

PROGRESS REPORT

August 20, 2015

VERMONT'S ROADMAP TO RESILIENCE

Preparing for Natural Disasters and the
Effects of Climate Change in the Green Mountain State

BACKGROUND

In December 2013, following an 18-month stakeholder engagement process, the Institute for Sustainable Communities published Vermont's *Roadmap to Resilience*. This Roadmap recommended 23 actions to increase Vermont's resilience to climate-related disasters. Since then, ISC has been working with the State of Vermont, nonprofit organizations, and community leaders to put these recommendations into action. While we have seen progress on many fronts, there is still much to do.

WHAT IS RESILIENCE?

A resilient Vermont is better prepared for, and able to more effectively manage and bounce forward from, natural disasters and climate-related shocks, and the risks they pose to our economy, environment, and social well-being. By working proactively to reduce vulnerabilities and improve our disaster response and recovery, we ensure that we are continually strengthening our resilience.

TRACKING OUR PROGRESS

This report takes stock of the progress made on each of the 23 Roadmap recommendations. However, we understand resilience is a process of moving along a continuum, not an end destination. Working together, we need to continuously assess priorities, adapt our strategies, and act to address our vulnerabilities, reduce our risk and strengthen communities.

In this report, we indicate progress with the following colors:

Orange indicates that we have little or no progress to report. ISC has not been able to find or confirm that action is underway to advance the recommendation.

Yellow indicates some progress. Items in this category do not meet the threshold of significant progress. In some cases, items may be in this category because:

- One or more aspect(s) of the recommendation is being advanced, but not the whole of the recommendation as described in the roadmap; and/or,
- Work is just starting; and/or,
- Some work was done but has not been continued.

Green indicates significant progress. Recommendations are in this category if:

- Funding has been dedicated to advance the recommendation; and,
- One or more organizations has expressly committed to advancing the recommendation; and,
- The recommendation is being advanced in comprehensive way toward the stated outcomes contained in the Roadmap; and,
- Tangible outcomes have been achieved.

Blue will indicate a recommendation has been implemented. At this time, no recommendations have achieved this status.

Please visit our website www.resilientvt.org for more comprehensive and current updates on each recommendation.



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KNOW OUR RISKS

KEY

- Significant progress
- Some progress
- No progress

RECOMMENDATION

STATUS

1. Develop and disseminate best available climate and risk information in user-friendly formats that can be incorporated into local, regional, and statewide plans and used to inform priorities and investments.

- VT Climate Assessment released; provides best available summary of climate impacts.
- VT Agency of Natural Resources released new river corridor maps for the entire state.
- Flood Ready Vermont website launched, offers useful tools and resources.
- Several new pilot projects demonstrate how data can be used by communities.
- There continue to be opportunities to make data more available and user-friendly for decision-makers.

2. Institute a sustained river corridor mapping program that provides information about flood and erosion risk to inform local, regional and state plans and the identification of hazard mitigation projects.

- VT Agency of Natural Resources published the first statewide river corridor map layer; however, long-term funding for staff to maintain and improve that dataset is still contingent on grant funding.
- Additional resources are still needed to increase stakeholder engagement and provide technical assistance to regional planning commissions and municipalities to collect field data and to use the maps to prioritize capital investments for reducing risk.

3. Conduct a statewide transportation vulnerability assessment that produces a statewide data set and map that shows areas of highest relative vulnerability and is used to guide prioritization of investment.

- VTrans has prepared a preliminary flood vulnerability assessment that includes all state and town highways and structures that are inspected by VTrans every year.
- Over 400 locations on state roads and more than 2,200 locations on town highways were found to be vulnerable to flood damage.
- In spring 2015, VTrans released a request for proposal to create a method for watershed-based transportation resilience plans. The work will be piloted in three watersheds.

4. Incorporate vulnerable population data and analysis into municipal, regional, and state hazard mitigation plans with the help of social service providers so that the needs of Vermont's vulnerable populations are clearly identified and represented at all levels of hazard mitigation planning.

- The VT Agency of Commerce and Community Development, University of Vermont, Champlain Housing Trust and other key partners are working to improve the resilience of Vermont's mobile home park communities. Progress includes new provisions in Act 8, passed in 2015, to improve safety in parks.
- A new Mobile Home Vulnerability Tool has been developed.
- There is a continued need to work with social service providers to identify other vulnerable populations and develop best practices for inclusion of those populations in hazard mitigation planning.

5. Take advantage of a strategic opportunity to forge a public-private partnership between IBM, electric utilities and the state to utilize a state-of-the-art weather model, in combination with state data, to improve the accuracy of storm predictions, enable early warnings, and efficiently mobilize emergency equipment and personnel.

- A two-year public-private partnership is now underway to create the new Vermont Weather Analytics Center. The Center will use an IBM weather prediction model to provide much more specific forecasts than current models. This information will be shared with Vermont utilities and agencies to ensure more rapid and more effective response to severe weather.



ELEVATE & INTEGRATE EMERGENCY MANAGEMENT

KEY

- Significant progress
- Some progress
- No progress

RECOMMENDATION

STATUS

<p>6. The State of Vermont should become an innovator in instituting resilience in emergency management in ways that best serve the needs of Vermonters.</p>	<ul style="list-style-type: none"> New innovations have included a requirement for resilience sections in local and regional plans, establishing a new interagency group focused on preparedness, and the creation of a new Recovery and Mitigation Section at Division of Emergency Management and Homeland Security. Vermont leads New England in its sheltering programs and now has the ability to shelter up to 6,000 people at one time. Model hazard mitigation plans have been developed and promote a cross-sector approach to resilience.
<p>7. Within state government, assign a champion responsible for resilience and risk management who is authorized to coordinate the work across state agencies to achieve a consistent approach, identify and advance state priorities, and ensure accountability.</p>	<ul style="list-style-type: none"> The state has not assigned a resilience coordinator, but has made progress toward assigning specific responsibilities to key individuals. Examples include new positions for a state Recovery and Mitigation Chief and a Climate Change Senior Policy Advisor. The Agency of Administration has led an effort to track the implementation of the many recommendations made post-Irene, but there is no specific mechanism to ensure accountability for implementation.
<p>8. Elevate the position of the Division of Emergency Management and Homeland Security within state government to increase their authority and ability to effectively integrate preparedness and risk management into all state government functions.</p>	<ul style="list-style-type: none"> The position of the Division of Emergency Management and Homeland Security (DEMHS) has not been elevated within state government; however, there is a strong relationship between DEMHS and the Secretary of Administration's office. In 2015, a new interagency working group formed to help integrate and coordinate emergency planning across state agencies.
<p>9. Increase emergency management capacity at the local/municipal level to ensure that those who are responsible for emergency management functions before, during, and after disasters have the skills, training and equipment they need.</p>	<ul style="list-style-type: none"> DEMHS has offered additional trainings, including a statewide full scale emergency response exercise in 2014. 60 Vermont municipalities now have Local Disaster Shelters and have received the necessary training and equipment through the Red Cross. Through the Red Cross' "Ready & Resilient 365" model, efforts are underway to combine the Local Disaster Shelter Initiative with technical assistance to bringing human service agencies into the emergency planning process with smaller, rural communities.
<p>10. Regionalize key emergency management functions to provide more efficient and effective support to communities, improve communications, and create strong regional coordination.</p>	<ul style="list-style-type: none"> No progress to report.



ALIGN RULES & INVESTMENTS FOR STRONGER COMMUNITIES

KEY

- Significant progress
- Some progress
- No progress

RECOMMENDATION

STATUS

11. Provide guidance and incentives for proactive investment in transportation infrastructure.

- In 2013 VTrans and ANR released new road and bridge standards and a manual on Standard River Management Principles and Practices (coupled with a River and Roads Training Program) to reflect lessons learned from Tropical Storm Irene.
- To date, 86% of municipalities have adopted standards that meet or exceed the new guidance from VTrans.
- The state has also created a new incentive for the adoption of these standards through the Emergency Relief and Assistance Fund (ERAF).
- The work underway at VTrans to incorporate risk into project prioritization (see #3) may provide an opportunity to create additional incentives for municipalities.

12. Prioritize investment in resilient water and wastewater infrastructure.

- The Vermont Drinking Water Revolving Loan Fund has adjusted priority points to boost projects that will make water infrastructure more resilient.
- ANR is partnering with willing municipalities to evaluate opportunities for increasing the resilience of water distribution and treatment facilities.

13. Invest in training and technical assistance programs to promote cost-effective action and preparedness, and reduce future disruptions to state and municipal infrastructure systems.

- VT Rural Water is working on trainings for asset management and capital improvement.
- Vermont League of Cities and Towns and Green Mountain Water Environment Association are also providing support to communities.

14. Engage private landowners as key partners to implement land management practices that reduce hazards and support healthy ecosystems.

- No progress to report.

15. Leverage existing investment in conservation and stormwater management to maximize resilience benefits.

- New screening tools are enabling land trusts to identify potential areas for restoration of floodplain functions through conservation.
- New stormwater policy has focused attention on opportunities to maximize the resiliency benefits of our stormwater and water quality investments.



ALIGN RULES & INVESTMENTS FOR STRONGER COMMUNITIES

KEY

● Significant progress ● Some progress ● No progress

RECOMMENDATION

STATUS

16. Create a regulatory framework/approach to land use that does not create any new or additional vulnerabilities along Vermont's waterways ("No Adverse Impact" approach).

- ANR has established No Adverse Impact (NAI) regulations for river corridor and floodplain uses not regulated by municipalities (i.e., energy generation/transmission facilities, schools, accepted agricultural and silvicultural practices, roads and other transportation infrastructure). The NAI framework has also been established in Act 250 procedures used by the ANR in defining floodways, including river corridors.
- There is no consistent regulatory framework for small scale development at the local level.

17. Develop model flood resiliency bylaws for compact communities located in river corridors.

- DEC is in the process of developing a draft model bylaw and will engage a multi-agency/stakeholder group in review by the end of 2015.

18. Establish a dedicated fund to support the purchase of hazard-prone properties that are at high risk but are not eligible for funding through FEMA or other programs.

- No progress to report.

19. Designate pilot adaptation areas and direct investments into those areas.

- The Vermont Economic Resilience Initiative (VERI) has taken an approach similar to what is described in this recommendation. VERI began with a statewide assessment of the relationship between Vermont's economic assets and flood vulnerabilities. Five economic centers were then selected as pilot communities and are engaged in detailed planning. This effort focused ACCD's planning resources; however, it is not linked to any implementation funding.



WORKING TOGETHER & LEARNING TOGETHER

KEY

- Significant progress
- Some progress
- No progress

RECOMMENDATION

STATUS

20. Create the Vermont Strong Network – a cross-sector collaboration that includes nonprofit, public and private organizations involved in resilience work to align efforts, share best practices, and leverage resources to advance resilience efforts statewide.

- The Resilient Vermont Advisory Committee met in 2014 to create a Vermont Strong Network workplan.
- Funding was secured to hire a Network Navigator to build a network linking together the communities and organizations in Vermont that are working on resilience.
- Network activities in 2015 will focus on improving communication and coordination, establishing a governing body for the network and identifying opportunities for collaboration action.

21. Use regional networks to support watershed-scale planning and enable municipalities to collaborate across jurisdictions to set priorities and make cost-effective investments that reduce hazards for downstream communities and development.

- The High Meadows Fund has helped to catalyze watershed-scale collaborations through a Request for Proposals.
- In 2015, the Leahy Center convened teams representing ten watersheds in a further effort to support this level of collaboration.
- The Lake Champlain Basin has announced that they will also have grants available for watershed collaboration.
- The Agency of Natural Resources' basin planning process, which support watershed-scale planning, will be greatly enhanced by the new State Clean Water Fund.

22. Support local resilience networks that bring together planning boards, conservation commissions, emergency managers, social service providers and other leaders to develop a shared vision for resilience within a community.

- A new statewide pilot project is underway to create Community Resilience Organizations (CROs) that will bring together community leaders to build social capital and develop new approaches to getting resilience tasks completed collaboratively, while mixing in celebration. Six communities are active in the pilot in 2015, with more ready to join in 2016.

23. Invest in education and outreach to increase public literacy regarding river science and floodplain management practices.

- Since 2012, the Agency of Natural Resources' Rivers and Roads training program has enrolled hundreds of people who maintain, manage and oversee state and local roads in a 2-3 day training on standard river management principles and practices.
- Vermont River Corridor and Floodplain Protection Program has certified more floodplain managers per capita than any other state.
- Vermont River Scientists works with watershed associations, conservation districts, RPCs, and municipal conservation commissions to conduct education and outreach on river science using "river flumes" as a hands-on practice to demonstrate river behavior resulting from different human activities.

Do you have progress to report? Please tell us about additional activities and accomplishments through the website at www.resilientvt.org/about.

Many thanks to our funders: High Meadows Fund, Jane's Trust, the Lintilhac Foundation and the WaterWheel Foundation