



## Empowering State and Local Governments To Redirect Decision-Making to Achieve Resiliency

### *Recommendations for New Jersey*

Irene, the October 2011 snowstorm, and most recently Superstorm Sandy were a wake-up call to New Jersey, demonstrating the need to improve the safety and resiliency of people, properties, and communities in the face of both natural and man-made hazards. Doing this requires far more than a generous federal appropriation; a permanent shift in the culture of state and local government decision-making is needed. Four forward-looking planning activities are needed to set this in motion:

1. **Hazard mitigation planning**, leading to a Hazard Mitigation Plan (HMP) that identifies vulnerabilities and implementation strategies to avoid, minimize and mitigate risk, is required of both state and local governments as a prerequisite to receiving federal pre- and post-disaster mitigation funding.<sup>1</sup> **HMP implementation** is critical, covering not only specific mitigation projects, but also forward-looking revisions to related state, county and municipal plans, regulations and expenditures that affect government decisions into the future. Existing HMP efforts meet the letter of the law, but not its spirit; they need more comprehensive scopes, robust municipal chapters, and commitments to implementation that will allow government to prepare proactively for disasters and recover more quickly. *Estimated cost: \$58 million.*
2. **Municipal recovery planning and administration** occur following a disaster and include short-term actions to effectuate rebuilding, such as revising master plans, ordinances and building codes to incorporate new building elevation requirements and identifying high-risk areas and facilitating buyouts. **Recovery planning managers** are a proven approach to expanding municipal capacity for recovery planning and administration, and resiliency coordinators can help match government, academic and private planning expertise with local needs. Planning grants should be offered to towns and the resiliency and recovery network should expand. *Estimated cost: \$10 million.*
3. **Regional resource centers** can provide efficient and coordinated provision of planning and scientific expertise to local governments in a region with common characteristics, such as the coastal area or urban waterfronts, to assess vulnerabilities, offer planning strategies and best practices, and foster coordination. *Estimated cost to start: \$5 million.* **Additional regional planning authority** could ensure more coordinated, systematic and sustained efforts towards resiliency.
4. **DEP planning for coastal regulation, waterfront development, shore protection and buyouts** should be based on analysis of scientific information on coastal geomorphology, storms and rising sea levels, etc. and this information should be used to direct its programs and inform other local and regional planning efforts. *Estimated cost: \$5 million.*

This memo assesses the current status of each type of activity, describes best practices and makes recommendations to bridge any gaps.<sup>2</sup>

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<sup>1</sup> As described by the Disaster Mitigation Act (DMA) of 2000, a Hazard Mitigation Plan must address natural hazards such as wind, storms, shoreline erosion, flooding, wildfires, drought, and extreme heat; FEMA encourages plans to also address man-made disasters such as acts of terror.

<sup>2</sup> This document draws on recommendations from the APA-NJ Hazard Mitigation and Recovery Planning Committee and its document, "How a Gold Standard" Hazard Mitigation Plan Might Take Shape in New Jersey.

## 1. Hazard Mitigation Planning & Implementation

### **A. Existing Practice**

The [State of New Jersey HMP](#) was last adopted in 2011; an update is being prepared for adoption in April 2014. Twenty of the state's 21 counties have adopted a county-wide, multi-jurisdictional DMA 2000-compliant HMP.<sup>3</sup> Once approved by FEMA and adopted locally, these plans are effective for a five-year period. Many counties are currently engaged in updating their plans.<sup>4</sup> Municipalities must formally adopt either the multi-jurisdictional plan or their own municipal plan in order to receive FEMA funding. (In FEMA Region II, municipalities are being encouraged to roll their own plans into the multi-jurisdictional plans, although this is not recommended at the national level.) Most municipalities are in compliance. Eight municipalities have their own plans.<sup>5</sup>

State HMP - The state HMP is maintained by the New Jersey Office of Emergency Management under the New Jersey State Police. Although the State Hazard Mitigation Team was established to encourage coordination, the state HMP has traditionally not been well integrated with other state agency functions such as land use planning, transportation and environmental protection. The update process currently underway involves outreach to other state agencies and planning stakeholders.

Multi-jurisdictional HMPs - For the most part, New Jersey's existing multi-jurisdictional HMPs meet the letter of the law; they tend to catalog existing conditions, assess vulnerability to an array of natural hazards and recommend a laundry list of implementation strategies for mitigation of those vulnerabilities. But they fall short in a number of ways. Typical weaknesses fall into four categories:

1. Incomplete risk assessments. Many adopted HMP risk assessments fail to consider all areas of vulnerability, including rising sea levels and their ability to multiply storm impacts on community facilities, infrastructure and buildings.
2. Narrow, short-term focus. Current HMPs tend to focus primarily on short-term mitigation strategies that favor implementation "projects" that can be funded through FEMA's Hazard Mitigation Grant Program, but fail to consider broader sustainability principles or to address changes to the built environment that can break the cycle of repetitive loss/damage. Typical plan scopes do not address the location and design of infrastructure, buildings, community facilities, and constructed systems whether hard (seawalls, etc.) or soft (dunes, living shorelines, etc.) and the range of actions available to local governments, businesses and private property owners that can be implemented through construction and land development processes. Office of Emergency Management personnel (police, fire) typically play the lead role in HMP preparation; land use planners, zoning officers and construction code officials may be involved but only in a supporting role, along with engineers, public works staff, and elected officials.
3. Inadequate detail on municipal conditions. The first round of multi-jurisdictional HMPs prepared in New Jersey was coordinated by county Offices of Emergency Management; those offices remain responsible for plan maintenance and updates. To date, municipal participation in the process to develop the multi-jurisdictional HMPs has been mixed and generally limited to

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<sup>3</sup> The remaining county plan (for Ocean County) is under development and has been deemed sufficiently complete so that the municipalities within its jurisdiction qualify for HMGP funds.

<sup>4</sup> State HMP, table 6.2-1, page 4.

<sup>5</sup> State HMP, pages 5 – 6.

municipal OEM representatives. HMPs typically lack robust chapters for each municipality, even though municipalities control many decisions related to hazard prevention, property protection, public education and awareness, natural resource protection, long-term land use decision-making and in some case structural projects.

4. Lack of comprehensive implementation strategies. HMP mitigation strategies often do not recommend changes to other critically relevant plans, regulations and capital spending. In addition, multi-jurisdictional HMPs often include a laundry list of actions but fail to prescribe clearly an administrative process for implementation, including identification of responsible parties, funding, phasing, etc. -- critical details that help to ensure that planning is followed by coordinated and effective action.
5. Lack of follow-through on implementation steps. Implementing recommended mitigation strategies is not currently required, and in many cases the cost to undertake identified strategies exceeds the quantity of available funds.

## **B. Best Practices for Hazard Mitigation Planning and Implementation**

The following best practices are needed to ensure long-term resiliency:

1. Expand scope to include comprehensive risk assessments and response. The scope of the state and multi-jurisdictional HMPs must be expanded to include forward-looking risk assessments and mitigation strategies that consider the full array of vulnerabilities, including rising sea levels and their impact. They should use a planning time horizon of at least 50 years, reflecting the average life of infrastructure facilities and buildings. The scopes of state and multi-jurisdictional HMPs should address *both* specific projects and longer-term changes to the built environment, including community facilities, infrastructure, buildings and constructed protections. Staffing for HMP preparation must be broadened so that land use planners share a primary role with Office of Emergency Management personnel like police and fire. In addition, to achieve buy-in and help assure that strategy recommendations result in implementation, elected officials, engineers and public works officials must remain active participants throughout the plan preparation process. The [Getting to Resilience](#) approach outlines a comprehensive process and team of participants. FEMA supports this approach; see [Integrating Hazard Mitigation into Local Planning: Case Studies and Tools for Community Officials](#).
2. Ensure comprehensive chapters on each included municipality. Municipalities must be full and active participants in the development and implementation of HMPs. In addition, as required by regulation, each multi-jurisdictional HMP must include robust, comprehensive chapters for each municipality (except where municipalities have chosen to adopt their own HMP) that identify the risks by jurisdiction and specify how the mitigation strategy presented in the plan will be integrated into other planning mechanisms.
3. Specify implementation steps with commitments. HMPs must include long-term implementation strategies that identify changes to other critical plans, regulations and capital spending that govern long-term decision-making, to ensure that HMP objectives are achieved. For example, state and county HMPs should be integrated with updated state and county land use plans.<sup>6</sup> Key individuals, groups, organizations and agencies who are needed to fund and/or implement identified strategies must be involved in plan development. Plans must specify a clear administrative process for implementation including phasing and the identification of

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<sup>6</sup> For examples of integrating HMPs into local master plans please see plans from [Palm Beach County, Florida](#), and [Michigan](#).

responsible parties and funding. A mechanism such as memoranda of understanding, to assure concurrence and accountability, should be adopted. Plans can also include measures to leverage limited resources, such as consideration of joint ventures with other jurisdictions that experience common problems or characteristics (e.g. cross-jurisdictional high-risk wild land/urban interface). In addition, plans should include a process for ongoing measurements of effectiveness of implementation strategies so that efforts can be evaluated regularly and adjusted if needed.

### C. Recommendations To Achieve Better Hazard Mitigation Planning and Implementation

The State of New Jersey has a variety of resources available to ensure New Jersey hazard mitigation planning leads to resiliency. It should make funds available, modify land use statutes to authorize and require integration of hazard mitigation planning into land use planning, ensure coordination at the state level, and create incentives for municipal participation. These efforts must enable *every* county and municipality in New Jersey, not just those affected by Sandy, to prepare for the risks they face. We recommend the following:

- A. Allocate \$57.78 million<sup>7</sup> in federal supplemental funding as follows:
  - a. Comprehensive HMPs. Allocate federal (HMGP or CDBG) funds to ensure that HMPs at the state, multi-jurisdictional and municipal levels have comprehensive scopes that consider the full array of risks and mitigation strategies, as described in section B above. Direct the state Office of Planning Advocacy to offer a common platform for interactive data, such as NJ Site Mapper, and link to new tools like [NJ Floodmapper](#), in order to provide counties and municipalities with much-needed resources in a cost-effective manner. Establish state-level oversight to ensure that grant funds are allocated based on performance and that counties and municipalities meet best practices. *Cost estimate: \$250,000 (average) per county; \$5.25 million statewide.*
  - b. Matching funds. Allocate CDBG funds for use by counties to pay the required 25% match for HMP planning grants, provided they demonstrate compliance with performance standards.
  - c. Robust plan chapters for each municipality. Allocate federal (HMGP or CDBG) funding to ensure multi-jurisdictional HMPs include robust chapters for each of their covered municipalities. One cost-effective approach would be to fund counties to provide a “circuit rider” to assist municipalities with planning. *Cost estimate: \$80,000 per county (average); \$1.68 million statewide.*
  - d. Implementation activities. Allocate federal (CDBG) funding to counties with updated HMPs to create a block-grant program for municipalities to proceed with recommended implementation including both: (a) revisions to master plans, development ordinances and capital improvement plans and (b) advancement of high-priority mitigation projects to construction readiness. This would include detailed identification of all necessary steps to achieve permitting clearance, environmental impact assessment, preliminary engineering necessary for detailed benefit/cost analysis, design elevations, preliminary municipal review, public outreach and information. *Cost estimate: \$90,000 per municipality (on average, divided roughly equally between (a) and (b) above); \$50.85 million statewide.*

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<sup>7</sup> Figures are preliminary estimates, subject to revision.

B. Updating land use statutes

- a. Amend the Municipal Land Use Law to ensure integration of Hazard Mitigation Plans with local land use plans and ordinances, by:
  - i. requiring that hazard mitigation concepts, strategies and policies be integrated in the municipal master plan, either a) throughout the existing elements of a municipality's master plan, or b) in a standalone hazard mitigation plan element (at least one of which would be mandatory for municipalities that receive post-Sandy federal disaster relief funding) and any applicable multi-jurisdiction hazard mitigation plan prepared under the federal Disaster Mitigation Act, and applicable statewide hazard mitigation plans prepared by the New Jersey Office of Emergency Management;
  - ii. requiring all municipal development regulations (zoning, subdivision, site plan, and official map) to be substantially consistent with the hazard mitigation and recovery plan element; and
  - iii. requiring municipal capital improvements programs to incorporate and be substantially consistent with capital improvement projects recommended by, , the hazard mitigation and recovery plan.
- b. Amend the County Planning Enabling Act to make hazard mitigation planning a function of county planning boards and to require any multi-jurisdictional HMPs to be adopted by the appropriate county planning board.

C. Adopting a mechanism for state agency coordination and implementation

- a. Revise the draft State Strategic Plan to incorporate resiliency issues into the Garden State Values and goals. Adopt the updated State Strategic Plan as the new State Plan. Assign the State Strategic Plan Steering Committee to facilitate coordinated implementation of the state HMP.
- b. Allow for State Plan map updates through county adoption of "investment frameworks" that are consistent with updated county HMPs.

D. Exploring incentives

- a. Explore ways to condition the availability of pre- and post-recovery municipal assistance on comprehensive municipal involvement in the relevant HMP.
- b. Encourage cost- and other resource-sharing through inter-municipal cooperatives, representing municipalities that share common issues, by providing planning funds for regional projects to encourage such affiliations. (See Recommendation #3 on page 7.)

## **2. Municipal Recovery Planning and Administration**

### **A. Existing Practice**

Municipalities affected by Superstorm Sandy are struggling to find the resources to plan for immediate response and recovery efforts. With inadequate local capacity, many municipalities are forced to make decisions without a full understanding of their options and the consequences of those decisions, and without adequate input from constituents.

### **B. Best Practices for Municipal Recovery Planning**

Examples of best-practice post-disaster recovery planning with which municipalities need assistance include:

- Identification of areas of repetitive loss and very high risk that should be considered for buyouts now, before properties are rebuilt at taxpayer expense. Such identification is typically followed up by working directly with affected property owners to effectuate buyouts and amending the municipal master plan and zoning ordinance to reflect buyout areas.
- Revising zoning regulations and building codes that govern elevation of buildings.
- Following up on a variety of “one-shot” planning services that are being offered by not-for-profit organizations, planning and development associations and academic design teams. These services typically recommend planning strategies for a specific site. The municipality bears the responsibility and cost of implementation, which may include changes to the master plan and development ordinances.

New Jersey Future and Sustainable Jersey have been funded to create a **Recovery and Resiliency Network** that can expand a municipality’s capacity to advance all aspects of recovery. New Jersey Future is hiring five recovery planning managers to work in a single municipality or small group of similar municipalities to provide direct, long-term assistance including identifying sources of assistance, applying for grants, administering and managing recovery strategies and performing alternatives assessments for long-term resiliency planning. Sustainable Jersey will hire up to six resiliency coordinator circuit riders who will serve as a bridge between communities and the full array of relevant federal, state and not-for-profit resource and research organizations. These circuit riders could be assigned to groups of eight to 12 municipalities facing similar rebuilding issues, and could convene them to share best practices and to facilitate regional coordination. Both positions are funded for 12 months and could be extended for an additional 24 months if funding were available.

### **C. Recommendations to Support Municipal Recovery Planning and Administration**

We recommend the allocation of \$9.9 million in federal CDBG funds to support the following:

1. Municipal and joint municipal planning grants related to recovery and rebuilding decision-making. *Estimated cost: up to \$50,000 for 100 municipalities or \$5 million total.*
2. Extension of Local Recovery and Resiliency Network from one year to three years. Includes five towns and five circuit riders. *Estimated cost: \$3.5 million.*
3. Expansion of the Local Recovery and Resiliency Network to include three more towns for the full three years. *Estimated cost: \$1.4 million.*

### **3. Regional Resource Centers**

#### **A. Best Practices**

Municipalities are structurally disadvantaged at assessing risks and formulating responses when those risks are regional in nature. Moreover, planning expertise can be provided more efficiently at a regional level.

A multi-functional regional resource center could assess regional vulnerabilities more effectively and efficiently and provide state-of-the art planning resources to support both hazard mitigation planning and more immediate recovery planning.

There are many options for what a regional entity might look like, how it would be structured and operate and the outcomes it would deliver. Both flood-prone urban areas and the coastal area covered by CAFRA would benefit from a dedicated planning staff focused on providing resources for resilient rebuilding that make it easy and affordable for towns to become more resilient. Municipal participation would be optional, but services would be designed to meet municipal needs. One option would be use federal CDBG funds to pilot an Urban Waterfront Resource Center and a Coastal Resource Center and structure them to provide three main functions:

1. Information provision – offering a web-based clearinghouse in a form easily used by municipalities that would provide information related to storm damage, risk assessments and infrastructure.
2. Technical assistance – providing scientific and planning expertise targeted to the needs of the region, including best practices in a variety of areas.<sup>8</sup>
3. Facilitation – conducting specific planning services, such as convening design charrettes that can spark novel, creative approaches to building in the “new normal” flood-prone and coastal environments.

A second option would be to more such entities with a narrower focus, whether geographic, or issue-oriented.

If additional authority were provided through legislation, a regional planning entity could provide formal policy integration and coordination across the region on critical land use and related investments for development, infrastructure and open-space acquisition.

#### **B. Recommendations To Ensure Effective, Cost-efficient Regional Approaches to Resiliency**

4. We recommend that the Governor’s Office of Recovery and Resiliency and the HUD Hurricane Sandy Rebuilding Task Force together convene an intensive day-and-a-half-long

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<sup>8</sup> Scientific and planning expertise should address issues such as: designs for elevated buildings, wet-proofing flood-prone urban buildings,. model zoning ordinance and site plan and subdivision regulations, best practices for hard and soft infrastructure design, community facilitation/engagement techniques, density transfer program development/application/administration, economic development (business attraction) planning, open space planning/acquisition, natural resource restoration/management, transportation systems planning, hazard assessment techniques, best practices to coordinate and integrate hazard mitigation and land use planning/capital investment, etc., and capital budget management/prioritization planning

- workshop to review best practices from around the country on regional resource centers and regional planning entities; discuss alternatives; and recommend one approach for New Jersey. To save costs and ensure high-quality advisors, we recommend asking the [Governor's Institute on Community Design](#) (GICD)<sup>9</sup> to run the session. Since the GICD workshops are open only to high-level government officials, this workshop should be complemented with pre- and post-workshop sessions that include representatives from local government, smart-growth and planning organizations, and other stakeholders.
5. For planning purposes, we preliminarily recommend allocation of \$5 million in federal CDBG funds as core funding for the first two years of regional resource center operations.

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<sup>9</sup> The Governor's Institute ran a very successful workshop for the Christie administration in the spring of 2011. See: [State Strategic Plan](#), page 4, and the [GICD Recommendations for New Jersey](#).

#### 4. DEP Planning for Coastal and Waterfront Areas

##### A. Existing Practice

The New Jersey DEP is responsible for a variety of coastal and waterfront development issues, including the following:

- In partnership with the Army Corps of Engineers, managing billions of dollars' worth of investments in dredging and constructed protections, including dunes, beach replenishments, sea walls and living shorelines.
- Regulating the provision of public access to beaches and waterfronts.
- Regulating development pursuant to the Coastal Area Facilities Review Act (CAFRA), the Waterfront Development Law and the Wetlands Act of 1970 (and their implementing regulations including the Coastal Permit Program rules and the Coastal Zone Management rules.)
- Purchasing lands to protect natural resources (via the Green Acres program) and to return developed properties subject to repetitive loss to their natural state (via the Blue Acres program).

These efforts must be reviewed and revised based on an updated understanding of risks due to climate change, including rising sea levels and more frequent storms, as well as with comprehensive cost-benefit analyses. Previous efforts to provide such analyses include the DEP Shore Protection Master Plan (1981) and Coastal Hazard Management; Lessons and Future Directions from New Jersey (2002) by Norbert Psuty and Douglas Ofiara, both of which are now out of date.

The CAFRA rules require additional consideration since they rely on the 2001 State Development and Redevelopment Plan, including both Planning Area designations and Center designations. Both are now 12 years out of date. Planning Areas can be updated through a process overseen by the State Planning Commission, which works well for small parcel-level adjustments but not for a comprehensive overhaul. Center designations may only be updated through the plan endorsement process, but that process has been effectively discontinued by the Christie administration.

Another needed improvement regards the practice of conducting shore protection planning without consideration for, or integration of land use planning. As a result we see the Army Corps and DEP putting more and more reliance on costly and temporary beach nourishment solutions. While this response is appropriate in some areas, these plans do not evaluate how the integration of enhanced land use planning might result in more sustainable and resilient communities, at far lower costs, over the long term. Oceanfront setbacks in particular can reduce vulnerability and damages, and potentially lower costs to nourish and re-nourish over time by supporting healthy natural systems. However, the antiquated Army Corps of Engineers benefit-cost analyses that "justify" these expensive projects do not consider alternative land use solutions nor consider how these solutions might result in reduced damages and lower costs and provide other benefits. Additionally, allowing the Corps to conduct the analyses in support of its own projects will always skew the results in favor of project-building. Integration into the planning framework of a broad range of solutions and more comprehensive benefit-cost analyses would produce better outcomes.

**B. Recommendations for DEP Planning for Coastal and Waterfront Areas**

1. Dedicate \$5 million to the DEP for to create within two years a comprehensive blueprint for beach protection, flood protection, public access, acquisitions and coastal and waterfront development regulation, similar to the 1981 Shore Protection Master Plan but expanded in scope. The blueprint would be based on scientific analysis of storm- and flood-related hazards and alternative protection measures, and would include comprehensive cost-benefit analyses that consider the full range of potential solutions. Require public review and input.
2. Update the CAFRA rules so that they are integrated with an updated State Strategic Plan that identifies priority areas for growth and preservation through county adoption of investment frameworks. This should be integrated with Hazard Mitigation Planning as described in recommendation 1 (C) (3) on page 5.

**RESOURCES**

FEMA: [Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials](#)

APA: Hazard Mitigation; Integrating Best Practices into Planning.  
<http://www.fema.gov/library/viewRecord.do?id=4267>

Plans, Rules and Resiliency. David R. Godschalk, April 2013. <http://www.plansmartnj.org/wp-content/uploads/2013/05/Godscalk-Resilient-Coastal-Planning-and-Regulation.pdf>

[Getting to Resilience; A Community Planning Evaluation Tool](#). Jacques Cousteau National Estuarine Research Reserve and the Barnegat Bay Partnership, 2013.

|   | Per<br>municipality<br>(average) | Per county<br>(average) | Statewide     | Total         |
|---|----------------------------------|-------------------------|---------------|---------------|
| <b>Hazard Mitigation Planning</b>   |                                  |                         |               | \$ 57,780,000 |
| Expand scopes of existing multi-jurisdictional HMPs<br><i>note: costs may increase where GIS data is thin</i> |                                  | \$ 250,000              | \$ 5,250,000  |               |
| Expand county capacity to work with municipalities<br><i>Circuit rider is one approach</i>                    |                                  | \$ 80,000               | \$ 1,680,000  |               |
| Grants to municipalities to incorporate county HMP in local plans, ordinances and make project "shovel ready" | \$ 90,000                        |                         | \$ 50,850,000 |               |
| Total   |                                  |                         |               |               |
| <b>Municipal Recovery Planning and Administration</b>   |                                  |                         |               | \$ 9,900,000  |
| Planning grants   |                                  |                         | \$ 5,000,000  |               |
| Extension of Local Recovery and Resiliency Network (two more years)   |                                  |                         | \$ 3,500,000  |               |
| Expansion of Local Recovery and Resiliency Network (3 more towns)   |                                  |                         | \$ 1,400,000  |               |
| Total   |                                  |                         |               |               |
| <b>Regional Resource Centers</b>  |                                  |                         |               | \$ 5,000,000  |
| Start-up funds for two years (preliminary figure)   |                                  |                         |               |               |
| <b>DEP planning for coastal and waterfront issues</b>   |                                  |                         |               | \$ 5,000,000  |
| Comprehensive blueprint (two year project)  |                                  |                         |               |               |
| <b>Combined total - all planning efforts</b>  |                                  |                         |               | \$ 77,680,000 |