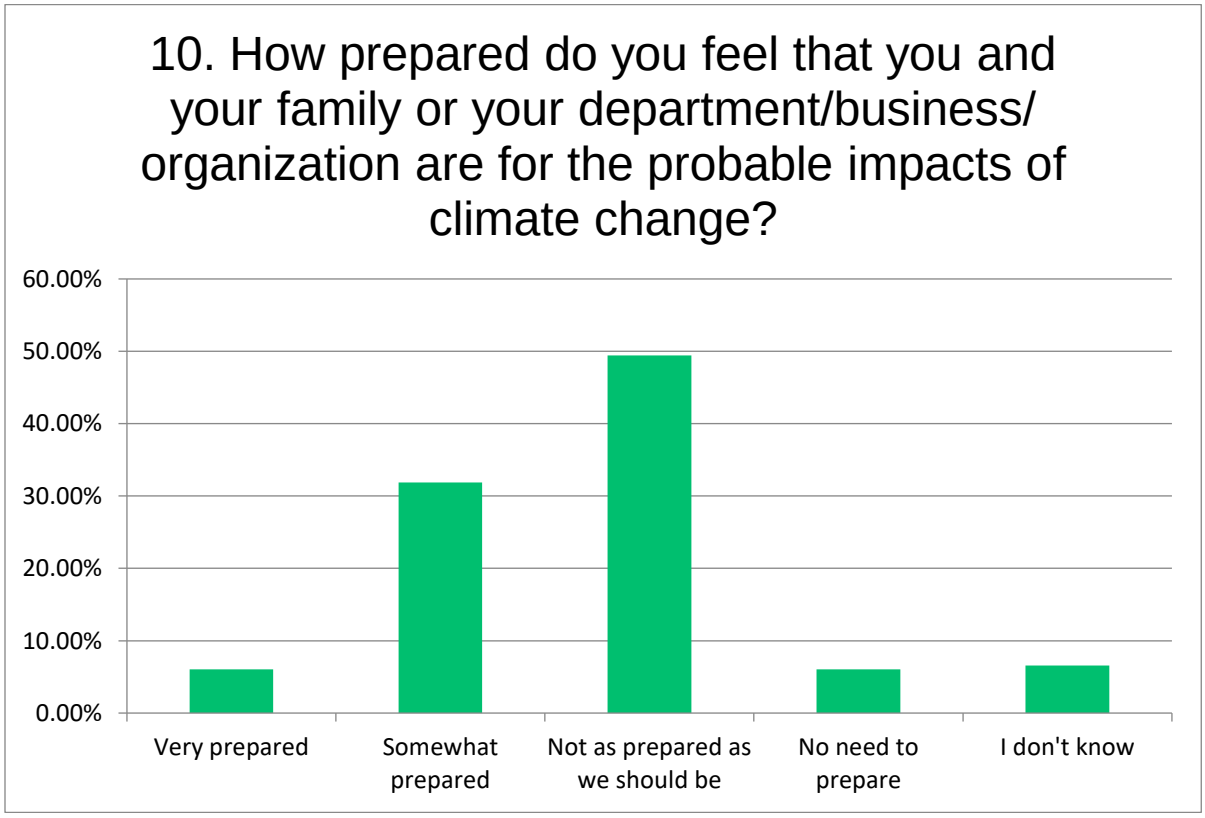
7. Which hazard do you think Weston is most vulnerable to in the future?



8. If you work in Weston, which hazard do you think your department/business/ organization is most vulnerable to in the future?




9. How prepared do you think the Town of Weston is to address the probable impacts of climate change?
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Very prepared
Somewhat prepared
Not as prepared as we should be
No need to prepare
I don't know


10. How prepared do you feel that you and your family or your department/business/ organization are for the probable impacts of climate change?
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Very prepared
Somewhat prepared
Not as prepared as we should be
No need to prepare
I don't know

11. Please describe efforts you've taken to prepare your home, family, business, or organization to be better prepared for climate change?

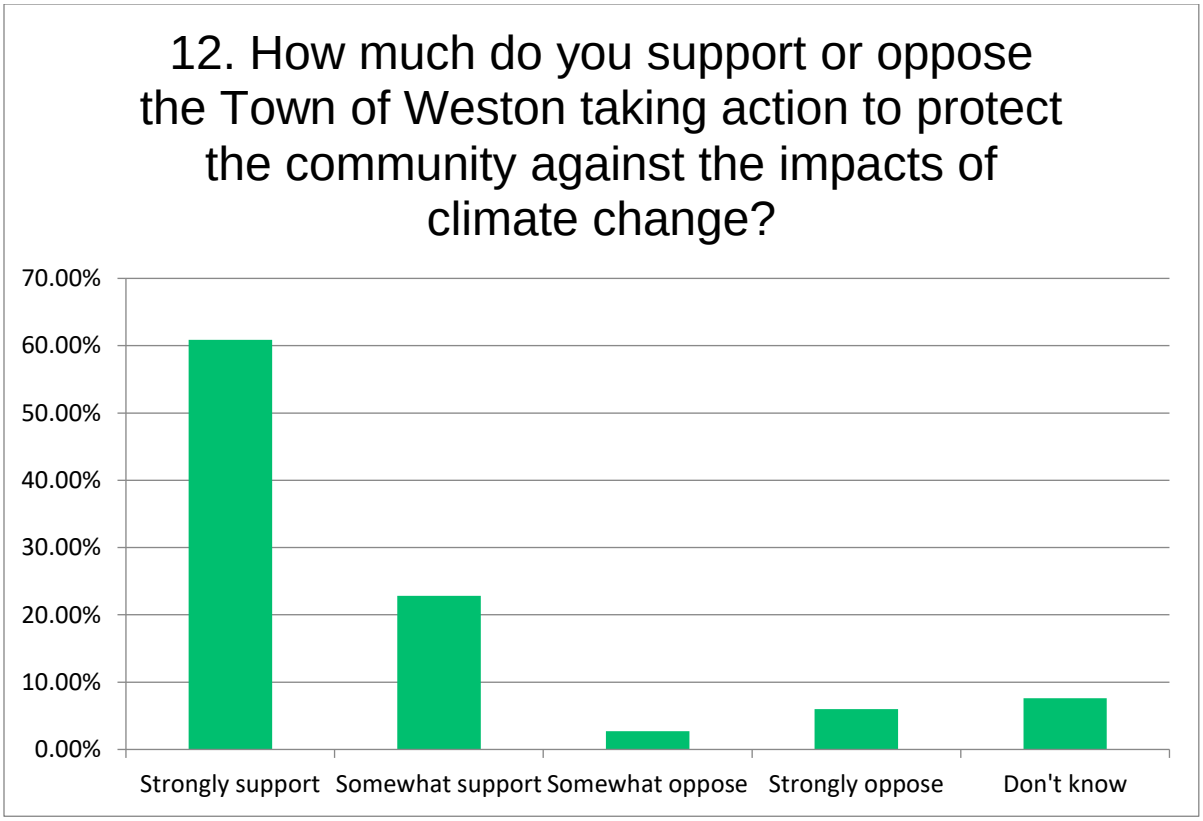
- Spare lights and water
- Hard to prepare our *personal property/home* for something that is a *global* issue, but we have trimmed trees back. Not a whole lot else one can do.
- Solar electricity, generator, multiple fuel source options for heat and cooking, wood supply for fireplace, long term storable food and water.
- Tree clearing, buying a generator,
- Our house is newer construction and very energy efficient. No large trees surrounding the house that could fall.
- Home repairs - new improved roof, keeping up with weather-sensitive outdoor projects like tree work. Keeping landscaping and lawn work focused on native and organic solutions. And making sure that home systems are in good repair for heating, cooling etc. Also trying to be as environmentally responsible when doing all of the above.
- Own generator, have installed sump pump in basement
- We try to decrease our use of natural resources (limit driving, regulate heat in our home, no air conditioning, recycling, buy local products) to help prevent climate change. We have not really prepared our home in any specific way.
- We have emergency food and water pump
- Supplies at home in case of power outages, good drainage, good insulation, solar power (decreasing need to draw on grid)
- We have done extensive tree maintenance-- including pruning, fertilizing and some removals to minimize risk and to boost the health of the remaining trees. We have done drainage work to better manage water run-off on our property-- but sadly we still get runoff from our neighbor's driveway and slope as well as the street when there is a hard rain. The velocity of the runoff bypasses the street drains entirely and takes a different path during the heavy rain events. Also, We have insulated our house to better manage the heat/cold.
- We have a generator, water alarm system ,and regular monitor the trees in our yard (and prune them).
- Growing more of my own food. Finding resources closer to home and trying to look to resources that are less fossil-fuel-energy intensive.
- The biggest issue in Weston is over development. The runoff from flooded streets is because of multiple large dwellings getting built near my house. not climate change.
- A new home with all new energy efficient utilities, cell-foam insulation, storm water infrastructure and all other construction/landscaping features up to code etc.
- Generator, well, underground electric

- Installed a generator, took down trees, installed new heat and ac, emergency supplies
- None
- Very little.
- I took down limbs or tree that could damage house in a windstorm.
- Trim the tree to prevent the high wind blow tree fall to the electricity pole to have damage.
- Electric car, energy efficient windows, better insulation attic, all Energy star appliances, lightbulbs. Looking into solar panels but cost is a factor
- Keep area around home clear of growth, large trees. Insulate home to prevent ice damage.
- Want to install solar panels
- Have stocked several months of food, water & survival supplies.
- Trimming Trees around house. Removed Pool, save water / electricity.
- We live very economically. We may need to replace our air conditioning system.
- We make sure our trees are in good health to avoid them falling on the house, the garage and wires. We have highly efficient Mitsubishi AC/Heat units in each room that allows us to cool/heat as needed.
- More energy efficient heating and cooling to limit our carbon consumption. Recycling, energy efficient car.
- After the ice storm, we finally insulated the attic of our old house, and that has been a big improvement. Of course, the acid test would be another ice storm, which fortunately we have not had.
- Installed heat pump and upgrade insulation to reduce oil use, bought an electric car, MassSave audit and LED lights throughout, changing behavior / awareness around energy use.
- Generator, chain saw, supplies, live high enough that flooding is currently not a big issue (was in former homes so something we paid attention to)
- Trimmed trees, cleaned storm drains, bought sump pump
- Climate change is a hoax to get special interest funding.
- Removed a few tall trees that were leaning over house. installed new windows and used mass saves to insulate attic (house is 100+ years old).
- None in particular.
- Two months of supplies on hand. Heat and AC checked every six months. Generator.
- Build energy efficient house and reduce resource consumption and waste. Reduce/limit usage of plastic.
- Graded land to build house at slightly higher elevation (and wetlands on property that are nature's protection for us); waterproofed basement; have generator
- Home energy audit. Installed generator. Installed high performance insulation. Updated sump pump. Installed B-dry in the basement.

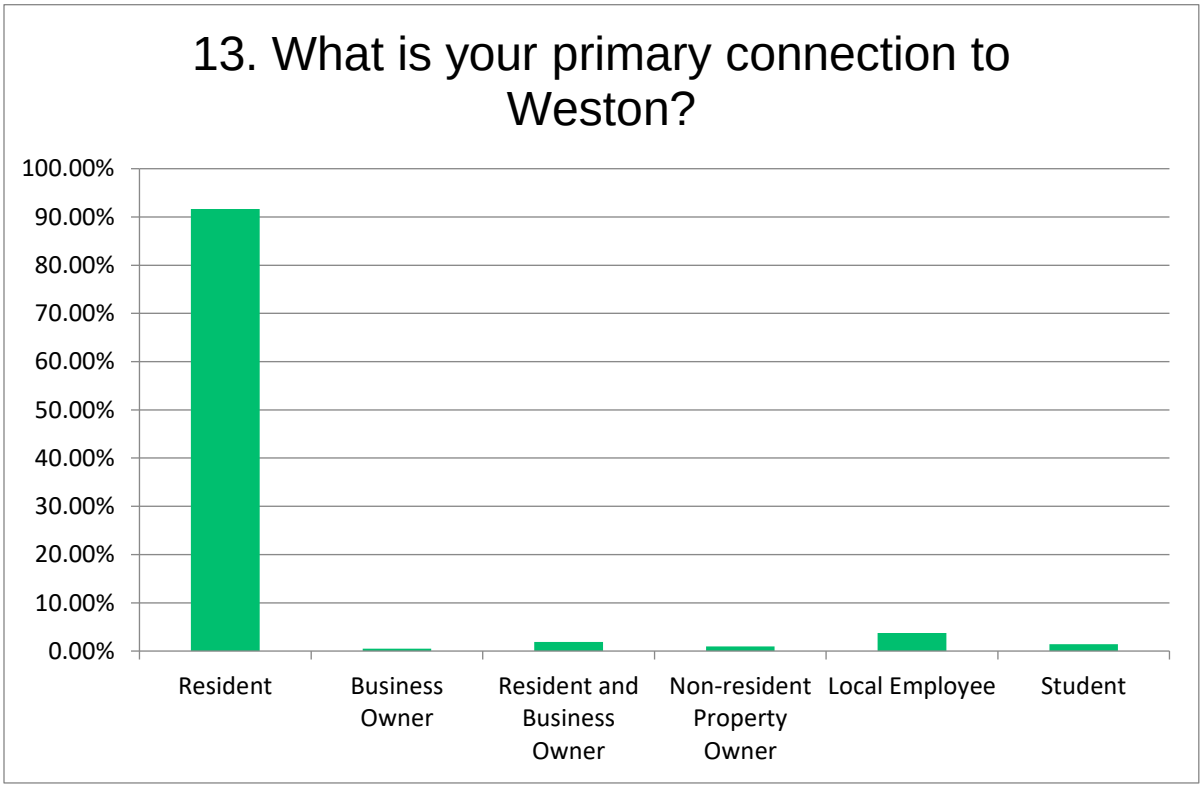
- Reroof house, maintain pruned trees and foliage, insulate house, no pesticides or leaf blowing
- Re-shingled the roof.
- "Improve exterior of house to be more storm resistant.
- Put in more resilient plantings (trees, etc.), geared towards higher heat and increased wind/storms. "
- My focus has been on trying to prevent climate change. I think that's where Weston's efforts should be directed.
- We have a generator and try to trim the trees surrounding our home to the extent that we can considering town restrictions.
- Idling less
- I believe Weston has to be prepared for all of the above because they are natural consequences to weather. I do not believe anything mentioned above to be climate change but natural weather changes.
- Cut down some old, damaged trees.
- We have cleared trees that are at risk of falling from strong winds near our house and we have installed a generator to give us energy if we lose power. We lose power from storms quite frequently so that is very important.
- Having access to food and water outside of grocery stores
- Tree trimming and removal.
- Re-roofed the house, improved and maintain good outdoor drainage, keep our woods cleaned up to reduce fire hazard
- We haven't done anything consciously. I suppose we may be more prepared than most in that we have money saved and are physically and emotionally close to our family -- good financial and social support. Also, we don't own a car, are hopefully going to be growing a very small amount of our own food and use little energy. We both work from home, so we have flexibility that could help in the event of weather emergency. Our house is on a hill and it's rare that the basement floods.
- Installed home generator; use Eversource app to report outages; First Aid kit; evac plan
- Reduce carbon footprint
- Take down compromised trees; improve drainage; energy efficient windows.
- Retired, sold house, joined SWAG
- Maintain heating and cooling equipment. Have trees evaluated every other year. We have lots of pines which have shallow roots.
- Closed cdll foam insulation, energy efficient C/A
- Installed a generator
- We have triple-paned glass. Would like solar-heating, but aspect of house doesn't permit it.

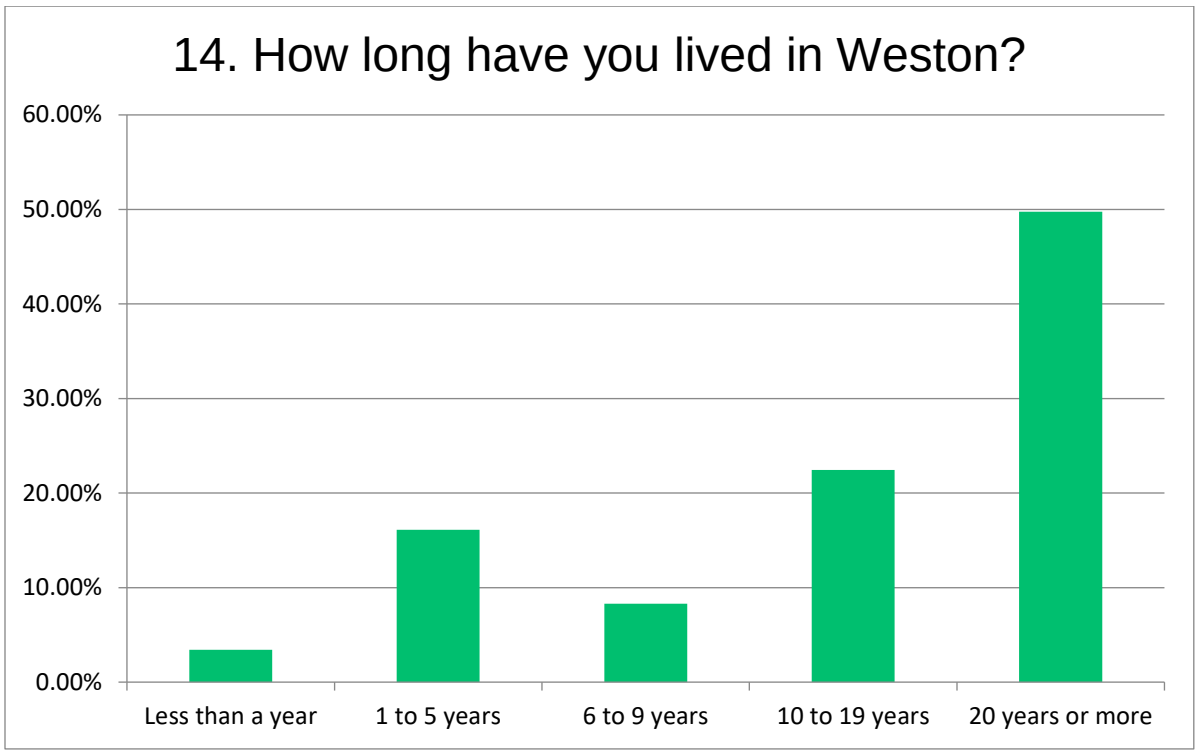
- Trying to use fewer resources (e.g. electricity, water), trying to make my home damage-resistant (e.g. generator, French drain/sump pump, new roof), recycling all possible materials and making sure they are clean
- Changed my power source to wind and sun only
- Reduce emissions by driving hybrid car and driving less. Prepared emergency food/supplies container.
- We try to take care of our landscape, encourage planting of shade native trees, do not water lawn, limit use of pesticides, consume as little as possible, avoid plastic as much as possible--a challenge.
- Installed generator
- Portable Generator, hand tools, chainsaw, alternate internet access, hdtv antenna
- We try to maintain our home and property in good condition. Trees do pose a potential threat in terms of their size and proximity to the house, in the event of major wind-or-snow-informed storm activity.
- None
- Electric car. Recycle. Buy 'environmentally friendly' products. Vegetarian. Conscientious about purchases.
- Not many, just hoping for the best to be honest.
- Hope for the best. Vote Democratic.
- Stored extra water and emergency supplies
- Trimmed and removed a few trees. Cleared low lying areas so water can flow to natural streams.
- Invested in insulting our 1927 home and replaced all windows.
- Store food and cash reserves
- Reduce water waste, recycle, buy local
- Install Generator
- Emergency team
- When is climate change occurring? Do you know? Again, too much ado about nothing. They cannot predict tomorrows weather but based on failed science they want to imposed high economic burdens (more taxes and expenses to be used by politicians' progressive causes) with no end in sight.
- Installed a generator
- None
- Removed trees near house. Installed whole house electrical surge protectors. Had ground contours altered w/ new swales to guide water away from house.
- Cut down large pine tree near house.
- Solar panels
- Increased insulation and reduced infiltration
- "Insulation, using less water, looking into alternative heating and cooling methods.

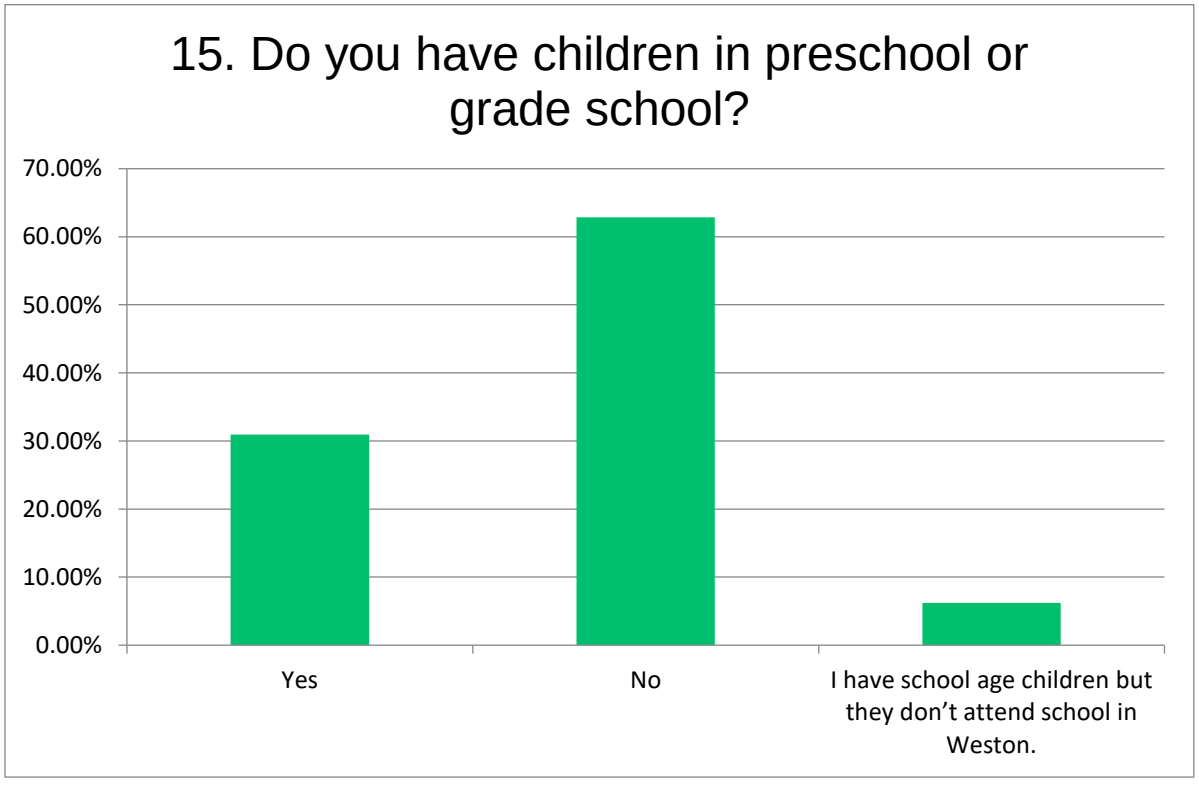
- Planted native plants and fescue lawn that can survive drought better; have generator; had trees pruned for dead wood
- Cut down trees that could fall on our house. Installed solar panels and a battery in case of power outages.
- Weston owns 1,800 acres of conservation land. this protected land is a good buffer to compact the impacts of climate change.
- My expected life expectancy is too short for me to be much concerned personally.
- Could not afford generator, so really have been able to undertake no efforts to prepare our home.
- Improve insulation so less heating/cooling is necessary, investigated solar power (but unable to use that on current roof because of house setting), consulted with MassSave for further possible moves, try to conserve in all ways.
- Taken down rotten/bad trees that could damage house.
- Trimmed or cut down trees. Let natural vegetation grow in place of grass that needs watering.
- Keep emergency supplies
- Removed trees near house
- No preparation needed, it's happening but it's a chronic problem, not acute threat
- I keep my home in excellent condition and the land around it. If branches, etc. come down in a storm I know the people to call to help. the house is keep full of food and Water all the time.
- Effective sump pump, maintain/remove unhealthy or unsafe large trees, keep nothing valuable in basement, periodically burn brush so it does not pile up
- We are not in an area subject to flooding. We have solar panels and a back-up generator
- Work in Weston - Prepare for droughts via water distribution planning , equipment replacement in a timely manner, training of personnel, etc.
- None
- Planting local plantings; have a generator; drink only bottled water
- Cut down some trees near the house that had rot.

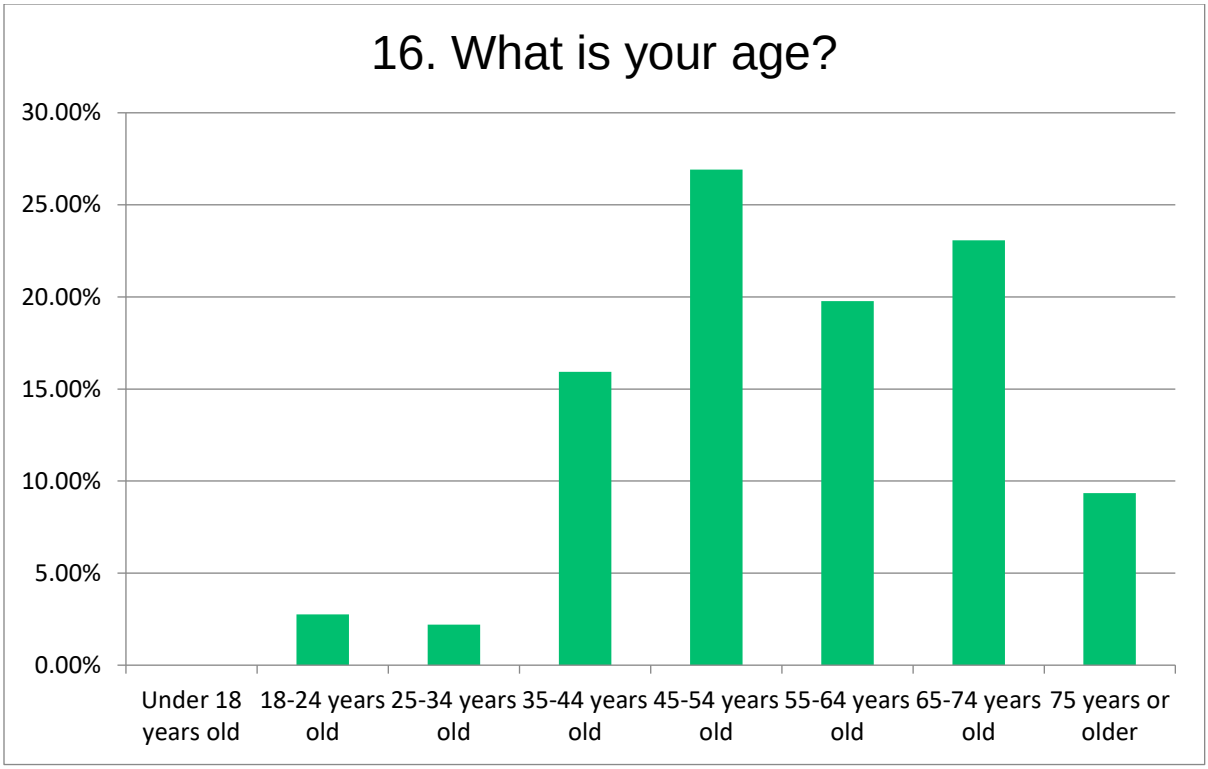


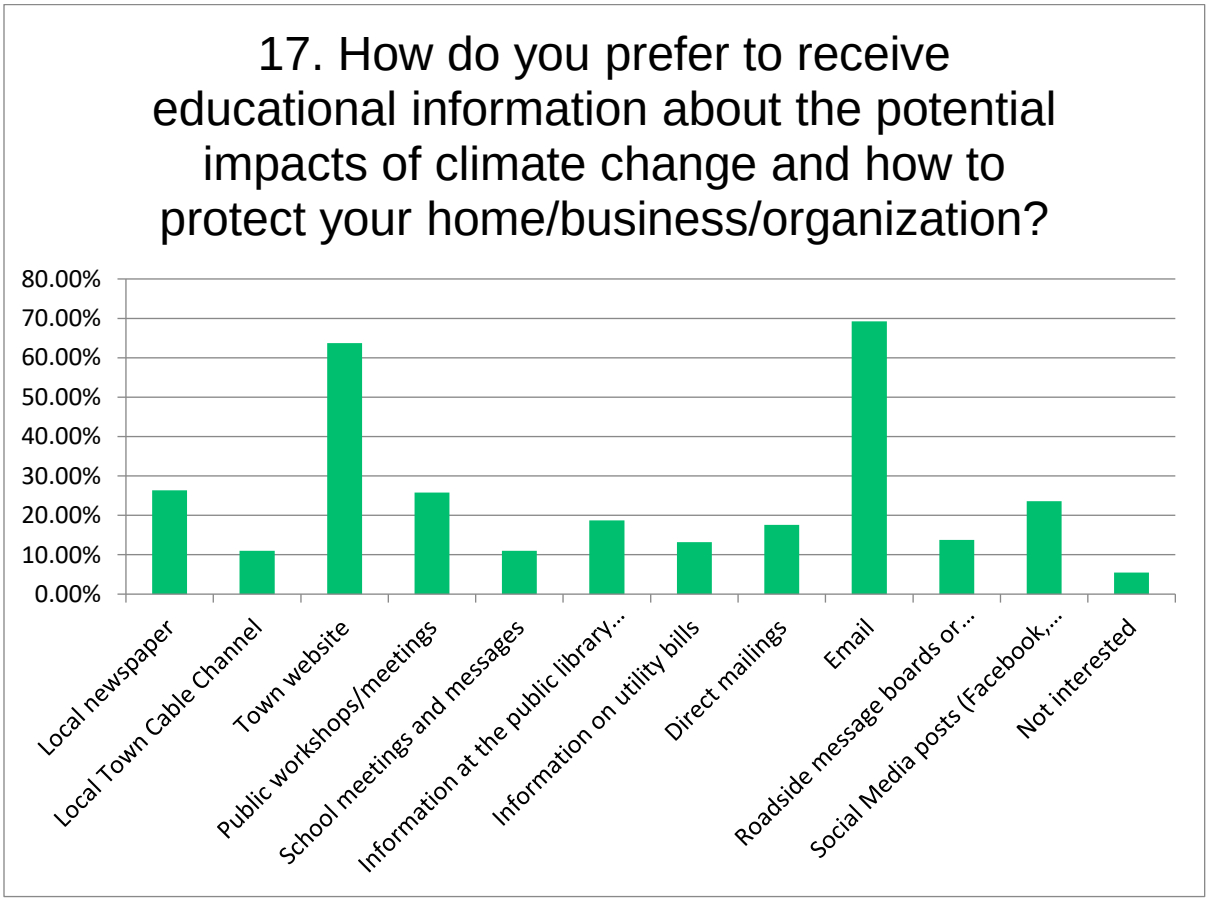
Demographics




14. How long have you lived in Weston?
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Less than a year
1 to 5 years
6 to 9 years
10 to 19 years
20 years or more


15. Do you have children in preschool or grade school?
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Yes
No
I have school age children but they don't attend school in Weston.


16. What is your age?
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Under 18 years old
18-24 years old
25-34 years old
35-44 years old
45-54 years old
55-64 years old
65-74 years old
75 years or older


17. How do you prefer to receive educational information about the potential impacts of climate change and how to protect your home/business/organization?
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Local newspaper
Local Town Cable Channel
Town website
Public workshops/meetings
School meetings and messages
Information at the public library...
Information on utility bills
Direct mailings
Email
Roadside message boards or ...
Social Media posts (Facebook,...
Not interested