Berkley MVP Listening Session

Resilient Taunton Watershed Network (RTWN)

SRPEDD
Southeastern Regional Planning & Economic Development District

The Nature Conservancy
nature.org

Mass Audubon

The Municipal Vulnerability Preparedness(MVP) Program



State and local partnership to build resiliency to climate change

1. Engage Community
2. Identify CC impacts and hazards
3. Complete assessment of vulnerabilities & strengths
4. Develop and prioritize actions
5. Take Action

The MVP Program is a state and local partnership that:

- Is locally led and collaborative
- Accessible
- Utilizes partnerships
- Mainstreams climate change
- Informs local planning efforts and promotes local innovation
- Positions municipalities for funding opportunities in a coordinated statewide effort

MVP Resources

COMMUNITY RESILIENCE BUILDING WORKSHOP(S)

- Define and characterize hazards using latest science and data
- Identify existing and future community vulnerabilities and strengths
- Develop and prioritize community adaptation actions
- Identify opportunities to take action
- Receive MVP designation

MVP Planning Grant

MVP Action Grant

Implement priority adaptation actions identified through planning process

MVP CORE PRINCIPLES

Multiple benefits to a broad cross-section of the community

Robust community engagement

Address community identified climate change priorities

Monitoring & maintenance

Proactive solutions supported by climate data

Improve outcomes for Environmental Justice communities

Prioritize Nature-based Solutions

Think beyond borders

Innovative & transferable

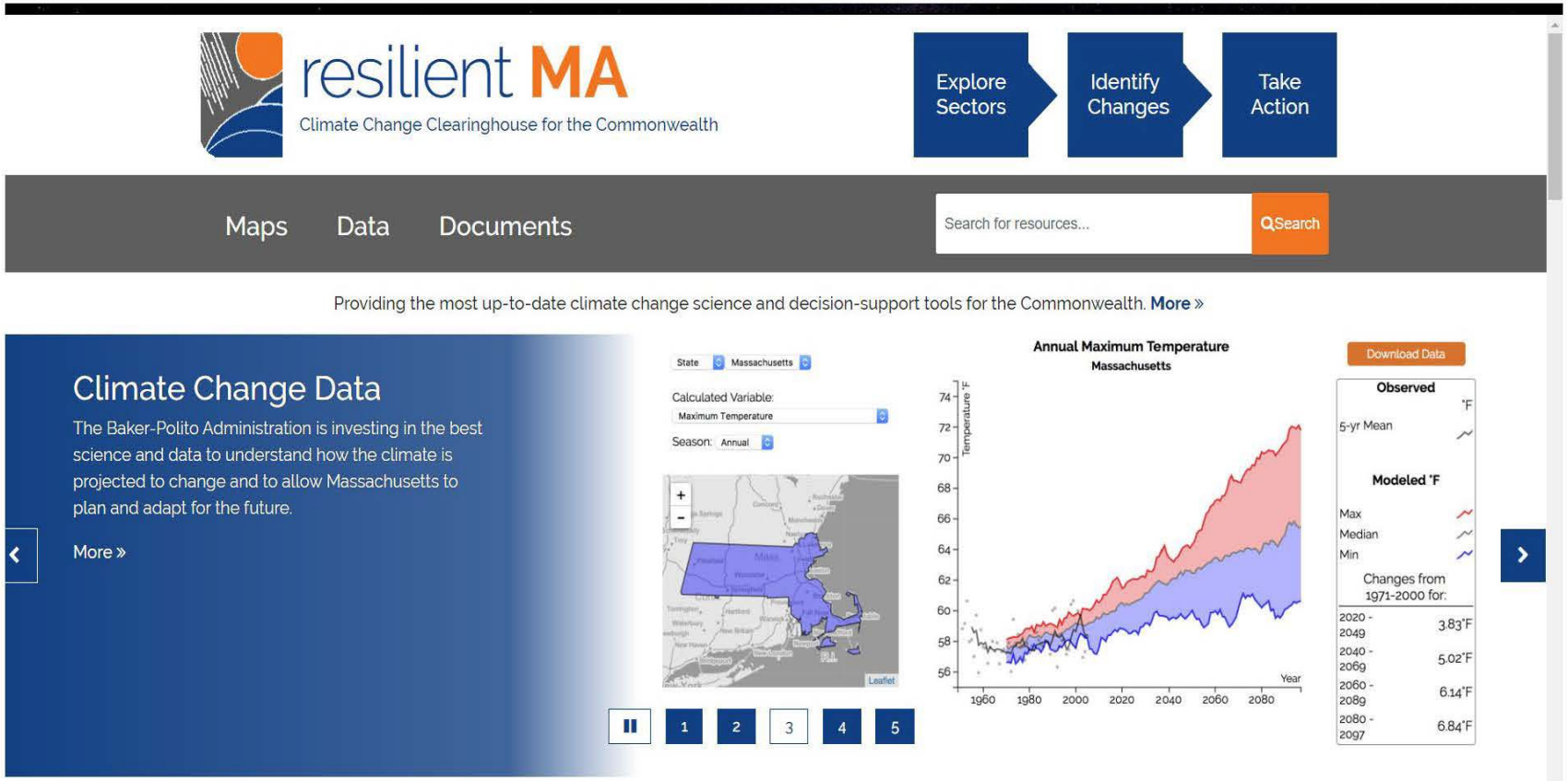
Climate resilience is the ability of a community to address the needs of its built, social and natural environment to anticipate, cope with, and rebound stronger from events and trends related to climate change hazards.

Resilient communities don't just recover—they ***continuously build capacity*** to reduce the impacts of future climate events.

Climate Change in Massachusetts

A comprehensive source of state climate change related data is available at www.resilientma.org

Climate Data and Projections



Massachusetts
Observed Climate Changes

Temperature: 2.9°F
Since 1895 (Statewide)

Growing Season: 15 Days
Since 1950

Sea Level Rise: 11 inches
Since 1922 (Boston)

Heavy Precipitation: 55%
Since 1958

Source: Climate Science Special Report, 2017; NOAA NCEI nClimDiv; NOAA Ocean Service

Massachusetts Climate Changes Projected by the 2090s

Temperature	**7.2°F** Average Annual; Range: 4 to 11 °F
90°F Days	**34** Annual; Range: 11 to 64 days
Sea Level Rise	**4 to 10.2 feet** Relative to mean sea level in 2000
2" Precipitation Days	**47%** Annual

Source: Northeast Climate Adaptation Science Center

Changing Energy Use and Demand

More Warm Winter Days, Less Heating Demand

(based on annual Heating Degree-Days, base 65)

26.2%

by the 2090s

1971-2000 Average:
6839 Heating Degree-days

More Warm Summer Days, More Cooling Demand

(based on annual Cooling Degree-Days, base 65)

178%

by the 2090s

1971-2000 Average:
457 Cooling Degree-days

Photo © Daniel Brown

Source: Northeast Climate Adaptation Science Center, ResilientMA.org, accessed 2018.

Extreme Heat in Massachusetts

	Current		Projected by Mid-Century
Days per year above **90°F**	≤15	↑	+30 to 40
Days per year above **95°F**	≤5	↑	+3 to 9
Days per year above **100°F**	≤1	↑	+1 to 5

Source: NOAA NESDIS

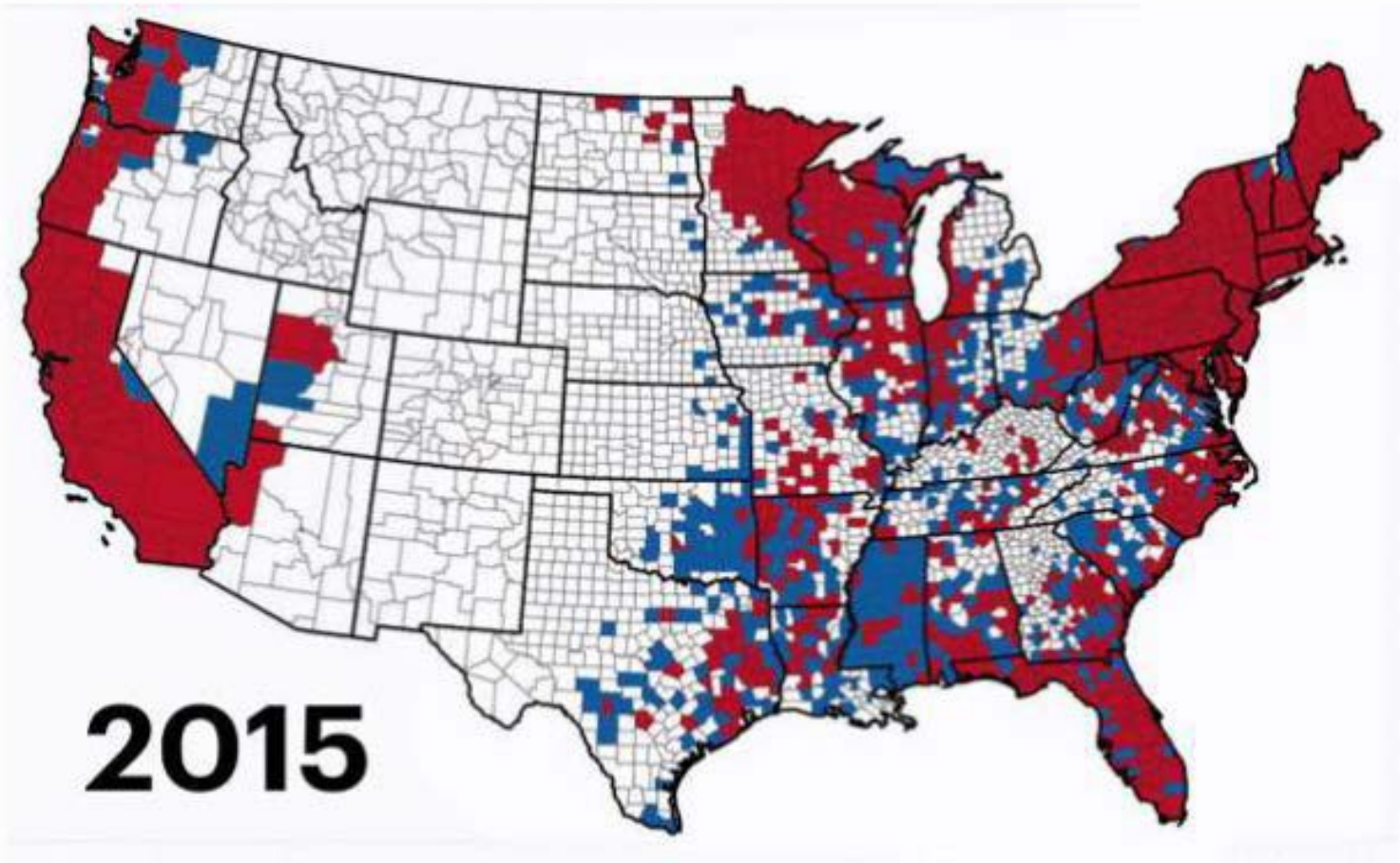
Impacts from Increasing Temperatures

- Public health
  - Increase in heat-related illnesses and mortality
  - Urban residents face greater risks
- Health of plants, animals, and ecosystems
  - Increased pests
  - Changes to growing seasons
- Economic sectors
  - More sick days due to heat-related illnesses
  - Reduced crop production and impacts to livestock and fisheries
- Infrastructure
  - Larger demands on energy systems
  - Stress on train tracks, roads and bridges, and other critical infrastructure

Impacts from Changing Precipitation Conditions

- Increased total rainfall
  - Impact on the frequency of minor but disruptive flooding events
  - Impact agriculture, forestry, and natural ecosystems
- More intense downpours
  - Increased risk of flooding
  - Increased damage to property and critical infrastructure
  - Impacts to water quality
- Changes to rainfall and snowfall patterns
  - Impacts to certain habitats and species with specific physiological requirements
  - Reduced snow cover for recreation and tourism
  - Potential increase in frequency of episodic droughts

Public Health:
Ticks and Lyme Disease



Nature-based Solutions

Nature-Based Solutions *use* natural systems, *mimic* natural processes, or *work in tandem with* traditional approaches to address natural hazards like flooding, erosion, drought, and heat islands.

Green Infrastructure

Low Impact Development (LID)

Baker Administration's Support

"Projects that propose **nature-based solutions** or strategies that rely on green infrastructure or conservation and enhancement of natural systems to improve community resilience will **receive higher scores**."

EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

Matthew A. Beaton, Secretary

Grant Announcement

Commbuys Bid # BD-18-1042-ENV-ENV01-25921

Request for Responses (RFR) ENV 18 POL 03

Dated: April 13, 2018

MUNICIPAL VULNERABILITY PREPAREDNESS GRANT PROGRAM (MVP)
IMMEDIATE NEEDS ROUND FY 18

MVP ACTION GRANT

1. Grant Opportunity Summary

cal assistance for municipalities who have
f Energy and Environmental Affairs (EEA) as
edness (MVP) Community ("MVP
tions identified through the MVP planning
sessment and action planning that has led to

bility Preparedness Grant Program supports
Climate Change Strategy for the
l technical support to cities and towns to
ate change vulnerability assessments and
resilience to top natural and climate-related
(CRB) Workshop Guide
ogram is split into Planning Grants, which
, leading to designation as an "MVP
through this opportunity), which seek to
implement key priorities and projects identified through the MVP Planning Grants.

C. **ELIGIBLE PROJECTS**: Funding is to advance priority climate adaptation actions identified by "MVP Communities" to address climate change impacts resulting from extreme weather, sea level rise, inland and coastal flooding, severe heat, and other climate impacts. (See further detail on eligible projects in **Section 2B**.). Projects that propose nature-based solutions or strategies that rely on green infrastructure or conservation and enhancement of natural systems to improve community resilience will receive higher scores.

Funding

Certified MVP Communities Receive Priority Ranking

MVP Action grants are only available to MVP certified communities

Some of the other grant programs under which MVP certified communities can receive priority ranking include:

- MA Clean Water State Revolving Fund Program (CWSRF)
- MA Office of Coastal Zone Management (CZM)
- MA Department of Agricultural Resources (MDAR)
- MA Executive Office of Energy and Environmental Affairs (EEA)
- MA Department of Environmental Protection (DEP)
- Mass Environmental Trust (MET)
- MA DCS LAND and PARC Grants

MVP Action Grants: Project Types

- Detailed Vulnerability and Risk Assessment
- Community Outreach and Education
- Local Bylaws, Ordinances, Plans, and Other Management Measures
- Redesigns and Retrofits
- Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques
- Nature-Based, Infrastructure and Technology Solutions to Reduce Vulnerability to Extreme Heat and Poor Air Quality
- Nature-Based Solutions to Reduce Vulnerability to other Climate Change Impacts
- Ecological Restoration and Habitat Management to Increase Resiliency
- Energy Resilience
- Chemical Safety
- Land Acquisition for Resilience
- Subsidized Low-Income Housing Resilience Strategies
- Mosquito Control Districts

Example Action Grant Projects

Land Acquisition for Resilience

Mattapoisett

Purchased 120 acres of forest, streams, freshwater wetlands and coastal salt marsh as conservation land to prevent development in vulnerable areas

Data utilization

Proactive

Example Action Grant Projects

Nature-Based Flood Protection, Drought Mitigation, Water Quality, and Water Infiltration Techniques

Belchertown

Designing and permitting for a replacement water storage tank that would increase storage capacity and resiliency to drought, and completing a feasibility/ concept design of a rainwater harvesting system at Belchertown High School to irrigate the athletic fields.

Nature-based solutions

Pilot potential

So, what did we do next?

Next . . . we planned !!!

Overview of the Process (Steps & Tasks)

Part I:

Part 2:

DURING WORKSHOP

A Prepare for the Workshop
1. Establish a core team with goals.
2. Engage stakeholders.
3. Prepare materials for workshop.
4. Decide on participant arrangements.

B Characterize Hazards
1. Identify past, current, and future impacts.
2. Determine the highest-priority hazards.

C Identify Community Vulnerabilities and Strengths
1. Identify infrastructural vulnerabilities and strengths.
2. Identify societal vulnerabilities and strengths.
3. Identify environmental vulnerabilities and strengths.

D Identify and Prioritize Community Actions
1. Identify and prioritize infrastructural actions.
2. Identify and prioritize societal actions.
3. Identify and prioritize environmental actions.

E Determine the Overall Priority Actions
1. Identify highest-priority actions.
2. Further define urgency and timing.

F Put It All Together
1. Generate final workshop products.

G Move Forward
1. Continue community outreach and engagement.
2. Secure additional data and information.
3. Inform existing planning and project activities.

Community Components

Infrastructural

Societal

Environmental

Community Resilience Building Risk Matrix

www.CommunityResilienceBuilding.com

H-M-L priority for action over the **S**hort or **L**ong term (and **O**ngoing)
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					Priority	Time
								H - M - L	Short Long Ongoing
Infrastructural									
Societal									
Environmental									

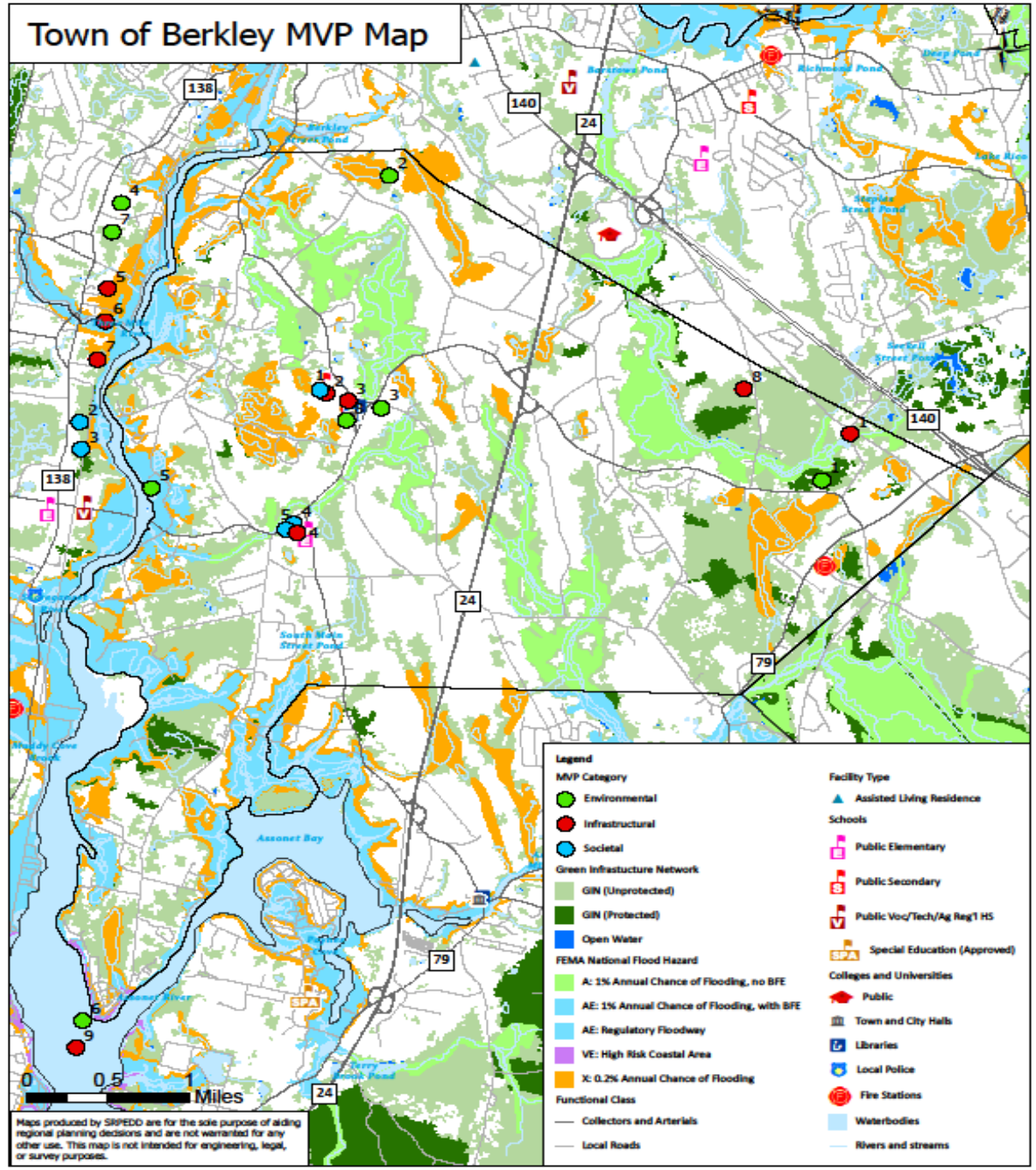
Action ID from GIS (no order)	Features	Location	Ownership	V or S	Extreme Storms	Flood/Drought	Wind		Priority	Time
Infrastructural									HML (high, med, low)	SLO (short, long, ongoing)
1	Holloway and County Street: road design - transportation hazard; flooding; waterline project; culvert at Cotley Brook			V	Holloway & County St, on Cotley Brook, at former Package Store (then contractor, then burned down, now vacant) on blind curve (poorly designed road – shop lined corner), flooding, undersized culvert – could address multiple problems at once with update, Whole area vulnerable to pollution – water access line to area should be considered (town already looking at)				H	S
2	Communication Network	Tower	Town	S	Emergency Communications Infrastructure – working to address with ARPA funding (strength), good and recent improvements					
3	Public Safety Building is undersized for current needs/services	Town Green	Town	V/S	Public safety building – 20yrs old, too small to meet needs – currently houses police & fire – could house one, but not both - need new building, needs planning				H	O
4	Elementary school, numerous issues	Town	Town	V/S	Elementary School – flooding, mold, needs updates to meet code, Building too close to roadway – traffic issues, Both schools – only one way in and out – traffic / safety issues, Officer directs traffic – won't be available in future, Current feasibility study, mold, leaks, structural, etc; traffic design issues (access-egress)				H	S
5	Lack of sidewalks	Various	Various	V	Need more sidewalks around town (many roads not wide enough?), Complete streets grants could be funding source, Covid – more people on streets, people walk dogs, big concern, High priority on Locust St, Middle school to commons				M/H	O
6	Town roads need attention	Various	Town	V/S	Roadway maintenance needed – increasing traffic from bridge – roads can't accommodate, Patched roads to extend life, but hazard because slippery (especially for motorcycles), need to be repaved				H	O

7	Stormwater management tech. assistance/education	-	Town	V	MS4 compliance – need capacity/tech assistance (currently Town Admin responsibility, difficult to keep up with requirements), Consider hiring consultant to manage reporting / set up report structure & management plan for town to keep updated, Need to restart public education campaign, Consider requesting waiver from MS4 – eligible?, Town bylaws – discussed in past, but nothing done yet	H	S/O
8	CEMP update to accommodate impacts of SCR	Town	Town/SCR	V/S	South Coast Rail – CEMP update to accommodate impacts, regional chiefs group working with state for updated rescue equipment and trainings for rail line, Community impacts – 80mph trains 22x/day – expect car & people crashes at 4 separate crossing locations, Noise impacts will impact rural community character (town can't afford additional costs for "Quiet crossings", High priority when construction of railway complete (expected end of this year) – will need to prepare for opening and continue to work on it ongoing, Need regular meetings with MBTA (weekly meetings scheduled, MBTA often cancels), Regional Chiefs group/County wide equipment needs and emergency access issues	H	S/O
9	Navigational focuses on the Taunton River (rocky areas, shallow, etc.)	-	-	S/V	Taunton River – hazards to navigation (sunken rocks, trees, other debris) – were marked with buoys by Taunton River Association – no longer active, markings not kept up to date, More use of river from weir park ramp (taunton) – boats, jetskis getting stuck, call for help (town can't access)	M	O

Action ID from GIS (no order)	Features	Location	Ownership	V or S	Extreme Storms	Flood/Drought	Wind		Priority	Time
Societal									HML (high, med, low)	SLO (short, long, ongoing)
1	Sheltering	Middle School	Town	S	Sheltering is strength – one shelter (Middle school) – adequate capacity, Shelters – open new shelter now, have to provide accommodation for dogs, cats, Opened a winter shelter once for 48hrs – had 6 people				H	O
2	Heating/Cooling Stations	Various	Town		Establish heating/cooling station – long term, future need, Never opened a cooling center, never received calls for need, If at school – would need to shut down school every heat wave (concern), long-term should be at town hall?				H	O
3	Pet Sheltering	Middle School	Town	S	Establish pet sheltering				M	O
4	Elementary School	-	Town	V	no cooling, heating costly, maintenance needs (built 1960s)				H	S
5	Plan facility for expected enrollment born in a few years	Elementary School	Town	S/V	Preschool at elementary school – 2 programs, sliding payment scale for affordability – looking to expand, provide all day, working to accept state vouchers (will be only town in region – but difficult process), Schools feasibility study may project need to expand school (expecting enrollment increase ~5yrs from now from increased birth rates – COVID babies 3x birthrate of previous 5yrs)				M	O

Action ID from GIS (no order)	Features	Location	Ownership	V or S	Extreme Storms	Flood/Drought	Wind		Priority	Time
Environmental									HML (high, med, low)	SLO (short, long, ongoing)
1	Preserve the airport land	Paddelford St	Private	V/S	Privately owned air strip (owner passed – will stated could only be used for airport use) – open space currently, important flood storage, concern of losing to development, Adjoining street – Holloway street contaminated wells, Still owned by wife, but elderly – high priority in short term				H	S
2	Fernandes Farm	Jerome St	Private	S/V	Jerome St – Fernandes farm – don't expect family to leave but may sell farm property if can't afford to maintain, potential APR				H	S
3	Fournier Farm	Locast/Procter	Private	S/V	Fournier's Farm – Locust & Porter – concerned about losing to development, APR would be good program for property, Current generation farmers, next generation won't be – no one to inherit, continue farm, Town lacks funds for right of first refusal for purchasing chapter lands (could adopt funding mechanism like Dighton's rollback program – when property pulled out of program, back taxes go into town fund for future purchases), (development impacts of these properties will stress all depts, protection will also protect aquifer…)				H	S
4	No river access/ 11 river miles	Assenot R, Taunton R	Private	V	100mi waterfront on 2 rivers – no public access, no boat launch access – town has no access to water (except illegal ramps/docks on private property), have to leave town to get into water to get somewhere in emergency, When flooding cuts off access to roads (Bayview Rd in previous years), will need to secure waterway access (Taunton River & Assonet) for service				H	S/O
5	Marsh along Taunton	Various	Various	S/V	Berkley Street marsh on Taunton River – floods road during storms; dead cattails in Fall – fire hazard?				H	O
6	Conspiracy Agland	Taunton River	Private	S/V	Conspiracy Island (privately owned) – becomes island at high tide and people get stranded on island (current too strong to walk through water), Old growth forest, recreational opportunities, Need town access – easement for dock? Town purchase? Keep peninsula/build pier (avoid cutting off access at high tide)				H	O

Town of Berkley MVP Map



So, what were the top project choices in each category as determined by a vote of the Berkley MVP Planning Workshop group?

Top Choices

Infrastructure

1. Stormwater Management and MS4 compliance

Environmental

1. Open space protection for flood storage, aquifer protection, agricultural land retention

Social

1. Increase sheltering capacity and capabilities (heating and cooling stations, provisions for pets)

Please review the Matrices and Top Choices and share any comments by contacting Bill Napolitano (bnap@srpedd.org) or Sara Brown (sbrown@srpedd.org) by September 12, 2022.

SRPEDD

Southeastern Regional Planning & Economic Development District