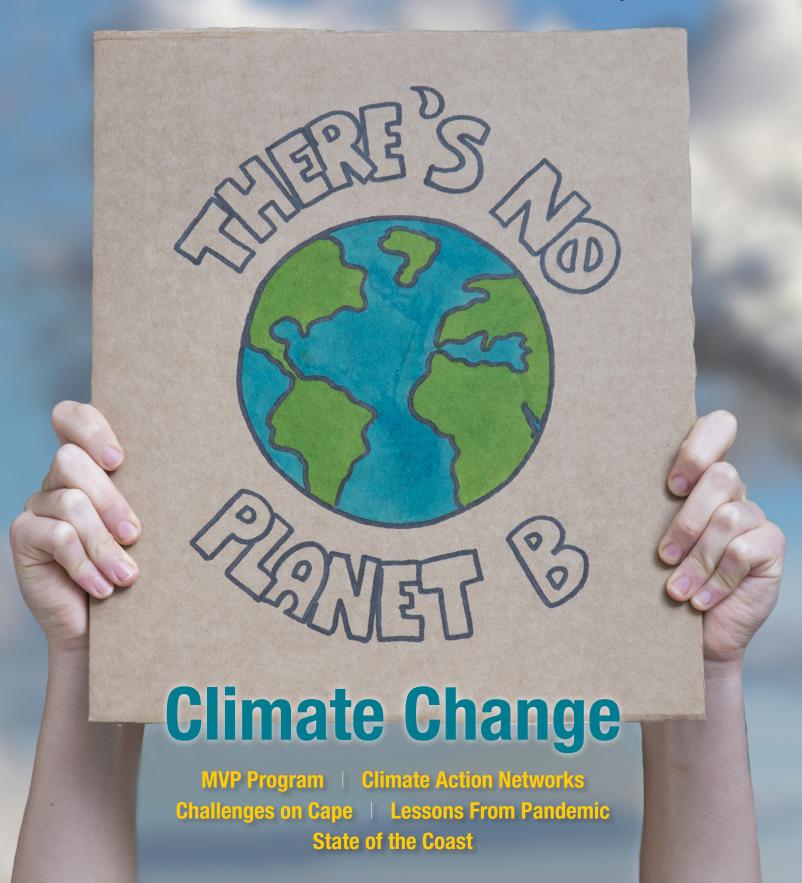
Municipal Advocate

The Massachusetts Municipal Association



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ABOUT THIS ISSUE

s a coastal state with wide swaths of dense development and infrastructure that predates the weather impacts we see today, .Massachusetts is particularly vulnerable to the effects of climate change. It is also a national leader on many fronts, with ambitious goals to reduce greenhouse gas emissions and mitigate the impacts of climate volatility. This issue explores inroads being made at the state and local level.

- The administration's Municipal Vulnerability Preparedness program provides tools—and grants—to communities to address concerns on the front line. Nearly nine in ten communities are participating in MVP, taking advantage of its assistance for planning and for the implementation of actions to mitigate storm damage.
- The Massachusetts Climate Action Network is partnering with more than one hundred cities and towns across the state to dramatically reduce emissions and purchase more local renewable energy.
- The fifteen towns on Cape Cod continue to work together, as they have for years, to develop and deploy preventative, mitigating and adaptive climate strategies.
- And there just might be some lessons learned from the COVID-19 pandemic that can help us take bold and multi-faceted action to "flatten the curve" with the same sense of urgency applied to fighting a disease.

This issue would not be complete, however, without a cautionary tale. The Trustees of Reservations is mounting a five-year effort to assess the vulnerability of five key coastal areas. Its first report has sobering news for thirteen cities and towns on the North Shore.

We hope you find this issue informative and maybe even inspiring.

How To Reach Us

e encourage readers to send their letters, comments and story ideas to the Municipal Advocate.

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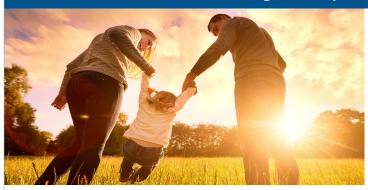
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RESOURCES

Livable Cities

hat does "livable" mean? An extensive report from National League of Cities, Livable Communities: Innovative, Inclusive and Equitable Cities, exam-



ines the demographic, economic and transportation characteristics associated with livable communities and aims to provide a framework for considering existing policies and practices as well as presenting current examples. The report also provides a Scalability Assessment tool to help cities determine what policies could be implemented in their specific circumstances. To download the free report, visit www.nlc.org/resource/livable-communities-innovative-inclusive-and-equitable-cities.

Energy Efficiency

The Massachusetts Department of Energy Resources' Energy Efficiency Division develops and implements energy efficiency policy across the state. The division offers energy rebates and incentives, as well as strategies for improving energy efficiency in the home and other efficiency-based programs. Visit www. mass.gov/orgs/energy-efficiency-division.

Rethinking Infrastructure

A joint effort by International City/County Management Association and Siemens, Smart Communities: Rethinking Infrastructure Report, examines smart



technology being deployed by communities in their energy and water sectors, including a case study from Cambridge. Deploying smart technology in city infrastructure can help cities meet

Descriptions in "Resources" are based on materials provided by publishers, associations and government agencies. Their inclusion does not constitute an explicit endorsement by the MMA. climate, energy and sustainability goals. To download the report, visit icma.org/documents/smart-communities-rethinking-infrastructure-report.

Emissions Strategies

A report from the National Complete Streets Coalition, Driving Down Emissions: Transportation, Land Use and Climate Change, provides five strategies for putting a dent



in the growth of emissions while focusing on improving equity within society. With a complete transition to electric-powered vehicles still a ways off, the report looks at solutions that move away from the necessity of car use and ownership, including safety in street design for cyclists and pedestrians, and increasing housing options where less driving is required. To download the free report, visit smartgrowthamerica. org/resources/driving-down-emissions.

Climate Change Adaptation Coalition

The Massachusetts Climate Change Adaptation Coalition works to make Massachusetts as resilient as possible in the face of an already changing climate. For a list of helpful resources, visit www.massadapt.org/resources.php.

Protecting Land, Water and Health

The Environmental League of Massachusetts works to preserve the state's natural resources by supporting compact and walkable communities, encouraging funding for environmental programs, building an up-to-date transportation system, and ensuring the sustainable management of water resources and parks. For more information, visit www.environmentalleague.org.

Climate Justice

Climate Action Now, based in western Massachusetts, is a grassroots and volunteer-based organization fighting for climate justice and a community-centered response to climate change. CAN has five working groups: State

Legislation, Carbon Fee and Rebates, Stop the Columbia Expansion Plan, Regenerative Farming, Forests and Food Systems Alliance, and Racism-Climate Change Connections. For more information, visit climateactionnowma.org.

Underrepresented Populations

Areport from International City/County Management Association, Beyond Compliance: Recruitment and Retention of Underrepresented Populations to Achieve



Higher Positions in Local Government, highlights local governments strategies that have worked to increase diversity and foster inclusiveness. The report contains recommendations for local leaders who are ready to build the programs, and hiring and retention strategies that are equitable and recruit the best possible candidates for positions within local government. To download the report, visit icma.org/beyond-compliance.

Basic Income

The National League of Cities has published Basic Income in Cities: A Guide to City Experiments and Pilot Projects. The report and toolkit sees cities



as uniquely positioned to innovate and experiment in finding solutions to wide-spread concerns. Identifying four major economic challenges faced by cities: automation, precarious work, economic insecurity and growing inequality, the report lays out recommendations as to how a city might employ a basic income pilot program. To download the report, visit www.nlc.org/resource/basic-income-in-cities.

State of Cities 2020

The National League of Cities State of the Cities report for 2020 provides

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MIIA is supporting municipal efforts to create and sustain a thriving safety and health culture in the workplace. Key technical courses satisfying the Department of Labor Standards and OSHA regulatory compliance initiatives are available now. MIIA has partnered with the OSHA Training Education Center at Keene State College to offer our members a unique opportunity to earn the OSHA Public Sector Safety & Health Fundamentals certificates in both Construction and General Industry. The next class for MIIA Members to earn their certifications will begin Spring 2021.

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How Is Climate Change Affecting Human Health?

How is a changing climate affecting human health in the U.S.?

The U.S. Centers for Disease Control and Prevention identifies a number of health problems aggravated by climate change. Flooding increases the risk of illness and injury, and warmer average temperatures make the environment more hospitable to organisms that carry vector-borne illnesses like Lyme disease and West Nile virus. Hotter summers will increase conditions such as heat stress and heat stroke and exacerbate lung conditions like asthma, bronchiectasis and COPD. Climate change also reduces air quality, with higher temperatures boosting allergens such as pollen as well as air pollutants such as ozone.

In Massachusetts, the MVP program's Project Toolkit for cities and towns "provides guidance for understanding the intersections between public health, the health care sector and climate change, as well as suggestions for developing projects with health-related co-benefits."

If drought is an outcome of climate change in Massachusetts, does this mean we should expect more droughts, or more severe ones? How does that affect the environment?

According to the Executive Office of Energy and Environmental Affairs, the frequency of droughts can

Compiled by Lisa Capone. Questions for Ask the Advocate may be sent to: Advocate Editor, MMA, One Winthrop Square, Boston, MA 02110, or editor@mma.org.

be expected to increase in the Commonwealth due to climate change, presenting challenges for local water supplies. In addition, droughts weaken tree root systems, making them more susceptible to toppling in high winds, and weaken vegetation generally, making it less able to absorb heavy rainfalls. This is a prime example of the cascading environmental impacts caused by climate change.

Besides the MVP Program, what other grants does the Commonwealth offer to help municipalities prepare for or mitigate climate change?

AnOther forms of assistance include the Department of Energy Resources' Green Community Grants, which help cities and towns cut carbon emissions, and the Office of Coastal Zone Management's Coastal Resilience Grants, which provide funds to coastal communities and eligible nonprofit organizations to reduce risks associated with coastal storms and sea level rise impacts.

How quickly are sea levels rising and what's at risk?

Boston's Climate Ready Boston Harbor could experience sea level rise of as much as eighteen inches by 2050 and as much as three feet by 2070, compared with 2000 levels. The latter could expose more than 88,000 Boston residents to flooding and cause approximately \$1.39 billion in annualized losses from property damage, relocation costs and other expenses, according to a recent initiative report.

The Union of Concerned Scientists

finds that 75 percent of Massachusetts residents—about 4.8 million people—live near the state's 192-mile coastline and face potential damage to critical infrastructure, salt marshes, and waterfront homes and businesses due to sea level rise. The risk of sea level rise impacts has caused some insurers to cancel coverage for thousands of coastal homeowners in the Northeast, including on Cape Cod, in recent years, the union reports.

What is the Commonwealth doing to get a handle on the causes of climate change?

▲ The Global Warming Solutions Act of 2008 made Massachusetts a national leader in the adoption of a comprehensive regulatory program to address climate change, according to the Executive Office of Energy and Environmental Affairs. The law mandated that the state reduce greenhouse gas pollution by 25 percent below 1990 levels by 2020 and 80 percent by 2050. Last April, to mark the fiftieth anniversary of Earth Day, the Baker-Polito administration announced via a formal determination letter a new legal limit of net zero greenhouse gas emissions by 2050. In December, the administration released the Massachusetts 2050 Decarbonization Roadmap Report and an interim 2030 Clean Energy and Climate Plan, which detail policies and strategies to equitably and cost-effectively reduce emissions and combat climate change. The plans set an interim 2030 statewide greenhouse gas emissions target of 45 percent below 1990 levels.



Preparing the Commonwealth's Communities for Climate Change

cross Massachusetts, from the Cape and Islands to the Berkshires and every place in between, we are increasingly facing climate change impacts like extreme temperatures, intense rain and snow events, storm surges and coastal flooding, high winds, droughts, and inland

David Ismay is Undersecretary of Climate Change at the Executive Office of Energy and Environmental Affairs. flooding. These events have real-world impacts. Residents and businesses face significant property damage, loss of critical infrastructure, gaps in public services, safety risks, and, ultimately, lost economic value.

The Baker-Polito Administration is committed to combating climate change in a number of different ways, and a key strategy is providing tools to communities to address concerns on the front line. One of those tools is the

Municipal Vulnerability Preparedness

BY DAVID ISMAY

program, which provides grants and technical assistance to support municipalities in preparing their residents, businesses and infrastructure for future conditions that are different and more extreme than those they were built to handle.

The MVP program is a community-led process that makes local knowledge-sharing and collaboration its cornerstone. By providing funds for municipalities or



regional partnerships to conduct their own process, the result is a plan that is tailored to the cities and towns and their values, and has the local buy-in needed to make it work.

The town of Mattapoisett-a small municipality on the South Coast that is vulnerable to sea level rise, coastal flooding and extreme weather-is one of the communities leading the way with proactive climate action through the MVP program. Town officials have been assessing ways to increase their community's climate resiliency. Partnering with the Mattapoisett Land Trust and the Buzzards Bay Coalition, Mattapoisett was awarded a planning grant through the MVP program in 2017. After going through its planning process, the group identified a need to protect particularly vulnerable land from development, and proposed to purchase 120 acres of forest, streams, freshwater wetlands and coastal salt marsh in the Pine Island Pond area.

The group leveraged its planning grant work to apply for an action grant in 2019. The MVP program provided a \$960,000 grant to help pay for a conservation restriction to acquire and protect vulnerable land, safeguarding wildlife and more than

thirty acres of salt marsh, which will provide protection from storm surges.

Community Partners

The Mattapoisett project is just one example of climate action happening across the state. This past September, the administration announced an additional \$11.1 million in funding from the MVP program to support more than sixty cities and towns in planning for climate change and implementing priority resilience projects. The most recent funding round brought total state spending on climate change resilience to more than \$40 million to date. The administration recognizes that climate change is here, and it's time to proactively respond, and strengthen our communities in the process.

Municipalities across the state are stepping up to the challenge of proactively planning for climate change, and 89 percent of Massachusetts communities are now partnering with the Commonwealth through the MVP program. Many are leading the way in implementing innovative and regional projects that are building stronger and more resilient communities year-round.

- In the northwestern part of the state, the Mohawk Trail Woodlands Partnership's Forest Stewardship, Resilience and Climate Adaptation Project was awarded a \$165,000 MVP action grant. with the town of Williamstown in the lead, to advance emerging ideas from some of the nation's leading experts on climate forestry adaptation and soil carbon sequestration methods. The project team will synthesize these strategies, fill in the gaps, and make a simple program for private landowners, town forest owners, consultant foresters and harvesters to implement. This project bridges the divide between climate mitigation and adaptation to achieve multiple goals.
- In the Greater Boston area, the town of Natick, working with fourteen area communities that are part of the Charles River Climate Compact, will conduct a regional project to develop a Charles River watershed model. The initiative will produce much-needed technical information about where and when precipitation-driven flood-risk in the watershed is expected to be exacerbated by climate change. The project will also

MVP: PREPARING THE COMMONWEALTH'S COMMUNITIES FOR CLIMATE CHANGE

bring consistency across watershed communities in regards to how they are planning and governing for expected climate impacts. The municipalities received an MVP action grant of \$264,000 to conduct this effort.

• In the southeast. Lakeville. Middleborough, Freetown, Rochester, Taunton and New Bedford, supported by an MVP action grant of \$93,000, are developing a comprehensive management plan with actionable strategies for coping with floodwater issues throughout the Assawompset Pond Complex, while also addressing water supply and drought potential, water quality, preservation of critical habitat, and recreational access. The project will include a robust public engagement effort to reach populations in each of the six participating communities.

Regional partnership projects such as these, grounded in cross-sector collaboration and forward-thinking innovation, are leading the way in advancing local resilience planning and action across the state.



Governor Charlie Baker and Lieutenant Governor Karyn Polito visit the Assawompset Pond Complex, which received a \$93,236 MVP grant—to the towns of Lakeville, Middleborough, Freetown and Rochester and the cities of Taunton and New Bedford-for a Watershed Management and Climate Plan.

(photo courtesy Executive Office of Energy and Environmental Affairs)

2022 (or June 30, 2023, for two-year grants). The MVP program website has a list of regional coordinators available to assist cities and towns.

In addition, the Massachusetts Office of Coastal Zone Management's Coastal ground measures to increase long-term resilience, including natural approaches to minimize erosion and flooding problems.

In 2020, the program awarded nearly \$4 million to twenty-nine projects, bringing the total investment in Coastal Resilience Grants made under the Baker-Polito Administration to more than \$18.9 million. The interactive CZM Grant Viewer map shows information about grants from CZM and the Buzzards Bay and the Massachusetts Bays National Estuary programs.

More Work Ahead

Reducing greenhouse gas emissions is the first line of defense to reduce risks from climate change, Governor Charlie Baker committed the Commonwealth to net-zero emissions by 2050, a level the Intergovernmental Panel on Climate Change has determined is needed to avoid the worst impacts of climate change. After a period of public comment last March, Energy and Environmental Affairs Secretary Kathleen Theoharides formally set the 2050 emissions limit at net-zero, which will be achieved by reducing statewide greenhouse gas emissions by at least 85 percent by 2050 and offsetting remaining emissions by using carbon sequestration.

To help the Commonwealth meet the ambitious emissions limit, Energy and Environmental Affairs undertook a large



To help the Commonwealth meet the ambitious emissions limit, **Energy and Environmental Affairs** undertook a large research effort, analyzing pathways to cost effectively and equitably achieve net-zero in the next thirty years.

While the MVP grant application process is currently closed, the Executive Office of Energy and Environmental Affairs anticipates releasing another round of MVP funding next spring to allow additional municipalities to undertake the planning process and enable designated MVP communities to initiate implementation projects between July 1, 2021, and June 30,

Resilience Grant Program offers financial and technical assistance to coastal communities and nonprofit organizations to address impacts from storms and climate change along our coastline. Awards advance local efforts to increase awareness of climate impacts, identify specific vulnerabilities, and implement on-theresearch effort, analyzing pathways to cost effectively and equitably achieve net-zero in the next thirty years. agency's long-range Decarbonization Roadmap Study, begun in July of 2019, focuses on the transformations that are needed in how we heat our buildings, transport people and goods, and generate and supply electricity in order to significantly reduce emissions. The study also assessed the level of emissions that could be potentially removed by 2050 from other sources, such as the Commonwealth's working landscapes. Finally, the study analyzed the economic and health impacts of achieving net-zero emissions.

The 2050 Roadmap Study wrapped up at the end of December with a report synthesizing the vast findings in a way that can guide climate policy development for the next thirty years. It is accompanied by several sector-specific technical reports that will catalogue the methodology, assumptions and rationale, detailed findings, and information critical for decarbonizing each major sector of our economy.

In addition to the 2050 Roadmap and the companion technical reports, in December, Secretary Theoharides set the emissions limit for 2030 and the Executive Office of Energy and Environmental Affairs released a draft of the Clean Energy and Climate Plan for 2030 to achieve that limit. The 2030 emissions limit and 2030 CECP are both informed by the 2050 Roadmap analyses and will help keep the Commonwealth on track to meet the 2050 emissions limit. The draft 2030 CECP provides details on the necessary strategies, policies and actions to reduce emissions in the next ten years and is available for public comment for two months before finalization in the spring of 2021.

These reports, along with the implementation of the 2030 CECP and the active planning for a net-zero emissions future, further demonstrate the Commonwealth's commitment to addressing climate change. While adapting to the impacts of climate change for today and tomorrow, we're also working to curb the long-term climate impacts. Together, these efforts are building a resilient and sustainable Massachusetts.



Springfield Mayor Domenic Sarno and Energy and Environmental Affairs Secretary Kathleen Theoharides (center) tour Springfield's Forest Park Tree Nursery after the city received a \$315,000 MVP grant to perform an environmental assessment of its trees and develop a climate resiliency plan. Also pictured are Sen. James Welch (right) and City Forester Alex Sherman (left). (photo courtesy Springfield Mayor's Office of Communications)



Williamstown and the Mohawk Trail Woodland Partnership received a \$164,575 MVP Action Grant in September to support the partnership's Forest Stewardship, Resilience and Climate Adaptation project.

(photo by Leslie Reed-Evans)

Statewide Network Thinks Globally and Acts Locally to Battle Climate Change



By Carol Oldham and Sarah Dooling

unicipal officials are on the front lines of climate change. No matter how dire the predictions, how complicated the solutions, mayors, town managers and other local officials are committed to keeping their communities safe and livable for future generations.

Cities and towns are preparing for and adapting to climate change impacts in their communities. They are also among the most active entities fighting the many causes of climate change. In Massachusetts, many cities and towns are leading the way to lower greenhouse gas emissions, taking steps that range from advocating for more energy-efficient building codes to passing bylaws that enable local residents to easily and affordably purchase much more renewable electricity than state law requires.

Through sixty-eight chapters representing 108 cities and towns statewide, the Massachusetts Climate Action Network partners with urban, suburban and rural communities, and facilitates municipal-level action and peer learning that helps replicate successful programs from one municipality to the next. Massachusetts cities and towns are showing what's possible—to their neighboring municipalities, the rest of Massachusetts, the nation and the world. The bonus is that efforts to mitigate climate change lead to other benefits, like cleaner air and water, more civically active communities, and better public health.

Local Action

Many municipalities across Massachusetts and the nation are taking bold action, such as committing to become a "net zero" (emissions) community by 2050 or sooner, or to obtain 100 percent of their electricity from renewable energy sources by a certain date. Some, like Worcester, have adopted resolutions declaring a climate emergency, thereby committing to making climate change a local priority.

Sarah Dooling is the Executive Director of the Massachusetts Climate Action Network and Carol Oldham is its former Executive Director. For communities looking for ways to make an impact, the enormity of climate change challenges can be daunting. The good news is that there are many local opportunities that both benefit the planet and improve communities. MCAN's Local Clean Energy Toolkit narrows the possibilities to a manageable set of choices, helping city and town leaders identify the best options for local actions that contribute to a global difference.

Before getting started, MCAN advises local leaders and citizens to envision what they'd like their communities to look like in 2040 or 2050. Doing this tends to conjure up many positive ideas, including communities that are greener, cleaner, safer, more affordable and walkable, and that support more good jobs and local businesses. With the Local Clean Energy Toolkit, municipalities figure out how to reach their goals, first assessing where they are on climate and sustainability so far. This exercise results in a municipal score of beginner, intermediate or advanced, and helps

guide communities toward next steps that are both meaningful and doable.

Online fact sheets help municipalities choose and implement various strategies—from local solar projects to writing a climate action plan that outlines a community-wide strategy to reduce greenhouse emissions.

Buying Clean Electricity

Community Choice Aggregation is among those strategies, and one that the city of Lowell recently embraced. CCA is essentially bulk buying for clean electricity. It is a process by which municipalities can "aggregate" and switch the electricity of households and small businesses from basic electric service provided by the public utility (in Lowell's case, National Grid) to cleaner energy provided by an independent electricity supplier the city selects through a competitive process.

Choosing CCA can significantly cut climate-change-causing pollution in a community because it involves virtually



Energy-efficient LED streetlights

STATEWIDE NETWORK THINKS GLOBALLY AND ACTS LOCALLY TO BATTLE CLIMATE CHANGE

every household and business and doesn't require convincing people by going door to door. Starting in 2014, an increasing communities number Massachusetts began opting for CCA (also known as "municipal aggregation") as a tool to express their values and align their electricity choices as a whole with their community climate commitments. CCA allows residents and small businesses to seamlessly switch to more renewable energy.

In 2018, the Lowell City Council made a commitment to transition the city to 100 percent renewable energy by 2050. When councilors looked at the state laws intended to wean Massachusetts off fossil fuel-fired electricity, they realized Lowell needed to do more to live up to this commitment. This is because the state Renewable Portfolio Standard law will increase the amount of renewable energy public utilities must supply to just 55 percent by 2050.

After a presentation by MCAN to introduce the idea of a CCA, Lowell Sustainability Council Chair Jay Mason and then-City Councillor John Leahy (now serving as mayor) did the math and realized that, to meet their 2050 commitment, Lowell's aggregation program would need to boost its clean energy by another 45 percent. In 2019, Leahy and the City Council approved this bold step, bringing Lowell to the front of the pack for this type of program in Massachusetts and providing leadership to other communities, including those with higher income demographics such



Electric vehicle charging stations

and implement programs that live up to their goals. MCAN recognized Lowell's leadership in March, presenting an Outstanding Activism Award to Mayor Leahy, the Lowell Sustainability Council, and 350MA of Greater Lowell, a group that is part of a statewide volunteer climate action network.

Suburban Efforts

Suburbs in Massachusetts are also taking important steps. In Lexington, local clean energy planning led the town to create a greenhouse gas inventory. The Sustainable Lexington Committee, a

consumption. They included data on natural gas leaks, which added 10 percent to the town's total emissions.

Lexington's inventory revealed that 66 percent of the town's emissions were coming from buildings (only 2 percent from municipal buildings), and almost a third were attributable to industry. After MCAN and Sustainable Lexington Committee Chair Mark Sandeen presented the findings, the town decided on targets and actions, including adopting a Community Choice Aggregation program as an alternative to Eversource for resident and business electricity. They also decided to write a plan for getting the town to net zero.

MCAN's fact sheet notes that becoming net zero means that a "community gets as much electricity from renewable sources as it uses." Cities and towns that adopt this strategy typically plan to reach the goal through a combination of energy efficiency improvements, local clean energy production, and purchasing of renewable energy. Among the state's net zero pioneers is Amherst, which adopted a zero-energy bylaw in 2017 and revised it in 2018. The bylaw requires that, with minor exceptions, all new town buildings must produce as much energy as they use.

"The Zero Energy Town Buildings

MCAN's fact sheet notes that becoming net zero means that a "community gets as much electricity from renewable sources as it uses."



as Brookline and Newton, both of which have also adopted a CCA.

Lowell's action, which implemented a plan to get 61 percent of electricity from New England renewable energy sources (16 percent currently required by state law, plus an additional 45 percent), has inspired other communities to think big panel appointed by the Select Board, enlisted a seven-member team, including two volunteer interns, to conduct the inventory using 2012 as a base year. The committee collected emissions data related to the town's total electricity and heat consumption, transportation, waste disposal, and food production and

Bylaw, which will be implemented as part of Amherst's next capital project, is an essential part of meeting the town's ambitious emissions reduction goals for the town, residents, businesses and institutions," said Amherst District Five Councilor Darcy Dumont, adding that those goals, adopted by the Town Council in November 2019, were proposed by the town's "new and very energetic Energy and Climate Action Committee" and call for reducing town emissions (from 2017 levels) by 25 percent by 2025 and 50 percent by 2030, and to achieve carbon neutrality by 2050.

Building a Network

MCAN's support for actions such as Amherst's net zero commitment and Lexington's vote for municipal electricity aggregation, involves helping advocates with messaging, providing data and resources, and—perhaps most importantly—connecting them with like-minded officials in other communities to share ideas and best practices.

On a statewide basis, MCAN was instrumental in November 2019 in substantially increasing the number of

Americans spend 80 percent of their time indoors, so how we build buildings matters.



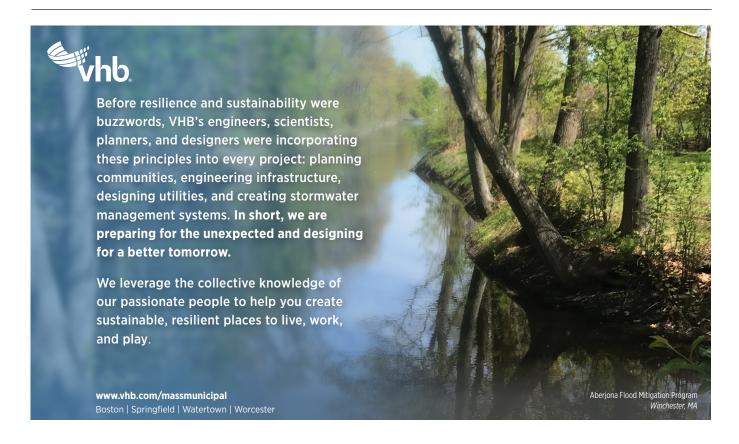
Massachusetts local officials who took part in updating the International Energy Conservation Code. The IECC is the model energy code for new buildings constructed in the United States and some parts of Europe and is typically adopted, with few changes, as the Massachusetts Energy Code.

Municipal officials across the country are eligible to vote on changes to the code every three years, but few have done so in the past (only about 400 nationwide in 2016). In 2019, MCAN made a concerted effort to "get out the vote"—making sure sustainability coordinators, energy committee members, town planners and others in Massachusetts' 351 cities and towns knew how to register and make their voices heard for the next IECC update. As a result, Massachusetts pro-

efficiency officials comprised the bulk of more than 530 additional local officials who voted during 2019, electing to make the 2021 IECC approximately 10 percent more energy efficient for both residential and commercial buildings that follow the code.

Americans spend 80 percent of their time indoors, so how we build buildings matters. Once again, the Commonwealth's cities and towns stepped up, showing leadership that will result in better schools, offices and other facilities for everyone.

Municipal leadership in Massachusetts is inspiring. It's the epitome of thinking globally and acting locally, and the latest and greatest example of Massachusetts cities and towns leading the way on climate for their peers around the country.





A Nor'easter in February 2013
caused serious erosion on Cape Cod,
including damage to this Dennis
shoreline. While erosion has always
been part of the Cape's natural history,
climate change is exacerbating it.

(photo credit MA Office of Coastal Zone Management)

Cape Cod

Beach access points on Cape Cod are vulnerable to damage from erosion caused by more frequent and severe storms.

(photo courtesy Cape Cod Commission)



Especially Vulnerable Cape Towns Act Regionally on Climate Change

By LISA CAPONE

S

ea-level rise, stronger storm surges, worsening coastal erosion and more frequent storms are breeding concern in cities and towns across Massachusetts. With a combined total of 560 miles of coastline (when you include countless inlets and many islands), the fifteen towns that comprise Cape Cod view these indicators of climate change with particular unease.

Spanning just a mile or so at its narrowest point and jutting sixty-five miles into the Atlantic, the Cape has more than its share of at-risk resources and infrastructure. And, with about a third of its residents over age 65—more than double the statewide percentage—the Cape's population is more vulnerable, too. (As noted by the U.S. Centers for Disease Control and Prevention, "weather-related events and natural disasters affect older adults disproportionately, especially those with ... conditions that require extra assistance to leave an unsafe area and recover from an event.")

"We're obviously at ground zero for the impacts of climate change," says Barnstable Planning and Development Director Elizabeth Jenkins, noting that the Cape's reliance on tourism and its large seasonal population create additional challenges, such as keeping people informed about the impacts of and response to weather-related emergencies.

Lisa Capone is a freelance writer.

While erosion has always been part of the Cape's natural history, climate change is exacerbating it. The Cape Cod Times reported in June that the rate of coastal retreat around Eastham's Coast Guard Beach is two to three times faster than it was a century ago, due to sea level rise. Nauset Light Beach in Eastham and Marconi Beach in Wellfleet were cited as other recent erosion hot spots, with Nauset Light losing "about fifty feet of beach over a four- or five-year stretch."

Barnstable Town Manager Mark Ells calls climate change one of the most important issues facing local governments today. "Addressing it calls for a collaborative response from multiple sectors, such as transportation, natural resource management, land use, and economic development," he said.

Jenkins adds that, "These issues don't respect municipal boundaries. They are issues that really call for intermunicipal, regional solutions." She points to the Cape Cod Commission as "a fantastic partner" in pooling ideas, research and resources as the Cape towns work toward resiliency.

The 2019 OneCape Summit, the commission's signature annual event, focused squarely on the impacts of climate change and the efforts of Cape Cod municipalities to prepare for, mitigate, adapt to, and resist them. While climate resiliency has long been part of the regional planning agency's work, the commission's emphasis on climate sharpened in 2019.

ESPECIALLY VULNERABLE CAPE TOWNS ACT REGIONALLY ON CLIMATE CHANGE

Banding Together

Despite their reputation as independent thinkers, there are many reasons Cape Codders are working together on climate change issues. The most obvious is their unique shared geography, separated from the rest of the state by the Cape Cod Canal.

"We spent a significant amount of time addressing wastewater issues," says commission Executive Director Kristy Senatori, referring to two years of work by her group, all fifteen Cape Cod towns, hundreds of stakeholders, and state and federal partners, which produced a new regional coastal water quality plan. "Watersheds don't follow municipal boundaries. ... The same thinking applies to the coast."

Besides partnering with several towns on climate preparedness planning, the commission recently completed Resilient Cape Cod, a three-year project funded by the National Oceanographic Atmospheric Administration to develop a public outreach program to investigate the environmental and socioeconomic effects of local and regional coastal resilience strategies. The project included development of the Cape Cod Coastal Planner, an online "decision support" tool that offers information on climate change hazards impacting the coastline, adaptation strategies to address them, and implications for local infrastructure and ecosystems.

On a separate front, the commission



Cape Cod Commission staff demonstrate new planning and decision support tools during the OneCape Summit in July 2019, which brought together more than three hundred local, state and federal leaders dedicated to protecting the region's environment. (photo courtesy Cape Cod Commission)



Dennis town officials and community partners identify areas at risk from climate change impacts during a Municipal Vulnerability Preparedness workshop hosted by the Cape Cod Commission in 2019. Dennis is among several communities that partnered with the Commission's in creating a climate resiliency plan needed to quality for state MVP grants. (photo courtesy Cape Cod Commission)

recently completed a regional greenhouse gas emissions inventory, the starting point for town-level discussions about how to reduce emissions that contribute to climate change, and initiated development of the first-ever Climate Action Plan for Cape Cod.

"I think economies of scale are important, and working with your neighbors is critical," Senatori says.

To that end, the Cape Cod Commission provides common resources that each town can tap to explore possible climate strategies.

The commission's work through the state's Municipal Vulnerability Preparedness program is a prime example. (See story on page 8.) All fifteen Cape Cod towns have been designated as MVP communities.

While some Cape communities achieved MVP status independent of the commission, seven pursued the process with the commission's support. In 2019, the Cape Cod Commission, along with the Cape Cod Cooperative Extension, assisted the towns of Barnstable, Bourne, Dennis, Eastham, Truro and Wellfleet with

planning to identify climate change impacts and vulnerabilities and develop and prioritize strategies to address them. Harwich completed the process with the commission's assistance in 2020.

Resilient Cape Cod

Towns on the Cape were already laying the groundwork for the MVP program when the state announced the initiative in 2017. In 2016, the Resilient Cape Cod project was one of six region-based proposals selected for funding by the NOAA out of more than 130 received nationwide. With \$780,000 in NOAA Coastal Resilience Grant funding (including a local in-kind match of more than \$250,000) the commission and its partners embarked on a three-year effort that included economic research, a public engagement process, and development of the Cape Cod Coastal Planner to help towns select strategies to mitigate impacts to coastal resources and infrastructure. The GIS-based tool integrates research on potential adaptation strategies for Cape Cod municipalities and is designed to help decision-makers understand and compare the relative environmental and socioeconomic impacts of implementing various strategies to address sea level rise, storm surge and erosion.

Barnstable partnered with the commission on the NOAA grant. Jenkins says the first two years were spent

building the program, and the town beta-tested the planner in year three.

"One of the huge takeaways was building a collective understanding of the strategies that are out there and are available," says Jenkins, noting that the Cape Cod Coastal Planner takes an impact such as coastal erosion and provides a range of options the town could deploy.

She says having "that menu of strategies and talking about the benefits and costs of each of them can [lead to] really complicated conversations." Ultimately, however, evaluating options leads to better decision-making, with solutions tailored to specific marshes, beaches and other resources.

Barnstable is applying for MVP funding to finance implementation of some of its selected solutions, such as tactics to fix low-lying transportation infrastructure and upgrade culverts.

While the Cape Cod Coastal Planner pilot involved just Barnstable, Senatori notes that all Cape Cod towns are covered by the tool and "every strategy in there could be deployed at a variety of scales."

Charleen Greenhalgh, who retired last

November as the town planner in Harwich, said the commission's proven GIS mapping capabilities—previously employed to help support the region's water quality management plan (known as the Section 208 Update)—and familiarity with the Cape's municipalities were the key reasons why Harwich selected the commission for MVP support.

"One of the things down here on the Cape is, yes, we are individual towns, but we really do look to our neighbors to make sure we are all working together toward the same goal," says Greenhalgh, who retired at the end of November after working as a town planner on the Cape for thirty-three years, in Chatham, Dennis and Truro, as well as Harwich. "Working with the commission was important to that."

In late January 2020, the commission helped the town of Harwich with a community workshop to understand how the town is affected by natural hazards and a changing climate and to develop a resiliency plan for MVP designation. Attendees included representatives from retailers, banks, marinas, and local health care and assisted living facilities, as well

as town departments such as Police and Fire, the Council on Aging, and the harbormaster.

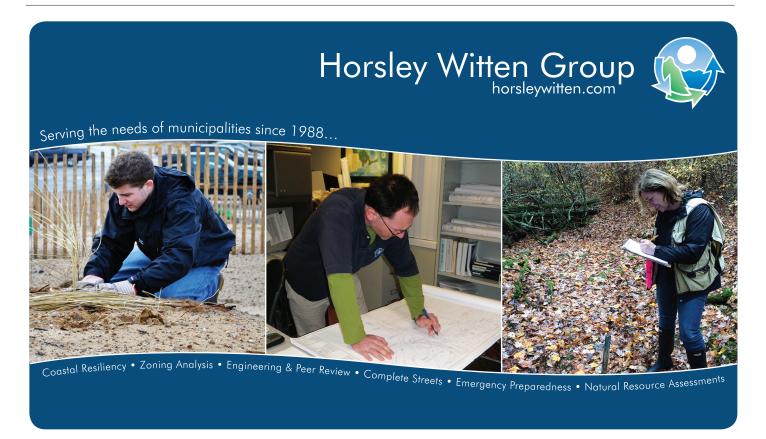
"We had such cross participation—folks representing a variety of different entities that would be affected here in town," Greenhalgh says. "It was an awesome day."

The workshop resulted in identification of Harwich's biggest climate challenges and a number of ideas to address them. With the meeting being held six months after two tornadoes touched down on Cape Cod (including one in Harwich), causing approximately \$3.7 million in damage, Greenhalgh says those storms and the resulting destruction were still fresh on the minds of participants and prompted recommendations for better communication in times of natural disasters.

Other identified priorities included the need for work on jetties that protect Harwich's harbors and, like Barnstable, replacement of inadequate culverts to allow more water flow and flushing during storms.

Following the creation of a draft resiliency plan for Harwich, the commission

continued on page 32



Municipalities on the Frontline of Climate Change: What COVID-19 Has Taught Us About Resiliency

By Moneer Azzam and Julie Smith-Galvin

he COVID-19 pandemic, initially considered temporary pause in regular activities, clearly has changed dramatically municipalities. Municipal employees and elected officials can scarcely recall their old normal. They are too busy setting up coronavirus tracking systems, securing and distributing PPE, enforcing new rules for businesses and parks, collecting and sharing data with the state, ensuring the most vulnerable get food and other basic needs, negotiating delayed tax and water bills, and working to fit state and federal guidance with local conditions. Meanwhile, they are fretting

Moneer Azzam is principal of Beacon Climate Innovations and the founder and former CEO of SolarOne Solutions. Julie Smith-Galvin is the founder and owner of JSG Communications and Vice Chair of the Wakefield Town Council. Both are members of the Greentown Labs Community in Somerville.

over local tax receipts and the future of state aid, which are straining budgets required to provide critical services made all the more important by the crisis. And they are doing all this while continuing routine business from a city or town hall that is not completely open and staffed, with evenings filled with meetings migrated to video conferencing.

Against this backdrop, some may think it ludicrous to add climate change preparation to the backs of municipal officials. Yet the COVID-19 crisis has proven that resiliency starts at the hyperlocal level. When everyone is home, because of a pandemic, flood or nor'easter, it falls to municipalities to manage safety, basic services and recovery. This pandemic drives home the fact that while climate change may be a global challenge, municipalities are truly on its frontline.

Municipalities can take action and make decisions that mitigate climate impacts, or they can set it on the back burner. Neither route will spare them from being on the frontline, but it will change what that frontline looks like for them and their global neighbors. Unlike the COVID-19 situation—where we are beholden to multinational epidemiology tracking and centralized testing and vaccine infrastructure—actionable, climate-friendly measures abound at the local level.

Climate Response Underway

Municipalities are not starting at zero. In fact, many communities across Massachusetts have been undertaking exercises as part of the Municipal Vulnerability Preparedness program, which was launched in 2017. Reaching out to a cross section of town and city governments, services, businesses, utilities and residents, MVP advisors are building awareness of the various threats associated with climate change and assessing appropriate response measures.

In Massachusetts, the major threats are grouped into four categories: drought,

flooding, extreme events (e.g. nor'easters) and extreme heat. Consequences run the gamut: from fire and power outages to mosquito- and tick-borne illnesses and local refugee management. The severity of, preparation for, and response to each threat varies depending on the community's specific situation. For example, a coastal town with buried electric lines will have a different hierarchy of concerns than an inland town with tall trees and lines on utility poles.

Similar programs are in various stages of development and implementation in other states throughout the country, each addressing serious threats and severe consequences, from fire and earthquakes in the West to floods and tornadoes in the Midwest.

Just as the pandemic response follows a trajectory, so too does climate change. One important difference is that we have fair warning so we can plan as well as respond. This allows municipalities to design measures that 1) prevent or mitigate, 2) absorb, 3) respond to, and/or 4) recover from climate impacts. In the aggregate, these measures establish the

basis for "community and infrastructure resilience" and communities should look to build a toolbox of actions that can offer "twofers" or "threefers" in services and benefits. A floodplain, for example, can be designed not just to accommodate an overflow of water, but perhaps store and even purify it for use in disaster recovery or drought. Such measures become particularly effective and justifiable if they also enhance the "normal" conditions. That same floodplain can be set up as a wildlife reserve or walking trail under normal conditions.

Amidst all its adverse impact and restrictiveness, COVID-19 is also opening doors to many new opportunities, some more conspicuous than others. A decisive shift to clean renewable technology and services offers significant economic benefits across a wide swath of the economy. Clean energy jobs range from high-tech and finance to manufacturing and construction. Embodied in virtually every facet of renewable energy from design to production and deployment is more labor per watt of capacity than conventional power. Large-scale power

plants and transmission involve lengthy siting processes, and limited and highly specialized production and construction contracts limited to large-scale elite firms. Most of the equipment used in green energy comes from manufacturing processes driven by scale and throughput. They inject much more "momentum" and deliver more "velocity" to economies than conventional power.

Many solar and wind installations are considered local or distributed energy resources. Distributed energy projects are typically installed and serviced by trained local tradespeople (e.g., electricians, roofers, plumbers). These are jobs that cannot be outsourced. In developing plans for economic recovery from COVID-19, policymakers should keep in mind that they can use distributed energy resources to drive and stimulate the local economy more quickly, while providing far more climate and resiliency benefits than conventional mega-projects.

Municipalities as Change Driver

Given that municipalities and communities are on the frontline of climate change, it



MUNICIPALITIES ON THE FRONTLINE OF CLIMATE CHANGE

only makes sense to view them as primary end users of sustainable and resilient technologies and services. Under this premise, green-tech firms should engage with these end-users in the early development of their products and services. This approach nurtures innovation, customer satisfaction and product launch efficacy.

Today, this practice is referred to as the "agile" methodology and typically applies to software development, but it has its roots in product development terminology, such as "Voice of the Customer," rapid prototyping and "Quality Function Deployment." One of the fundamental tenets of these methods is to capture customer input at the initial stage and then, with their intimate involvement, refine, test and pilot the product along its evolutionary curve. In the process, customers come to better understand their own needs, recognize the true potential of the new product or service, and better define their specifications. (Customers usually have a difficult time effectively articulating and harmonizing their wants and needs in the first engagement. It usually takes several iterations for a picture to become clear.)

Municipalities are risk averse, by both design and nature. As stewards of taxpayers' money, they are justifiably reluctant to be a proving ground for technologies. On the other hand, each community has its own unique composition and set of conditions and circumstances. One-size-fits-all products or services are unlikely to fit at all. By early with emerging engaging technologies, by taking low-cost risks and enduring a modest tolerance for small-scale failures, municipalities will find that they not only reduce their overall risk, but also get the reward of valuable knowledge and infrastructure that can be scaled up. By implementing this "agile" method, a municipality can start with a low-risk pilot project that meets its needs while providing invaluable end-user feedback for the larger good. All parties benefit. The municipality becomes a source of innovation and refinement for both products and programs, while developing shared goals, metrics and language across a range of stakeholders, including residents, municipal

departments and vendors. There are ample examples of constructive municipal "living labs" across Massachusetts. These include smart solar-grid networked lighting systems along Community Bike Path in Somerville and a solar evacuation route in the city of Boston.

Common Pitfall

In undertaking climate pilot studies, language is crucial. Municipal and community services are anything but monolithically managed. Each department serves different constituents with work-related languages of their own, even within the same city or town. Public education, emergency services, utilities, and public works have different functions, demanding different skills and mindsets. With COVID-19. we have witnessed how critical performance metrics in normal conditions can become secondary in crisis

situations. Consider how grade point averages and standardized test scores have taken a back seat to "presence" and "well-being" in education during this time. Similarly, consider that standard utility reliability metrics (e.g., SAIDI, SAIFI) paint a picture of a utility grid's performance for management, investors and regulators, but are not necessarily an accurate representation of customer experience in a crisis. Developing a common crisis language in advance of a crisis will save time, lives and costs versus waiting until we are in the thick of the next one.

While technology demonstrations and shared language are prerequisites to implementing comprehensive resiliency plans, they are futile unless such measures can ultimately be transformed into accepted standards and best practices. Establishing standards reduces risk and



Workers install networked, grid-connected and off-grid (solar and battery) "smart" lighting with sensing along a community bike path in Somerville.

(photo by Moneer Azzam)

speeds acceptance while protecting quality, installers and end-users.

COVID's economic carnage has wreaked havoc on municipal budgets. Town and city officials have been overwhelmed. Instincts are to avoid pursuing anything new and to just get back to some form of normal. But it now seems clear that the old normal was not serving the collective very well. This is the time for towns and cities to embrace a new and improved normal and build climate resilience. Existing and emerging programs will offer technical and financial incentives for courageous communities with vision. State, city and local support for clean energy policies, vulnerability planning programs and infrastructure resilience are increasingly common. Massachusetts, for example, is allocating an estimated \$30 billion over the next decade for climate resilience.

The Federal Emergency Management Agency is rolling out its new Building Resilient Infrastructure and Communities program, perpetually setting aside 6 percent of its annual disaster relief receipts to technical support (e.g., standards development) and matching grant funding for innovative resilience projects. The private sector, from impact investing to crowdsourcing grassroots projects, is another important source of green infrastructure support for municipalities.

No Time To Wait

It is inevitable that municipalities and communities will be on the frontline of the climate crisis. The current pandemic has made us bear witness to how a lack of preparation and a shortage of critical materials results in major setbacks, including lost lives and livelihoods in

both the short and long run. In a stroke of irony, the COVID-19 lockdown has provided both a dress rehearsal and time to rethink and restructure our way of life to create a new and better normal, while bolstering our collective resilience against impending threats.

All major transitions come with major challenges. The level of hardship endured is a function of collaboration and empathy. A well-orchestrated, steady transition from today's fossil-based, fragile economy to one that is renewable and resilient can speed and sustain economic recovery. A successful transition will not be the product of a master plan resulting in an overnight metamorphosis to a zero-carbon society. Instead, it requires many incremental steps at all levels of society at a dramatically faster pace.

In short, to confront climate change,

we collectively need more investment, more demonstration, more development, and more deployment with more active feedback loops, accelerated learning and adaptation. Such rapid progress is facilitated through retuned, universal metrics and language around resilience, along with sound established standards safe, reliable and accurate performance. In large part, the technologies and practices to achieve this exist today. We can optimistically transition in twenty and thirty years, but only if we make early and steady progress to flatten the climate curve and all its adverse implications. What stands in the way is the collective will. Municipalities sit at ground zero. They are the architect, end-user, customer and key beneficiary of this transition. Their voice and action are critical to design, implementation and success.



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Thousands of North Shore Structures Threatened by Flooding Within 10 Years, Report Finds

By JOHN QUELLETTE

ithin ten years, more than six hundred North Shore buildings could experience tidal flooding on a daily basis, and more than 7,000 structures would flood during a hundred-year storm event. By 2070, the numbers increase to 3,100 and 12,000, respectively. Meanwhile, pristine and popular beaches like Crane Beach in

John Ouellette is the MMA's Manager of Publications and Digital Communications.

Ipswich, which has already lost the equivalent of eighty-four football fields of sand since the 1950s, will become increasingly "sand-starved" in the next decade and beyond.

These are among the findings of the "State of the Coast" report released by The Trustees of Reservations this summer. The forty-page report highlights the climate change-driven impacts of sea level rise and storm flooding faced by thirteen North Shore coastal zone communities, including impacts to beaches, salt marshes, developed areas,

armored shorelines, and habitats, as well as future adaptation opportunities and solutions. The data show that many climate impacts will intensify in the next decade, and will accelerate after 2050.

"North Shore communities, leaders and coastal landowners can no longer postpone climate-facing emergency planning and decision making," says Tom O'Shea, the Trustees director of coast and natural resources. "Time is running out to take actions that will protect our coast. ... Now is the time to pursue resilience through sustainable and adaptive approaches."



Findings and Recommendations

The Trustees compiled the report using publicly available data and evidencedbased reports from numerous organizations and agencies, as well as independent research. The organization assessed likely storm flooding impacts to buildings and roads using results from the Massachusetts Coast Flood Risk Model developed by the Woods Hole Group, providing an in-depth look at townspecific impacts, including maps of near-term daily tidal and storm flooding. Projected changes to vulnerable salt marsh and coastal habitat came from Sea Level Affecting Marshes Model results, developed by the Woods Hole Group for the Massachusetts Office of Coastal Zone Management.

The report's key findings include some concerning projections, along with a menu of possible approaches to avoid coastal catastrophe.

• While noting the key role that salt marshes play as important buffers against coastal flooding and storm surge, the report states that failure to take swift action could result in the loss of four hundred acres of the Great Marsh by 2070. Recommended resiliency strategies for salt marshes include "building marsh elevation, along with removing tidal restrictions such as dams and culverts that disrupt natural water flow."

- The report warns that "some of our largest beaches are experiencing the greatest rate of shoreline loss," and sea level rise means "smaller beaches hemmed in by seawalls, groins, and development may be increasingly sand-starved with nowhere to go."
- The estimated cost to repair the region's 54.4 miles of aging seawalls and coastal armored structures is \$88.3 million. But simply repairing these structures is not always the best course since they were not designed to withstand climate change impacts and can "wreak damage of their own on nearby natural shorelines." More resilient options, the report contends, are necessary for coastal communities to withstand future challenges.
- With only 25 percent of the region's coastal habitat permanently protected, the report calls for a regional land protection strategy to "help enhance the resiliency of both coastal and upland areas and relieve pressures from development and pollution."

The report finds important differences in the North Shore's northern and southern tiers that may require targeted approaches. Less-developed areas in the upper North Shore may experience greater impacts to natural areas in total, but may be more resilient than the smaller beaches and marshes south of Gloucester, report authors note. While developed areas in the southern region

are often higher in elevation, some residential and urban waterfront areas are vulnerable to significant flooding impact. Structures such as seawalls and nearby shorelines will be increasingly challenged by storm flooding impacts, according to the report.

A Tool for Policymakers

At the report's unveiling on August 20, Energy and Environmental Affairs Secretary Kathleen Theoharides said it "provides an in-depth look at the unique challenges North Shore communities are facing as a result of climate change," and underscores the importance of the Baker-Polito administration's ongoing work "to significantly reduce greenhouse gas emissions and partner with communities to build climate resilience." She said the report also highlights informative data and resources, many developed by state agencies, that "communities can use to better understand future climate threats."

Peter Coffin, chair of The Trustees of Reservations and president of Breckinridge Capital Advisors, which sponsored the report, said, "It's critical that municipalities have strong research and data to properly evaluate and mitigate this risk and plan for the future. Reports such as the 'State of the Coast' are integral to further educating key stakeholders about climate science and reinforce our commitment to actively developing best-in-class research and data to assist in these efforts."

THOUSANDS OF NORTH SHORE STRUCTURES THREATENED BY FLOODING

Coastal landowners, town officials and other stakeholders can use the Trustees' findings to identify areas of critical concern and prioritize investments in mitigation efforts and resilience projects. Additionally, "project spotlights" in the report highlight

resiliency work already underway in some communities, providing examples for others to follow.

Senator Bruce Tarr, whose district includes much of the coastal territory studied for the project, called the Trustees' report "a comprehensive and thoughtful assessment of a number of the risks to our natural and built environments backed by real-world data and scientific analysis." He said the document buttresses the ongoing work of many organizations, including the North East Coastal Coalition and the Merrimack River Beach Alliance, and points to the need for more collaborative efforts to build knowledge and momentum for policy development.

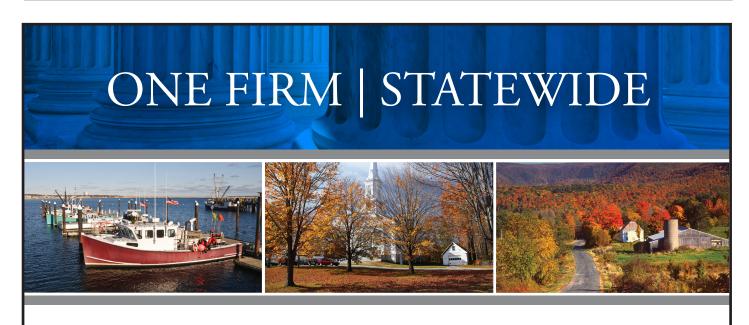
The Trustees plan to publish the "State of the Coast" report annually over the next four years, with a focus on Cape Cod and the Islands to be released in the summer of 2021, followed by the South Shore, and finally, the South Coast. The cities and towns covered in the North Shore report are (north to south): Salisbury, Newburyport, Newbury, Rowley, Ipswich, Essex, Rockport, Gloucester, Manchesterby-the-Sea, Beverly, Salem, Marblehead and Swampscott.

The report can be downloaded at www. onthecoast.thetrustees.org/download-acopy. Interactive mapping and detailed data are also available.



In Salisbury, about 40 percent of the coastline is vulnerable to coastal inundation and the public beach experiences erosion rates of more than two feet per year, according to the Trustees of Reservations' "State of the Coast" report.

(photo courtesy Office of Coastal Zone Management)



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Municipal Adaptations, Collaborations Are Key to Community Resilience

By KATHERINE GARRAHAN

ivot" may be 2020's word of the year, but at this point in the COVID-19 story, the range of actions described by the word are likely far from over.

Changes implemented through the creativity and drive of Massachusetts businesses and nonprofits, as they try to survive and meet community needs while providing for safe workplaces and appropriate social distancing, have been supported by remarkable levels of municipal adaptation and resilience. In many cases, shifts from business-as-usual to meet unexpected challenges have been bolstered by increased efforts of municipal officials and staff, volunteer boards and commissions, and unique public-private partnerships and collaborations. All sectors have been mobilized to anticipate, digest and implement a succession of guidance and orders, even while knowing that the pandemic's nature means that best guesses will underlie directives, and more change is foreseeable.

With 351 cities and towns in the Commonwealth, myriad approaches have resulted. As communities try to limit damage to commerce and economies while keeping residents safe, those communities most able to be inventive, flexible and collaborative may be best positioned to weather an uncertain future.

With each passing day, we also see local businesses closing, with others fearful that

Katherine Garrahan is a real estate and permitting partner at Bowditch & Dewey LLP and immediate past chair of the MetroWest Chamber of Commerce.



they may be unable to hold on much longer due to the impacts of COVID-19. Restaurants and retail businesses remain especially hard-hit, with a treatment or vaccine needed before full reopenings can happen for many of them. The harsh reality is that layoffs and closings continue across a range of businesses.

Additionally, many closures impose inordinate impacts on women and minority populations. According to data from the U.S. Bureau of Labor Statistics, restaurants employ a disproportionate number of female, Black, Hispanic, and Asian workers in comparison to the employed population as a whole. During this public health crisis, time is of the essence in enacting strategies to ward off business closures, and to prevent the snowball effect of job loss, lost tax revenues, budget shortfalls, and the blight of empty storefronts.

Community response

One way municipal leadership worked with local businesses is with emergency temporary changes made to the enforcement of zoning and licensing regulations, and the streamlining of approval processes, in an effort to help restaurants capture a season of outdoor dining to mitigate damage to that industry. Gov. Charlie Baker's COVID-19 Order No. 35, issued on June 1 and establishing the parameters for Phase 2 of the state reopening plan, as well as municipal orders in several communities, helped to pave the way for such temporary approvals in many of the Commonwealth's cities and towns.

Communities undertook a variety of actions, including outreach to small restaurants, provision of translation services and technical support for completing applications, scheduling extra opportunities for applications through

more frequent licensing meetings, and, in some cases, allowing changes to be handled administratively.

Andover's approach to the plight of its restaurants was to create a 120-day "community event," for which the town's restaurants could apply to provide outdoor service on municipal land. The town offered a unified application and review process that covers public safety, traffic, parking, zoning, infrastructure and insurance. Rather than requiring each business to apply for individual temporary zoning relief and licenses one by one, Andover's event approach provided a way for restaurants to participate that was an alternative to the typical license and review processes that are focused on each specific property.

Communities whose local governments maintain strong partnerships with community organizations such as business associations, chambers of commerce, nonprofits and grassroots citizen efforts benefited from having established



networks that allowed participation, brainstorming and support for speedy necessary changes. Some cities and towns have worked with local business groups to put together return-to-work kits containing PPE, signage, and hand sanitizer. Several communities have met the language needs of residents and business owners through translation and interpretation services.

Natick developed its Local Emergency Planning Committee, a de-politicized public-private team including representatives of town departments, schools, the local hospital, local business associations, and the federal Natick Soldier System Center. The town used grant funding to hire an urban planner to help design a process for safe and healthy restaurant reopenings. Its "rapid response" program for outdoor dining is supplemented by technical assistance from local business volunteers called "sector advisors," who are trained to help businesses reopen in a supportive way that deflects from the pressure of a typical municipal approval process. With federal CARES Act funds, the town hired a dedicated designer at a local printer to create signage for reopening businesses. Its natick.business website pools information on reopening for all sectors.

Cambridge collaborated with Cambridge Local First, the Central Square Business Improvement District, East Cambridge Business Association, Harvard Square Business Association, Kendall Square Association, and local restaurants to create additional space for outdoor dining.

As new data comes out, concerns about equitable reopening and recovery grow, as do fears of the societal impacts of expected further layoffs, along with uncertainties about schools and child care. A strong uptick in overdoses and mental health needs has already been noted since March, and food insecurity is an increasing concern.

The Wellesley COVID-19 Relief Fund is an example of a public-private partnership addressing the social needs of a community. Its funding supplies hot meals from local restaurants to medically vulnerable families, isolated seniors and veterans identified by town staff and first responders. The partnership is between The Community Fund for Wellesley (an endowed fund of the Foundation for MetroWest) and the Wellesley Board of

Selectmen, with collaboration of the Wellesley Health Department, Wellesley Council on Aging, Wellesley Public Schools, Wellesley Housing Authority, and Wellesley Service League.

Measures to increase community resilience

The following are some additional measures that could be implemented to increase community resilience in the face of COVID-19:

- Examine local licensing and permitting processes to help businesses face the winter months and beyond. Temporary approvals are just that – they set no legal precedent for continuation. Cities or towns that want to offer more permanent options - such as adopting some permanent zoning changes now so that they are already in place when existing temporary measures expire - should begin those processes as soon as possible. Consideration could also be given to extending zoning relief to non-restaurant uses, such as retail, distribution centers, and other uses needing temporary relief for drive-up lanes and sidewalk use for curbside pickup and outdoor sales, and where changes may conflict with existing site plan approvals.
- Consider suspending "change in use" and "mixed-use" restrictions imposed by zoning or prior permitting approvals for certain use categories.
- Streamline permitting so that applicants have one point of municipal contact, rather than multiple separate processes and hearings.
- Review boilerplate decision language used for new zoning and permitting approvals in order to allow temporary, appropriate changes, in cases of emergency, to site layout, signage, hours of operation, sidewalk use, and the administrative process for temporary approvals. Consider a process for modifications of existing decisions to allow changes within certain parameters.
- Work to attract and support projects that will bolster jobs and affordable housing, address homelessness, and meet other community needs, such as attention to diversity, inclusion and equity.

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- Publicize ongoing training opportunities for local businesses, particularly those sponsored by local associations and nonprofits. An example is helping businesses develop digital presences, apply for funding, build business contingency plans, and prepare for the arrival of winter weather that will generally preclude operations in outdoor spaces.
- Enhance local job search resources by publicizing materials and supports for job hunters, including resume clinics, search advice, and links to local services by area nonprofits, municipal libraries and business groups.
- Stay current on building and property inventory and state and federal incentives, working with community partners to attract potential new businesses and investors. This could include encouraging domestic manufacturers for life science and other hard-to-obtain products in the global supply chain to locate in Massachusetts,

- and addressing required zoning changes needed to attract such businesses.
- Plan for increased testing and eventual vaccine delivery opportunities for residents, considering partners such as public-private partnerships, municipal health employees, medical reserve corps volunteers, and local hospitals and health care providers. Work with the business community to plan employee clinics for accessible vaccinations to encourage timely participation and compliance.
- Scrutinize ordinances, bylaws and regulations for roadblocks that could limit municipal support in future emergencies—public health or otherwise—identifying authority, approvals and necessary limits. Learn from COVID-19 to make sure that municipalities can respond quickly and responsibly as emergencies warrant in the future. For example, consider allowing temporary accessory uses necessary in an emergency with approval

by the building commissioner or other municipal office or board.

Given municipal differences, no one-size-fits-all approach seems available to authorize emergency measures without state action. Mayors, city councils, select boards, city and town managers, town meetings, and administrative staff might each have some existing authorization under bylaws or ordinances, and the COVID-19 experience has shown that some confusion still exists in local communities as to how to take emergency steps in a responsive way.

For Massachusetts communities to be nimble and fully responsive to the unprecedented economic and social needs COVID-19 presents, a continuation of the culture of collaboration, already underway, will be needed for the pivots and solutions still ahead.

This article was originally published on www.mma.org on July 28, 2020.



ESPECIALLY VULNERABLE CAPE TOWNS ACT REGIONALLY ON CLIMATE CHANGE

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an in-depth analysis of state of the city speeches from mayors across the country that occurred early in the year, just prior to the COVID-19 pandemic and the resulting economic fallout. The report identifies the top issues mentioned in the speeches, while also examining the challenges laid before local government leadership and opportunities for innovative approaches to equitable recovery. To download the report, visit www.nlc.org/resource/state-of-the-cities-2020.

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prepared a video and survey to facilitate input from Harwich residents, which informed the final plan submitted to the state for MVP designation last year.

Applying Cape Experience Elsewhere

The Cape's geography makes it a region like no other in Massachusetts, but Jenkins points out that other areas—notably the North and South Shores and the Berkshires—also have an influx of seasonal residents and related factors that complicate the process of preparing for and withstanding climate change impacts. Communities across the state, she says, can benefit from exchanging information with neighboring communities. She said Barnstable learned from the experience of Falmouth's Coastal Resiliency Action Committee.

The creation of data-based climate resiliency action plans is another critical factor for communities across the state, she says. To ensure the integrity of such plans, the expertise of local research organizations can be invaluable, Jenkins says, noting how research by organizations such as the Cape Cod Commission and Woods Hole Sea Grant is informing municipal resilience planning on the Cape. "The fact that we have that base of data that we can base our decisions on is huge for us," she says.

Barnstable Town Manager Ells agrees. "Municipal departments must work with each other, and with regional and community partners," he said, "to bring impactful, science-based solutions forward to ensure the long-term health and resiliency of our communities."

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