



NJ Climate Adaptation Alliance

**Integration of Climate Change Provisions in State Authority Governing Municipal  
Planning: *Experiences outside New Jersey***

November 2018

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## Executive Summary

In the face of climate change, the United States has seen a progression of state-level action that promotes and sometimes requires local government action on climate mitigation (greenhouse gas emissions reduction) and resilience planning. The focus of this report is on resilience planning and not efforts to reduce greenhouse gas emissions. Although states do not generally restrict local governments from undertaking resilience planning, some states have enacted provisions that explicitly require that some form of climate change planning be included in local plans, whether master planning and/or hazard mitigation planning. Following a review of the fifty U.S. states, this report identifies six states that have enacted provisions requiring climate resilience actions in local plans. Five of the six states reference at least one of the following climate-related hazards: sea-level rise (SLR), flooding, drought, and extreme weather events. None of the states include provisions to address temperature as a climate-related hazard. Four of the six states require actions for municipalities statewide and two of the states limit required climate actions to coastal regions.

The nature of the bills vary. For example, in Massachusetts, the law requires state agencies to develop a framework that local governments can voluntarily use to incorporate science-informed climate projections into planning. Connecticut requires certain local plans to include and update SLR projections at least once every ten years following the scenarios published by the National Oceanic and Atmospheric Administration in Technical Report OAR-CPO-1 (NOAA TR OAR CPO-1). Overall, when states require a resilience planning element in local plans, they do so by requiring the local governments to complete at least one of four defined actions, namely: Conducting a vulnerability assessment; Developing resilience goals; Identifying a set of resilience strategies; and Updating plans to reflect current science.

This working paper was prepared for the New Jersey Climate Adaptation Alliance to inform discussions in New Jersey regarding local government resilience planning. More specifically, the purpose of this working paper is to provide an overview and comparison of six state laws that focus on establishing resilience components as part of local government planning.

## Scope of this Working Paper

This working paper is intended to provide insights that can inform resilience planning discussions in New Jersey. Three important distinctions need to be made regarding the scope of this working paper:

- While actions in other states have included both provisions involving adaptation to changing climate conditions as well as reducing the emissions that cause climate change, the focus of this paper is on adaptation and resilience and not emissions reductions. For simplicity sake, the definition of the term resilience used in this paper is: *the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption* (“Glossary | U.S. Climate Resilience Toolkit,” 2017).
- This working paper specifically examines laws in a set of six case study states promoting or requiring local resilience planning.
- When referring to local planning, this working paper considers both local land use planning, which is often referred to as master planning, general or comprehensive planning, as well as local hazard mitigation planning.

The six state laws that are the subject of this working paper are:

State	Name	Date Enacted	Citation
California	Authority for and Scope of General Plan	October 2015	Chapter 3, Article 5, Section 65302
Connecticut	An Act Concerning Climate Change Planning and Resiliency	June 2018	Public Act 18-82
Florida	An Act Relating to the Peril of Flood	May 2015	Chapter 2015-69 Section 163.3278(2)(f)
Rhode Island	Rhode Island Comprehensive Planning and Land Use Act	January 2011	Chapter 45-22.2 Section 45-22.2-6
Massachusetts	An Act Promoting Climate Change Adaptation, Environmental and Natural Resource Protection and Investment in Recreational Assets and Opportunity	August 2018	Session Law 2018, Chapter 209
Virginia	Planning, Subdivision of Land and Zoning	July 2015	Chapter 22, Article 3

This working paper provides a general introduction of issues followed by an outline of key definitions. Next, this paper outlines key provisions in the six case study states followed by a discussion of implementation strategies in the six case study states. This working paper concludes with a set of observations that may be helpful in informing discussions underway in New Jersey.

## Introduction

In the face of climate change, the United States has seen a progression of state-level actions to promote and sometimes require local government efforts on climate mitigation (greenhouse gas emissions reduction) and resilience planning. This working paper was prepared for the New Jersey Climate Adaptation Alliance to inform discussions in New Jersey regarding local government resilience planning.

Although states do not generally restrict local government resilience planning, there are some states that have enacted provisions that explicitly require that some form of climate change planning be added to local planning efforts. For the purpose of this working paper, the focus is on where state level actions promote or require integration of resilience planning either into master plans, sometimes called comprehensive plans or general plans, or into local hazard mitigation plans. Under New Jersey’s Municipal Land Use Law (MLUL), municipalities have the authority to define the objectives, principles, assumptions, policies, and standards to apply to land use in a manner that protects public health and safety and promotes the general welfare (Municipal Land Use Law, 2018). Currently, New Jersey’s statute does not include a provision on climate change as one of the necessary, or optional, elements in municipal master plans.<sup>1</sup> As is the case for all states, New Jersey is required by the Federal Emergency Management Agency (FEMA) to have an approved hazard mitigation plan to be eligible for disaster recovery

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<sup>1</sup> For more information on local planning practice and policy recommendations in New Jersey, see David N. Kinsey, *CLIMATE CHANGE AND LOCAL PLANNING WHITE PAPER: Implications for Local Planning Practice of Policy Recommendations of the New Jersey Climate Adaptation Alliance* (2015).

assistance and mitigation funding. In turn, each county has an Office of Emergency Management Coordinator and a county-wide Hazard Mitigation Plan that is guided by the state one.<sup>2</sup>

Following a review of all states in the U.S., six states were identified to include in this working paper because they have laws requiring state or local action to promote or require climate resilience actions at the local level through local planning including master planning and hazard mitigation planning. All of the six states are coastal but not all of the states limit their provisions to the coastal zone.

## Definitions

The following terms are frequently used in state laws outside New Jersey that authorize or require local governments to engage in resilience planning.

- Local government

The term “local government” is not routinely defined in the state laws examined for this working paper with only Rhode Island providing a full definition. Rhode Island General Laws Title 45, Chapter 45-22.2 defines local government as, *any governmental agency authorized by this chapter to exercise the power granted by this chapter* (Rhode Island Comprehensive Planning and Land Use Regulation Act, 2011).

The Federal Emergency Management System (FEMA) Code of Federal Regulations, 44 CFR 201.2, defines “local government” as, *any county, municipality, city, town, township, public authority, school district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under state law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization that is not a Federally-recognized tribe; and any rural community, unincorporated town or village, or other public entity (Title 44 - Emergency Management and Assistance, 2009).*

- Natural hazard

“Natural hazard” is used in two of the six states featured in this report and none of the six state laws specifically defines the term. Rhode Island General Laws Title 45, Chapter 45-22.2 requires municipalities to, “include an identification of areas that could be vulnerable to the effects of sea-level rise, flooding, storm damage, drought, or other natural hazards (Rhode Island Comprehensive Planning and Land Use Regulation Act, 2011)”

- Nature-based solutions

Massachusetts House Bill 4835 uses the term to define “nature-based solutions” as, *strategies that conserve, create, restore and employ natural resources to enhance climate adaptation, resilience and mitigation to mimic natural processes or work in tandem with man-made engineering approaches to address natural hazards like flooding, erosion, drought and heat island and to maintain healthy natural cycles to sequester and maintain carbon and other greenhouse gases* (House Bill 4835, 2018).

- Natural infrastructure

California is the only state among the six discussed here to use and define “natural infrastructure.” However, it is a key feature of the law in which it is used. In Chapter 3 Article 5 Section 65302, “natural infrastructure” is defined as, *the preservation or restoration of ecological systems, or utilization of engineered systems that use ecological processes, to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but is not limited to, floodplain and wetlands*

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<sup>2</sup> <http://ready.nj.gov/mitigation/hazard-mitigation-plans.shtml>

*restoration or preservation, combining levees with restored natural systems.* Chapter 3 Article 5 Section 65302 requires that local hazard mitigation plans identify natural infrastructure that may be used in adaptation projects (Authority for and Scope of General Plans, 2017).

- Mitigation

Four of the six state laws presented in this report include some variation of the term “mitigation” (including “mitigate” or “mitigating”) but none include a definition. Rather, the laws’ use of the term “mitigation” when referring to those plans required to be prepared by state, tribal and local governments in order to make them eligible to receive certain types of non-emergency disaster assistance such as funding for mitigation projects.<sup>3</sup> For example, California uses the term in the context of “hazard mitigation plan,” requiring that a climate element be added to the safety element within the local hazard mitigation plan; Connecticut requires the consideration of sea level change scenarios in “any municipal evacuation plan or hazard mitigation plan;” and Virginia states that either the local comprehensive plan (i.e. master plan) or the local hazard mitigation plan should include “strategies to combat projected relative sea-level rise and recurrent flooding.”

- Resilience or Resiliency

Three of the six states presented in this report include some variation of the term “resiliency” but none includes a definition. California Chapter 3 Article 5 Section 65302 uses the term three times, often in conjunction with “adaptation.” The term can be found in the following contexts in California’s law: “climate adaptation and resiliency strategies”; “adaptation and resilience goals”; as well as in reference to the use of natural infrastructure to “increase resiliency to climate change, manage other environmental hazards, or both (Authority for and Scope of General Plans, 2017)” Connecticut Public Act 18-82 exclusively uses the term in the title, “An Act Concerning Climate Change Planning and Resiliency (An Act Concerning Climate Change Planning and Resiliency, 2018).” Massachusetts HB 4835 uses some variation of the term a total of 32 times to refer to some the following areas: the resilience of government investments; resilience of infrastructure and other assets; resiliency of government operations; and in reference to building resilience to the impacts of climate change (Session Law 2018, Chapter 209).

- Definitions under consideration in New Jersey

The following terms have also emerged as important definitional elements within discussions in New Jersey regarding potential revisions to the MLUL.

- Environmental hazard

The New Jersey Chapter of the American Planning Association (NJAPA), Hazard Mitigation and Recovery Planning Committee has proposed to define environmental hazards as *any process or event that has the potential to threaten the surrounding natural environment, infrastructure, and utilities, or public health, including, but not limited to, pollution, natural disasters such as extreme storms and drought, sea-level rise (SLR); increased heavy precipitation events; extreme temperatures; and air quality impacts associated with temperature changes, fires, earthquakes and other hazards identified in risk assessments associated with relevant state, county and municipal hazard mitigation plans.* This definition is still in review and has not yet been finalized (Kutner, Recovery Planning Manager, 2018).

- Natural Hazards

The NJAPA Hazard Mitigation and Recovery Planning Committee has proposed to define natural hazards as, *an event or series of events caused by forces of nature that has a negative impact on people, infrastructure, or the environment. Natural hazards cannot be prevented but must be planned for in order to avoid or minimize impacts to lives, infrastructure, and property.* This definition is still under review and has not yet been finalized (Kutner, Recovery Planning Manager, 2018).

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<sup>3</sup> See: <https://www.fema.gov/hazard-mitigation-plan-requirement>

## State Provisions

Following a review of all U.S. states, six states were identified as having laws requiring resilience planning at the local level: California, Connecticut, Florida, Rhode Island, Massachusetts, and Virginia. The oldest state law requiring local resilience planning has been in place since 2011, while the remaining five were enacted between 2015 and August 2018 with the Massachusetts law, signed by Governor Baker in August 2018 and codifying provisions of a previous Executive Order, as being the most recent.

When states require local resilience planning, they do so by requiring the local governments to take a defined series of actions in their plans. A typology of the actions found across all six laws can be found in Table 1. In all six states, the provisions require resilience planning at the local government level but do not include language regarding mandatory implementation of the content of the plans nor enforcement of the plans developed. None of the laws automatically provides state funding to the local governments to support implementation of their resilience planning statutory obligations. Two of the six states establish grant programs to which municipalities can apply to become eligible to receive funding. Any planning associated with Hazard Mitigation Planning requirements pursuant to the Federal Emergency Management Agency makes the local government eligible for FEMA grant funds.

**Table 1: Case study states with mandatory local resilience planning provisions**

State	Plan	Actions required in local planning	Key
California	Hazard Mitigation Plan and Climate Adaptation Plan	A, B, C	<p><b>Key</b></p> <p>A Conduct a vulnerability assessment to identify risks to climate change</p> <p>B Develop adaptation goals</p> <p>C Conduct a set of adaptation and resilience strategies</p> <p>D Update plans to reflect changes in climate-related projections</p>
Connecticut	Hazard Mitigation Plan and Municipal Evacuation Plan	D	
Florida	Comprehensive Plan	C	
Rhode Island	Comprehensive Plan	B, C	
Massachusetts	Plans (no specification)	A, B, C <sup>4</sup>	
Virginia	Hazard Mitigation Plan, Comprehensive Plan, and Master Plan	A, C	

### ***Government entity, region, and vulnerable areas targeted***

Each state law targets a specific entity of local government to be responsible for undertaking the established requirements, while several of states' laws also differentiate requirements between geographic regions. Two of the provisions have requirements that consider vulnerable areas. A summary can be found in Table 2.

<sup>4</sup> In Massachusetts it is a responsibility of the Secretary of Energy and Environmental Affairs and the Secretary of Public Safety to update a statewide plan at least every five years that includes a statewide adaptation strategy with, "an evaluation of the commonwealth's capacity to respond and adapt to climate change impacts and opportunities (House Bill 4835, 2018)."

**Table 2: Government entity and areas targeted in state climate resilience provisions**

State	Government entity	Region	Vulnerable areas
California	Cities Counties	Statewide	Identify <i>historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.</i>
Connecticut	Municipalities	Statewide	Does not specify
Florida	Local government	Coastal <sup>5</sup>	Does not specify
Rhode Island	Municipalities	Statewide	Requires the plan include an <i>identification of areas that could be vulnerable to the effects of sea-level rise, flooding, storm damage, drought, or other natural hazards.</i>
Massachusetts	Municipalities Cities Towns	Statewide	Does not specify
Virginia	Municipalities Counties	Coastal <sup>6</sup>	Does not specify

***Prioritized hazard(s)***

The actions outlined in each case study addresses either one or a series of hazards that fall under the following categories: SLR, flooding, temperature, drought, and extreme weather events.

Table 3 provides an overview of prioritized hazard(s) by state. Massachusetts is the only state to use the term “extreme weather events.” Where it is used elsewhere in Table 3, extreme weather events refers to the additional hazards that do not fall within the primary categories. For example, the category of “extreme weather events” covers wildland and urban fires (California), drought or other “natural hazards” (Rhode Island), and those threats that are “presented by climate change and associated extreme weather events” (Massachusetts).

<sup>5</sup> Florida Chapter 2015-69 Section 163.3278(2)(f) requires certain components be added to the coastal management element in local government comprehensive plans (Florida Statute section 163.3178, 2015).

<sup>6</sup> The Virginia law applies exclusively to municipalities in the Hampton Roads Planning District Commission (The Comprehensive Plan, 2015).

**Table 3: Prioritized hazard(s) in state climate resilience provisions for local planning**

State	Sea level Rise	Flooding	Temperature	Drought	Extreme weather events
California	X <sup>7</sup>	X			X <sup>8</sup>
Connecticut	X	X			
Florida	X	X <sup>9</sup>			
Rhode Island	X	X		X	X <sup>10</sup>
Massachusetts <sup>11</sup>	X	X	X	X	X
Virginia	X	X		X	

***Additional background***

While Tables 1, 2, and 3 provide an overview of the state-by-state differences in laws requiring climate resiliency actions in local planning, the following brief summaries address the differences in greater detail.

- California Chapter 3 Section 65302 was an act to amend the Government Code relating to land use. The law was adopted in October 2015 and requires the safety element of a local hazard mitigation plan (either upon the first revision following January 1, 2017, or if the local jurisdiction had not yet adopted a local hazard mitigation plan, beginning on or before January 1, 2022) to “address climate adaptation and resiliency strategies” applicable to that local jurisdiction. By imposing such duties, the law imposes a “state-mandated local program (Authority for and Scope of General Plans, 2017).”
- Connecticut Public Act 18-82 is concerned with SLR and greenhouse gas emissions. The law updated the state’s existing statutory references to SLR by requiring that certain updates to SLR must occur at least every ten years in the following plans: municipal evacuation or hazard mitigation plans; the state's civil preparedness plan and program; municipal plans of conservation and development; and revisions to the state's plan of conservation and development. The law requires that updates in SLR projections must follow the scenarios published by the National Oceanic and Atmospheric Administration in Technical Report OAR-CPO-1 (NOAA TR OAR CPO-1). This report focuses on the municipal-level plans related to SLR. Public Act 18-82 was passed June 20, 2018 and requires compliance beginning October 1, 2019 (An Act Concerning Climate Change Planning and Resiliency, 2018).

<sup>7</sup> Although California Chapter 3 Article 5 Section 65302 does not explicitly note requirements surrounding SLR, the state released and continues to update *The State of California Sea-Level Rise Guidance Document* (State of California Ocean Protection Council; California Natural Resources Agency, 2018). The guide was originally released in 2010 to provide guidance to state agencies to incorporate SLR projections into planning, permitting, investment, and other decisions. In 2016, a group of government agencies collaborated to update the guide to focus on the needs of both state agencies and local governments. The updates are intended to help local governments comply with Chapter 3 Article 5 Section 65302 and include recent advances in ice loss science and SLR projections (State of California Ocean Protection Council, 2018).

<sup>8</sup> In California, the category “extreme weather events” covers wildland and urban fires (Authority for and Scope of General Plans, 2017).

<sup>9</sup> The Florida law relates flood risk to SLR by requiring the coastal management element of local plans to include, “development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, storm water runoff, and the related impacts of sea-level rise (Florida Statute section 163.3178, 2015).”

<sup>10</sup> In Rhode Island, the category “extreme weather events” covers drought or other “natural hazards” (Rhode Island Comprehensive Planning and Land Use Regulation Act, 2011).

<sup>11</sup> Massachusetts does not require local plans to include actions related to specific events. The bill does require The Secretary of Energy and Environmental Affairs and the Secretary of Public Safety to “coordinate efforts across the commonwealth to strengthen the resiliency of communities” and publish a state plan every five years that includes a statewide adaptation strategy that “includes projected climate trends based on the best available data, including but not limited to: extreme weather events, drought, coastal and inland flooding, sea level rise and increased storm surge, wildfire, and extreme temperatures.”

- Florida Chapter 2015-69 Section 163.3278(2)(f), “An act relating to the peril of flood,” requires consideration of future flood risk from storm surge and SLR in the coastal management element required for a local government comprehensive plan. The law includes SLR as one of the causes of flood risk that must be addressed in the “redevelopment principles, strategies, and engineering solutions (Florida Statute section 163.3178, 2015)”
- The amendments to the Rhode Island General Laws Title 45, referred to as the “Rhode Island Comprehensive Planning and Land Use Act” in 2011 revised the requirements of comprehensive planning by municipal governments. One of the new requirements established in 2011 addresses “natural hazards.” The law also requires an identification of areas that would be vulnerable to the effects of SLR, flooding, storm damage, drought, or other natural hazards in plans. The amendment placed a new requirement on municipal comprehensive plans to incorporate goals, policies, and specific techniques for implementing actions that would help or minimize the effects of natural hazards (Rhode Island Comprehensive Planning and Land Use Regulation Act, 2011).
- In Massachusetts, in August 2018 Governor Baker signed “An Act Promoting Climate Change Adaptation, Environmental and Natural Resource Protection and Investment in Recreational Assets and Opportunity” that, among other things, codifies the provisions of his previous Executive Order 569, “Establishing an Integrated Climate Change Strategy in the Commonwealth,” in September 2016. The order mandates the coordination between the Secretary of Energy and Environmental Affairs and the Secretary of Public Safety to develop a framework to provide guidance for towns and cities in incorporating certain climate resilience actions into their plans (as opposed to placing a requirement on the local government directly). The scope of the law includes reducing damage from natural hazards, reducing GHG emissions, and damage from extreme weather events. The Secretaries are required to establish a framework for each city and town to assess vulnerability and extreme weather events, as well as adaptation options for its assets. Additionally, the Secretaries are required to provide technical assistance to Cities and Towns, so the towns can complete vulnerability assessments, identify strategies and begin implementation of those strategies. (Establishing an Integrated Climate Change Strategy for the Commonwealth, 2016). In April 2017, the Baker-Polito Administration built on Executive Order 569 by establishing a Municipal Vulnerability Preparedness (MVP) grant program (“Baker-Polito Administration Announces Municipal Vulnerability Preparedness Grant Program | Mass.gov,” 2017).<sup>12</sup>

Much of the Executive Order was codified into House Bill No. 4835 in July 2018 and is titled, *An Act Promoting Climate Change Adaptation, Environmental and Natural Resource Protection and Investment in Recreational Assets and Opportunity* (House Bill 4835, 2018).
- Governor McAuliffe signed Virginia Senate Bill No. 1443 into law in March 2015. Effective starting July 2015, Chapter 22 Article 3 requires all localities in the Hampton Roads Planning District Commission to incorporate into either their comprehensive plans or local hazard mitigation plans (applies to next scheduled as well as all subsequent reviews) strategies to address SLR and recurrent flooding. The law also requires that localities coordinate with each other in the Hampton Roads Planning District Commission to review plans (The Comprehensive Plan, 2015). The Hampton Roads Planning District Commission is a regional organization representing seventeen local governments in southeast Virginia.

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<sup>12</sup> For more details on the MVP program, see the Funding section (page 16) of this report.

## Implementing Local Plans: Process

To ensure the success and follow-through of local governments implementing climate change actions into their plans, state laws typically refer local governments to a set of resources. Resources include data, technical assistance, and funding.

### Data sources

The state provisions vary in their approaches in requiring, offering, noting, or omitting all reference to any data sources recommended to local governments. The approaches of each state are outlined in Table 4.

**Table 4: Data sources in state climate resilience provisions for local planning**

State	Data source actions required by local government
California	B
Connecticut	A, B
Florida	C
Rhode Island	A
Massachusetts	NA <sup>13</sup>
Virginia	No specific requirement

Key	
A	Creation of shared data source
B	Compliance with existing data source
C	“Data” must be used, no specifications

Of the six case studies, two states require that data be used as part of the local government’s resilience planning, but they do not specify the source of data to be used (Florida and Massachusetts), while one state omits potential or required data sources (Virginia). Of the remaining three states where statutory provisions require use of a specific data source, the law identifies the data source to be used (California, Connecticut, and Rhode Island). In some cases, the provision refers to an existing data source, such as California that states the plan shall include information from: Internet-based Cal-Adapt tool, information from the most recent version of the California Adaptation Planning guide, as well as information from local agencies and historical data. Additionally, Connecticut requires use of NOAA TR OAR CPO-1.

In other cases, the provisions require the creation of a new data source or the compilation of existing data sources by a specific entity for use by local governments in meeting their obligations under the law (Connecticut and Rhode Island). For example, in addition to requiring use of NOAA TR OAR CPO-1, Connecticut requires the Marine Sciences Division of The University of Connecticut to publish a sea level change scenario for the state based on NOAA TR OAR CPO-1 and “other available scientific data necessary to create a scenario applicable to the state coastline” at least once every ten years. Ninety days prior to publishing, the CT law also requires the division and the Department of Energy and Environmental Protection to conduct at least one public hearing regarding the update. Within sixty days following the hearing, the Commissioner of Energy and Environmental Protection shall publish the sea

<sup>13</sup> Massachusetts requires the Secretary of Energy and Environmental Affairs and the Secretary of Public Safety to publish a plan that includes a statewide adaptation strategy every five years that incorporates “observed and projected climate trends based on the best available data.”

level change scenario for the state on the Internet web site of the Department of Energy and Environmental Protection along with a notice that any previous updates are superseded. Rhode Island requires that a distinguished “chief” make maximum use of existing information available from other agencies to establish (and make readily available to all municipalities statewide) a statewide database for the use of all municipalities. The Rhode Island law defines “chief” as, *the highest-ranking administrative officer of the division of planning as established by subsection 42-11-10(g)*.

### ***Supportive resources***

In some of the states, supportive resources may include: technical assistance programs; web-based data sharing tools, planning guides, and assistance from organizations.

To support local government success in carrying out the newly authorized or required actions, two of the states create a technical assistance program (Massachusetts and Virginia), three states reference potential resources that could be utilized (California, Rhode Island, and Virginia), and two states do not reference supportive resources (Connecticut and Florida). In Massachusetts and Virginia, specific entities are required to provide assistance and leadership to local governments in carrying out the resilience planning provisions. For example, in Massachusetts the Secretary of Energy and Environmental Affairs and the Secretary of Public Safety are required to, “provide technical assistance to Cities and Towns to complete vulnerability assessments, identify adaptation strategies, and begin implementation of these strategies.” Virginia Chapter 22 Article 3 lists the entities that are required to provide technical assistance to localities upon request, including: The Department of Conservation and Recreation; the Department of Emergency Management; the Marine Resources Commission; Old Dominion University; and the Virginia Institute of Marine Science. The law does not include funding source information for the technical assistance providers.

It is slightly more common, however, for the provisions to reference resources that localities can use at their own discretion, which is the approach taken in three of the six case studies. Such resources are either web-based data sharing tools or planning guides. Examples of web-based data sharing tools include Cal-Adapt in California and the Rhode Island geographic information system of land-related resources (developed by the division of planning and the University of Rhode Island). Examples of planning guides referenced include the California Adaptation Planning Guide and the Virginia Institute of Marine Sources.

In California, two organizations aid in local plan implementation. CivicSpark and the Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) work in partnership to offer services to help local governments understand the requirements of Chapter 3 Section 65302. CivicSpark is a Governor’s Initiative AmeriCorps program and ARCCA is a coalition of the Local Government Commission (LGC).<sup>14</sup> ARCCA’s statewide regional collaboratives encompass 80 percent of the state’s population, with the Governor’s Office of Planning and Research serving as an ex-officio member (“About ARCCA – ARCCA California,” 2018). Together, CivicSpark and ARCCA developed a factsheet and toolkit to provide guidance, resources, and case study examples to support Chapter 3 Section 65302 compliance.

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<sup>14</sup> LGC is a nonprofit, nonpartisan organization that offers services to assist local elected officials, their staff, and community leaders in creating “healthy, walkable, and resource-efficient communities.” LGC provides workshops, trainings, forums, presentations, design charrettes, community image surveys, and policy development assistance in subject areas such as climate change, water, energy, and healthy community design (“Projects – Local Government Commission,” 2017).

**Table 5: Supportive resources in state climate resilience laws on local planning**

State	Supportive resources		
	Law creates technical assistance program	Law references potential resources to aid in assessment and implementation	Resources to aid in local plan implementation
California		✓ Web-based data sharing tool ✓ Planning guide	Pre-established government initiatives ✓ Non-profit organizations
Connecticut		Web-based data sharing tool Planning guide	Pre-established government initiatives
Florida		Web-based data sharing tool Planning guide	Pre-established government initiatives
Rhode Island		✓ Web-based data sharing tool Planning guide	Pre-established government initiatives
Massachusetts	✓	Web-based data sharing tool Planning guide	Pre-established government initiatives
Virginia	✓	Web-based data sharing tool ✓ Planning guide	Pre-established government initiatives

**Funding**

Two of the six state laws establish grant programs to support local government efforts to comply with their statutory obligations. In Massachusetts, the Municipal Vulnerability Preparedness (MVP) Program was established in April 2017, seven months after Executive Order 569 and now codified in HB 4835 as a way to support municipalities’ efforts to implement the provisions of the original order. The program is a community-based workshop designed to connect local governments with technical expertise, data, and planning tools to identify hazards and develop strategies to improve resilience. Following completion of the program, communities become certified as an MVP community and are then eligible for the MVP Action grant funding (*No. 569: Establishing an Integrated Climate Change Strategy for the Commonwealth | Mass.gov, 2016; Baker-Polito Administration Announces Municipal Vulnerability Preparedness Grant Program | Mass.gov, 2017; 2017; Municipal Vulnerability Preparedness (MVP) program | Mass.gov, no date*). By May 2018 the MVP program had awarded over \$2 million in grant funding to 82 towns and cities (representing 43 percent of municipalities in the state) (“Baker-Polito Administration Awards Climate Vulnerability Preparedness Funding to 82 Communities | Mass.gov,” 2018). The MVP program was initially funded by Governor Baker’s authorization of over \$1.4 billion in capital allocations (“Baker-Polito Administration Files Legislation Committing Over \$1.4 Billion to Climate Change, Environmental Protection, and Community Investments | Mass.gov,” 2018). In April 2018, the Baker-Polito Administration announced an additional \$5 million investment in the MVP program (“Baker-Polito Administration Announces Availability of \$5 Million in Climate Vulnerability Preparedness Funding | Mass.gov,” 2018).

Rhode Island establishes a financial assistance program for municipalities to “encourage and facilitate the adoption implementation of comprehensive planning throughout the state.” The program is developed and administered by a designated “chief, defined by the bill as, *the highest-ranking administrative officer of*

*the division of planning as established by subsection 42-11-10(g).* Duties that are applicable to receive the grant funding include the following: “the conduct of surveys, inventories, and other data-gathering activities, the hiring of planning and other technical staff, the retention of planning consultants, contracts for planning, and related services, and other related purposes, in order to provide sufficient economies of scale and to build planning capacity at the municipal level. California Chapter 3 Section 65302 does not explicitly require or reference a potential funding source.<sup>15</sup>

It is important to note that where local governments are directed to incorporate resilience elements into hazard mitigation planning, those efforts may be eligible for funding support through FEMA’s Hazard Mitigation grant program (FEMA, 2018).

**Table 6: Funding in state climate resilience laws on local planning**

State	Law establishes a grant program to support local resilience planning
California	
Connecticut	
Florida	
Rhode Island	X
Massachusetts	X
Virginia	

***Implementation of plans***

Three of the six states’ laws have provisions that speak to implementation of the resilience plans while falling short of establishing provisions that could be invoked if plans are not implemented. Rhode Island requires an implementation program in local plans that comprises, “a statement which defines and schedules the specific public actions to be undertaken in order to achieve the goals and objections of each component of the comprehensive plan. Scheduled expansion or replacement of public facilities, and the anticipated costs and revenue sources proposed to meet those costs reflected in a municipality’s capital improvement program must be included in the implementation program (Rhode Island Comprehensive Planning and Land Use Regulation Act, 2011).” Virginia requires that the comprehensive plan recommend methods of implementation and a map of the area covered by the plan. The law suggests implementation methods that include but are not limited to: an official map; a capital improvements program; a subdivision ordinance; a zoning ordinance and zoning district maps; a mineral resource map; a recreation and sports resource map; and a map of dam break inundation zones (The Comprehensive Plan, 2015). Massachusetts establishes the MVP grant program to, “support and provide technical assistance

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<sup>15</sup> The original bill, California SB 379, states the following in the Legislative Counsel’s Digest: *The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement. This bill would provide that no reimbursement is required by this act for a specified reason.*

for cities and towns to complete climate-related vulnerability assessments, develop action-oriented resiliency plans and complete integrated climate change adaptation plans and local hazard mitigation plans and to implement local and regional adaptation solutions identified through such plans (Establishing an Integrated Climate Change Strategy for the Commonwealth, 2016).”

## **Conclusion**

This working paper provides a broad overview of state authorities that direct local government resilience planning and is intended to inform discussions underway in New Jersey. An examination of the six case study states points to consistent approaches in place in each state, such as provisions requiring development but not implementation of local plans, as well as differences among the approaches used in the case study states such as differences in geographic scope and targeted climate hazards. It would appear that states are learning from each other’s approaches and that there is a general reliance on existing planning methods for the purpose of advancing local government resilience planning, most notably local master planning and hazard mitigation planning.

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