

# CLIMATE CHANGE AND LOCAL PLANNING WHITE PAPER

## Implications for Local Planning Practice of Policy Recommendations of the New Jersey Climate Adaptation Alliance

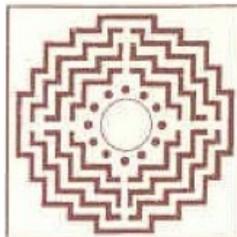
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NJ Climate Adaptation Alliance

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## SUMMARY

The New Jersey Climate Adaptation Alliance (NJCCA) offered seven policy recommendations with significant implications for local planning practice in its June 2014 report Resilience: Preparing New Jersey for Climate Change:

- 1.5 Incorporate climate change policy into capital planning and decision making of state agencies, regional and local planning authorities and commissions, municipal and county governments.
- 1.6 Conduct a comprehensive evaluation of policies and regulations governing New Jersey's coastal zone in light of identified risks to a changing climate.
- 1.8 Revise the Municipal Land Use Law to require a master plan element that addresses natural hazards such as climate change.
- 2.1 Develop and enhance tools to restrict or discourage future development and redevelopment in areas at high risk to the impacts of current and future storms, flooding and sea level rise.
- 3.2 Develop and sustain meaningful incentives at a statewide scale to encourage counties and municipalities to advance targeted and comprehensive buy-out programs for flood and storm prone areas.
- 3.3 Encourage greater participation by a broader set of state and local agencies in state and local emergency management and hazard mitigation planning.
- 5.2 Authorize enhanced state training and resources for local officials regarding climate adaptation and resiliency planning.

Under the Municipal Land Use Law, local planners already have authority to anticipate and weigh the risks of increased hazards associated with a changing climate in municipal master plans, development regulations and decisions, and capital planning. As the New Jersey Chapter of the American Planning Association has observed, "Outside of state and regional infrastructure, local land use decisions determine whether or not people are put in harm's way, how much they are to be put at risk, often without their knowledge. ... municipal planning boards, and their staff and consultant professional planners ... should update local master plans, redevelopment plans, and zoning ordinances to reduce risks from hazards ..."<sup>1</sup>

Implementation of the Alliance's recommendations could change and increase the effectiveness of local planning practice by providing an explicit, informed focus on planning for hazards, particularly those associated with climate change. This White Paper comments on these policy recommendations from the perspective of local planning, aiming to stimulate discussion and consideration of the Alliance's proposals.

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<sup>1</sup> "APA-NJ Comments on 2014 NJ State Hazard Mitigation Plan," accessed February 10, 2015, <http://njplanning.org/news/apa-nj-comments-on-2014-nj-state-hazard-mitigation-plan/>

## INTRODUCTION

In June 2014, the New Jersey Climate Adaption Alliance (NJCCA) completed and released its report Resilience: Preparing New Jersey for Climate Change<sup>2</sup>, which offered 48 policy recommendations to address gaps in public policy identified in 2013 and better prepare New Jersey, its communities, and residents for a changing climate. Seven of these recommendations have implications for local planning practice. This White Paper analyzes these recommendations from a local planning and local planners perspective, generally addressing six questions for each recommendation:

- What, if anything, do local planners do now to implement the recommendation?
- What can local planners do to implement the recommendation?
- What actions are required to implement the recommendation? What are the implementation alternatives?
- Do any current legislative or administrative initiatives address the recommendation?
- How will implementation of the recommendation affect local planning practice and planners?

For the purpose of this White Paper, local planning means primarily municipal actions that influence the use and development of all the lands in New Jersey through plan-making, development review, and capital project reviews under the Municipal Land Use Law.<sup>3</sup> Local planners means municipal and county (non-state agencies) professional planning staff, planning consultants to local governments, governing body members, and planning board members.

Each of the policy recommendations is analyzed in turn. A text box under each policy recommendation reproduces in full the text of each recommendation as presented in the NJCAA June 2014 report.

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<sup>2</sup> Accessed February 11, 2015, <http://njadapt.rutgers.edu/docman-lister/resource-pdfs/120-resilience-preparing-new-jersey-for-climate-change-policy-considerations/file>

<sup>3</sup> N.J.S.A. 40:55D-1 et seq.

## ANALYSIS OF THE POLICY RECOMMENDATIONS

### 1.5 Incorporate climate change policy into capital planning and decision making of state agencies, regional and local planning authorities and commissions, municipal and county governments.

Municipal governing bodies are responsible for investing municipal funds in local capital projects, including those with potential to increase resilience to anticipated climate change impacts, such as acquisition for open space purposes of vulnerable areas and relocation of roads and associated sewer, water, gas, electricity, and telecommunications systems. Often municipalities share these costs with county, state, and federal government agencies.

In order to undertake any capital project, a municipality must prepare and adopt both an annual capital budget, together with its annual operating budget, and a multi-year capital improvement program.<sup>4</sup> The governing body has the discretion to refer a proposed capital project and capital improvement program to the planning board for its recommendation, but this referral is mandatory if the capital project “affects” the master plan.<sup>5</sup> Furthermore, the governing body may delegate to the planning board the preparation of a six-year capital improvement program, but the governing body retains the responsibility to approve and implement the capital improvement program. Municipal governing bodies decide on and authorize specific capital projects by bond ordinances, but only after referral to the planning board for a review of and recommendation on a proposed capital project, based on the master plan.<sup>6</sup>

1.5 All political jurisdictions of the State including State agencies, regional and local planning authorities and commissions, municipal and county government should incorporate the state climate change policy into capital planning and decision making. These efforts should include planning and decision making affecting expenditure of monies for capital improvements, infrastructure (including open space and farmland preservation, drinking water, wastewater, transportation, housing, shore protection, telecommunications and energy) and economic development investment. Satisfactory incorporation of the climate change policy into these decisions should be a condition of receipt of state funding.

Local planners currently have the statutory authority under the Municipal Land Use Law to implement Policy Recommendation 1.5 and influence municipal capital investment decisions, based in part on climate change policy, to the extent such policy has been articulated in a municipal master plan. The bedrock basis for capital planning and recommendations by local planners on capital projects is the municipal master plan. It is, therefore, critical that the master plan have specific, citable provisions on climate change impacts and adaptation measures and/or that the master plan and its various elements be prepared, updated, and amended in a manner that incorporates facts, trends, anticipated impacts, adaptation measures, and policies on climate change.

The current statutory guidance for preparing a local capital improvement program is development-oriented. The Municipal Land Use Law directs local planners to consider the

<sup>4</sup> N.J.A.C. 5:30-4.3.

<sup>5</sup> N.J.A.C. 5:30-4.4(a).

<sup>6</sup> N.J.S.A. 40:55D-31.

public facility needs of anticipated development in the municipality, based on the master plan and land uses permitted by zoning.<sup>7</sup>

To sharpen the focus of local planners in their capital planning on anticipated climate change impacts, the Municipal Land Use Law could be amended and supplemented to provide that the capital improvement program shall also take into account the anticipated impacts of climate change and proposed adaptation measures, as specified in the master plan.<sup>8</sup>

To provide more clarity in implementing this recommendation, the master plan provisions of the Municipal Land Use Law could be amended and supplemented to explicitly incorporate climate change considerations, including in the: (a) land use plan element (e.g., changes in land uses), (b) circulation plan element (e.g., changes in roads and right-of-ways), (c) utility service plan element (e.g., infrastructure relocation), and (d) conservation plan element (e.g., acquisition of hazardous areas).<sup>9</sup>

No pending legislation proposes such amendments to the Municipal Land Use Law.

If implemented, this recommendation would change local planning practice by requiring an explicit consideration of climate change in local capital planning and capital project decision-making.

## **1.6 Conduct a comprehensive evaluation of policies and regulations governing New Jersey's coastal zone in light of identified risks to a changing climate.**

Local planning has essentially five different relationships with the policies and regulations that govern the New Jersey coastal zone, primarily those adopted and implemented by the New Jersey Department of Environmental Protection ("DEP").<sup>10</sup>

First, while local planning influences or determines permitted uses of coastal lands at the water's edge, State jurisdiction then becomes exclusive or takes precedence in coastal waters. For example, while municipal zoning or use variances determine the location and layout of a marina, DEP permits and a tidelands license are required to develop docks in coastal waters.

Second, New Jersey's double veto coastal land use regulatory system requires developers in the coastal zone to obtain both municipal planning and DEP land use approvals for the same proposed development, with the decisions by local planners made independently of DEP decision-making. For example, construction of a new motel on a barrier island could be blocked by either a municipal planning rejection (e.g., refusal to rezone, denial of a use variance, or rejection of a site plan) or a DEP coastal permit denial.

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<sup>7</sup> N.J.S.A. 40:55D-29.

<sup>8</sup> N.J.S.A. 40:55D-29.

<sup>9</sup> N.J.S.A. 40:55D-28.b.

<sup>10</sup> See in particular the DEP rules on Coastal Zone Management, N.J.A.C. 7:7E, accessed February 10, 2015, [http://www.nj.gov/dep/rules/rules/njac7\\_7e.pdf](http://www.nj.gov/dep/rules/rules/njac7_7e.pdf).

Third, local planning is integrated with DEP policies in only selected coastal policy areas. For example, DEP requires DEP-approved municipal public access plans to be incorporated into a municipal master plan element, suggesting that the land use, recreation, and conservations plan elements would be appropriate.<sup>11</sup>

Fourth, DEP leadership and decision-making in coastal engineering, on the type, location, design, timing, and cost-sharing for projects along the coast, influences the options available to local planners for guiding the most appropriate uses of land, while protecting life and property.<sup>12</sup>

Fifth, DEP collaborates with local planners in coastal planning by making available data and planning tools. For example, DEP assists local planning by developing, piloting, and making available assessment tools for coastal resiliency planning.<sup>13</sup>

No pending legislation proposes a study commission or other mechanism to implement this recommendation to evaluate comprehensively New Jersey’s coastal zone policies and policy gaps. Two pending bills do, however, address some of New Jersey’s coastal policies.

First, A1588 requires DEP to update its 1981 Shore Protection Master Plan. The bill implicitly calls for updating the Shore Protection Master Plan’s (a) analysis of the conditions, features, and processes of the New Jersey Shore, (b) evaluation of policy choices, and (c) priority system for ranking shore protection projects.

Second, S64 (A2117 companion bill) creates the New Jersey Coastal Commission and charges the new agency with preparing and implementing a coastal management plan, based in part on a comprehensive resource assessment. The bill directs the Coastal Commission to address many coastal policies, including policies to protect “human life and the property from

1.6 Given New Jersey’s unique geographic vulnerability to sea level rise, a comprehensive evaluation should be conducted to review policies and regulations governing the New Jersey coastal zone in light of climate change risks. Findings and insights from the evaluation should result in recommendations for statutory, regulatory and executive actions that will enhance the adaptive capacity of the coastal zone including recommendations for policy adoption as part of the routine Coastal Zone Management section 309 evaluation process. The reevaluation should include consultation with federal and local governments and involve engagement of the public, local coastal governments and stakeholders. Geographically, it should address an inclusive definition of the state’s coast, being certain to incorporate urban coastal areas and working waterfronts. Provisions to be reevaluated include those governing: land use development and redevelopment; impervious cover; beach replenishment; hazard mitigation and response; protection of natural areas and coastal habitats and impacts to locations for public access to coastal waters. The report should detail needs not present in current policies and regulations to adequately protect people, places and assets within the coastal zone from conditions of a changing climate and provide specific recommendations for statutory and regulatory change. Additionally, the evaluation should seek to identify design alternatives for maritime structures, such as docks and marinas that are, by nature, in vulnerable areas and identify strategies to apply incentives or establish standards for these alternatives.

<sup>11</sup> N.J.A.C. 7:7E-8.11(e)6.xi.

<sup>12</sup> See the DEP website “Coastal Engineering,” accessed February 10, 2015, <http://www.nj.gov/dep/shoreprotection/>.

<sup>13</sup> See the DEP website “Coastal Resiliency Planning,” accessed February 10, 2015, <http://www.state.nj.us/dep/cmp/docs/coastal-resiliency-planning-fact-sheet.pdf>.

rising sea levels, severe weather events, and erosion ... .” S64 does not, however, address the full geographic scope of New Jersey’s coastal zone policies, as the Coastal Commission’s jurisdiction would be limited to parts of Atlantic, Cape May, Middlesex, Monmouth, and Ocean counties delineated as the “coastal area” in the 1973 Coastal Area Facility Review Act. Other areas subject to tidal flooding, in 12 other counties of New Jersey, are outside the “coastal area” delineated in CAFRA.

This policy recommendation calls for a comprehensive evaluation of New Jersey’s coastal policies in light of climate change risks, i.e., largely DEP policies. It does not specifically call for changes in local planning practice. This policy recommendation appropriately calls for consultation with local governments and other stakeholders, i.e., local planners, to be part of the evaluation process. The evaluation should recognize and address the five different local planning-DEP relationships described above. Depending on the outcome of the evaluation and the implementation of its recommendations, this evaluation could modify, confirm, or expand these relationships, which could have significant implications for local planning practice. However, in the absence of such an evaluation it is impossible to even speculate on how local planning practice might be affected.

**1.8 Revise the Municipal Land Use Law to require a master plan element that addresses natural hazards such as climate change.**

The Municipal Land Use Law requires that a local planning board prepare, adopt, amend as necessary, and periodically reexamine a master plan containing at least (a) “[a] statement of objectives, principles, assumptions, policies and standards],” (b) a land use plan element, and (c) a housing plan element, as a prerequisite to exercising the power to zone and thereby control the use of land in a municipality.<sup>14</sup> The Municipal Land Use Law also authorizes the preparation and inclusion in a master plan, “where appropriate,” of one or more optional plan elements, at the discretion of the municipality, on utility services, community facilities, recreation, conservation, economic development, historic preservation, recycling, farmland preservation, development transfer, educational facilities, and green buildings and sustainability.<sup>15</sup>

1.8 The Municipal Land Use Law should be revised to require an element of the master plan that addresses natural hazards such as climate change. Such an element would be designed to direct municipalities to identify and assess the impacts of land use-related natural and other hazards as well as the associated risks and vulnerabilities that are likely to affect the municipality, including but not limited to storms, shoreline erosion, flooding, storm surge, wind, and landslides. Training should be made available for local officials on how to develop and implement such an element and its provisions.

The Municipal Land Use Law does not, however, require or authorize a master plan element that addresses natural hazards such as climate change. A separate hazards element could be more effective than the current lack of focus or inattention to the known risks of a changing climate.

<sup>14</sup> N.J.S.A. 40:55D-28.b. and -62a.

<sup>15</sup> N.J.S.A. 40:55D-28.b.(5) through (10) and (12) through (16).

The federal Disaster Mitigation Act of 2000 does, however, require the State and local governments to prepare, and update every five years, hazard mitigation plans as a prerequisite to receiving hazard mitigation funding from the Federal Emergency Management Agency (“FEMA”). In New Jersey, FEMA-approved Hazard Mitigation Plans (HMP) have been prepared almost exclusively at the state and county levels and have focused in the past on emergency response and preparedness. HMPs have not been integrated with municipal-level land use planning and used in development decision-making to reduce risk from natural hazards. By contrast, a hazards plan element could be explicitly integrated with all applicable elements of a municipal master plan

Some local planners do currently attempt to incorporate consideration of natural hazards, including climate change, in local planning, particularly as participants in FEMA-mandated county (“multi-jurisdictional”) hazard mitigation planning and in post-Sandy recovery planning. As the New Jersey Chapter of the American Planning Association has observed, “Outside of state and regional infrastructure, local land use decisions determine whether or not people are put in harm’s way, how much they are to be put at risk, often without their knowledge. ... municipal planning boards, and their staff and consultant professional planners ... should update local master plans, redevelopment plans, and zoning ordinances to reduce risks from hazards ...”<sup>16</sup>

Implementing Policy Recommendation 1.8 involves amending the Municipal Land Use Law. Legislation that would add a natural hazards, or simply hazards, plan element would benefit from being developed in consultation with those stakeholders most involved and responsible for local planning and hazards management, i.e., local governments and local planners, represented by the New Jersey State League of Municipalities and the New Jersey Chapter of the American Planning Association, beginning with its Hazard Mitigation & Recovery Planning Committee.<sup>17</sup>

Two threshold questions are whether the hazards plan element should be mandatory or optional, and, if mandatory, should the zoning ordinance be required to be “substantially consistent” with the hazards plan element, as is the case with the land use plan element and the housing plan element?<sup>18</sup> This consistency provision has the significant advantage of requiring that the plan element’s provisions be incorporated into a municipality’s zoning, the chief and most significant local land use planning tool.

Regardless of whether the element is optional or mandatory, another consideration is the planning process for a hazards plan element. For example, a hazards plan element could be required to (a) identify hazards, risks, and vulnerabilities, (b) assess the anticipated impacts of diverse hazards, (c) consider best practices recommended by FEMA and others to address the hazards, (d) establish local policies on hazards, both mitigation and recovery post disaster, and (e) integrate the hazards plan element with other relevant master plan elements. Another

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<sup>16</sup> “APA-NJ Comments on 2014 NJ State Hazard Mitigation Plan,” accessed February 10, 2015, <http://njplanning.org/news/apa-nj-comments-on-2014-nj-state-hazard-mitigation-plan/>

<sup>17</sup> On this APA-NJ Committee and its activities, see its website, accessed February 11, 2015, <http://njplanning.org/membership/committees/hazard-mitigation-recovery-planning/>

<sup>18</sup> N.J.S.A. 40:55D-62.a.

important consideration is how to insure the consistency of the hazards plan element with the applicable multi-jurisdiction and state hazard mitigation plans prepared as required by FEMA.<sup>19</sup>

One bill pending in the Legislature directly addresses Policy Recommendation 1.8, A1735, which would require a hazard mitigation plan element in the municipal master plan.<sup>20</sup> The bill does not, however, mention sea level rise or climate change. Nor does the bill address the hazards planning process considerations listed above.

Appendix B presents draft language for implementing Policy Recommendation 1.8., amendments that could be made to the Municipal Land Use Law to authorize a hazard plan element, require this plan element to be integrated with FEMA-mandated hazard mitigation planning by the State and counties, and provide that a municipality's zoning must be substantially consistent with the adopted hazard plan element,

Another pending bill indirectly addresses some aspects of the natural hazards issue in local planning, S2424 (and its companion bill A4185), which would expand the statutory requirements for the required land use plan element.<sup>21</sup> The bill merely requires a “statement of strategy” on three somewhat disparate topics: (a) smart growth, which is not defined, (b) storm resiliency only with respect to energy supply and environmental infrastructure, and (c) environmental sustainability, which is not defined. The provisions on smart growth and sustainability, as written, are not very pertinent to climate preparedness.

A “statement of strategy” of these topics is a welcome starting point but the bill as introduced will not achieve the objective of Policy Recommendation 1.8, but amendments could be proposed. For example, definitions could be provided for its key terms. Also, the term and concept of “storm resiliency” could be clarified by using more generally accepted terms and concepts, such as natural hazards, hazards, and hazard mitigation, or hazard mitigation and recovery. The scope of concern under “storm resiliency” could be expanded beyond merely energy supply and environmental infrastructure to embrace a broader range of considerations when anticipating and planning to mitigate the impacts of climate change and natural hazards, as well as plan ahead for post-disaster recovery. As the concerns addressed by the bill affect several master plan elements, provisions could be made to require the incorporation in and integration of hazards-related planning provisions in all appropriate plan elements.

Rather than a mere “statement of strategy,” a more effective approach might be to require or at least authorize a master plan element on hazards and require its incorporation in other plan elements. A hazards plan element as outlined in Appendix B would be more comprehensive, more focused on the full range of concerns prompted by a changing climate, and explicitly integrated in master plan, zoning, development review, and capital planning decision-making.

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<sup>19</sup> For the state of the art on hazards planning, see James C. Schwab, ed., Hazard Mitigation: Integrating Best Practices into Planning, Planning Advisory Service Report Number 560, Chicago: American Planning Association, 2010, accessed February 10, 2015, [http://www.fema.gov/media-library-data/20130726-1739-25045-4373/pas\\_560\\_final.pdf](http://www.fema.gov/media-library-data/20130726-1739-25045-4373/pas_560_final.pdf) and James C. Schwab, ed., Planning for Post-Disaster Recovery: Next Generation, Planning Advisory Service Report Number 576, Chicago: American Planning Association, 2014, accessed February 10, 2015, [https://www.planning.org/pas/reports/pdf/PAS\\_576.pdf](https://www.planning.org/pas/reports/pdf/PAS_576.pdf)

<sup>20</sup> Accessed February 11, 2015, [http://www.njleg.state.nj.us/2014/Bills/A2000/1735\\_11.PDF](http://www.njleg.state.nj.us/2014/Bills/A2000/1735_11.PDF)

<sup>21</sup> Accessed February 11, 2015, [http://www.njleg.state.nj.us/2014/Bills/S2500/2424\\_11.PDF](http://www.njleg.state.nj.us/2014/Bills/S2500/2424_11.PDF)

As to smart growth, while it has no generally accepted definition in the planning community, it is often vaguely described as growth that serves the environment, the economy, and the community, equally. The concept of smart growth is also often described in terms of principles and objectives for community planning, such as: mix land uses, create a range of housing opportunities and choices, and provide a variety of transportation choices.<sup>22</sup> Its comprehensive scope is similar to the scope of comprehensive planning under the Municipal Land Use Law. Smart growth is a prescriptive planning concept. If the sponsor's intent is to require that New Jersey municipalities embrace smart growth principles in all local planning, then the purposes section of the Municipal Land Use Law could be so amended and supplemented and a statutory definition and principles of smart growth could be provided as a consistent directive to local planners.

Furthermore, the bill appears to be redundant as to environmental sustainability, as the Municipal Land Use Law already authorizes and defines clearly the required scope of a green buildings and environmental sustainability plan element.<sup>23</sup>

Implementation of Policy Recommendation 1.8 will change local planning practice in New Jersey by requiring all municipalities to identify and plan for the impacts of diverse hazards. Just as the 1985 amendment to the Municipal Land Use Law requiring a housing plan amendment put housing planning on the planning agenda of every community, a required hazards plan element will kick start and continue a planning conversation on hazards throughout New Jersey at the local level. This effort will increase the preparedness of communities and carry out the fundamental, first purpose of the Municipal Land Use Law, namely to "encourage municipal action to guide the appropriate use or development of all lands in [New Jersey] in a manner which will promote the public ... safety ... and general welfare."<sup>24</sup>

## **2.1 Develop and enhance tools to restrict or discourage future development and redevelopment in areas at high risk to the impacts of current and future storms, flooding and sea level rise.**

The first step in restricting or discouraging development in high-risk areas is to define, identify, and map these areas. Local planners currently participate in the preparation of FEMA-mandated, county-level, multi-jurisdiction hazard mitigation plans, which include vulnerability assessments, with mapping, based on the risks of flooding, storm surge, and other hazards. Even before Superstorm Sandy in 2012, the anticipated impacts of sea level rise have been mapped for selected communities in DEP-led pilot studies.<sup>25</sup> Furthermore, some New Jersey municipalities have also taken the planning step of recognizing that some flood hazard mapping may be somewhat dated and that there is a changed potential for flooding, by adopting Advisory

<sup>22</sup> For ten smart growth principles long advanced by the U.S. Environmental Protection Agency, see its Smart Growth website, accessed February 11, 2015, [http://www.epa.gov/smartgrowth/about\\_sg.htm](http://www.epa.gov/smartgrowth/about_sg.htm)

<sup>23</sup> N.J.S.A. 40:55D-28.b.(16).

<sup>24</sup> N.J.S.A. 40:55D-2.a.

<sup>25</sup> See, for example, NJ DEP, Office of Coastal Management, Coastal Community Vulnerability & Resilience Assessment Pilot Greenwich Township, Cumberland County, NJ, Final Report, June 2011, accessed February 12, 2015, <http://www.nj.gov/dep/cmp/docs/ccvap-greenwich.pdf>

Base Flood Elevation (ABFE) maps prepared by FEMA and released in advance of FEMA’s anticipated updated Flood Insurance Rate Maps (FIRMs).<sup>26 27</sup>

Two related web-based tools that begin to implement this recommendation, the “Coastal Hazard Profiler” and “NJ Flood Mapper” and [www.njadapt.org](http://www.njadapt.org) tools have been prepared by Rutgers to assist planners and others visualize and make maps showing the anticipated impacts of flooding, storm surge, and sea level rise, and assess vulnerabilities to coastal hazards.<sup>28</sup> These tools have been developed by Rutgers as a partnership with state and federal agencies as well as in consultation with end users including non-profit and community-based organizations and local governments. These decision support tools have been developed to provide the public with easy access to and ready use of data that is critical to resilience and climate adaptation planning.

Policy Recommendation 2.1 is directed at the State (implicitly DEP), and only indirectly at local planners, who are and will be important consumers and users of the recommended new and enhanced planning tools and maps.

The State currently provides technical assistance, data and tools sharing, and conducts pilot studies. These efforts, while laudable, fall short of providing the type of comprehensive guidance that would provide benefits to municipalities and ensure consistent approaches statewide and reliance on current science. These efforts provide an important foundation to build upon in developing more comprehensive state level guidance.

No pending legislation addresses this recommendation.

Alternatively, if DEP and/or other State agencies are unable to expand their efforts and implement this recommendation, Rutgers and other governmental, nonprofit and foundation

2.1 The State should enhance tools that can be used to support the goal of restricting and discouraging future development and redevelopment in areas identified as being of high risk to the impacts of current and future storms, flooding and sea level rise. Recognizing that there are inherent challenges in updating and incorporating future projections into maps that inform flood hazard risk mitigation efforts at the state, county and local level, the State should incorporate more stringent siting, design and construction requirements as part of flood hazard standards. The State should utilize the best available data for riverine and coastal flooding mapping reflecting both current conditions and science as informed by the newly established STAP. Additionally, a statewide coastal and riverine flooding exposure risk assessment should be conducted that incorporates data from prior storms (i.e. Hurricane Irene and Sandy), the updated flood hazard maps, information regarding current and future climate change scenarios, environmental conditions, probabilities of extreme weather events, data regarding repetitive losses, existing development patterns and recognition of particularly vulnerable populations.

(See Appendix A for a detailed explanation of this policy recommendation)

<sup>26</sup> See the FEMA Region II website on “Coastal Analysis and Mapping,” accessed February 12, 2015, <http://www.region2coastal.com/faqs/advisory-bfe-faq#FMQ>

<sup>27</sup> FEMA released revised preliminary FIRMs for several New Jersey coastal counties on January 30, 2015, accessed February 12, 2015, <http://www.region2coastal.com/preliminaryfirms>

<sup>28</sup> NJADAPT website, accessed February 12, 2015, <http://www.njadapt.org>. See also the related NJ Flood Mapper website, Accessed February 13, 2015, <http://www.njfloodmapper.org>

partners could attempt to develop and make publicly accessible these enhanced planning tools, subject to funding constraints, as a public service.

Once the recommended planning tools are available, local planners will be able to consider future risks from hazards systematically and in a more informed manner. Better equipped local planners will then be able to truly plan ahead, to update, revise, and amend master plans and development regulations, and review and comment on proposed capital projects, including land acquisition, so that future development and redevelopment takes place with a greater likelihood of preventing loss of lives and reducing property damage from the anticipated impacts of hazards.

Implementation of this policy recommendation has the potential to dramatically change for the better planning practice throughout New Jersey, particularly if combined with implementation of Policy Recommendation 1.8, i.e., requiring municipalities to prepare a hazards plan element in their master plans. Preparation of widely accessible coastal and riverine flooding risk exposure assessments, with mapping, for the entire state, will enable all municipalities to make better-informed and better-reasoned planning decisions about their land use futures.

### **3.2 Develop and sustain meaningful incentives at a statewide scale to encourage counties and municipalities to advance targeted and comprehensive buy-out programs for flood and storm prone areas.**

Through DEP's Superstorm Sandy Blue Acres Buyout Program, the State anticipates using \$300 million in federal disaster recovery funds to acquire, from willing sellers only, and demolish up to 1,300 homes, about 1,000 in coastal areas affected by Sandy and about 300 that have experienced repetitive riverine flooding.<sup>29</sup> As of November 2014, DEP had identified more than 900 properties in 11 municipalities, 342 homeowners had accepted the State's buy-out offers, and the first 100 homes had been demolished in Sayreville and South River in Middlesex County.<sup>30</sup>

3.2 Meaningful incentives should be developed and sustained at a statewide scale to encourage counties and municipalities to advance in targeted and comprehensive buy-out programs for flood and storm prone areas. One incentive that should be considered is providing full and reliable funding for a state payment-in-lieu of taxes program, which has been an integral element of the successful Green Acres / Blue Acres land acquisition programs which have now run out of funding, in order to ease the burden on local government buy-out programs.

The extent of involvement of local planners in the current post-Sandy buy-out program appears to be limited at best. DEP's stated criteria for evaluating potential buy-out areas

<sup>29</sup> DEP FAQs, Superstorm Sandy Blue Acres Buyout program, accessed February 13, 2015, <http://www.nj.gov/dep/greenacres/pdf/faqs-blueacres.pdf> and ReNew Jersey Stronger website, accessed February 13, 2015, <http://www.renewjerseystronger.org/homeowners/blue-acres-buyout-program/>

<sup>30</sup> DEP News Release, "CHRISTIE ADMINISTRATION MARKS 100th DEMOLITION IN SANDY RESIDENTIAL BUYOUT PROGRAM," November 20, 2015, accessed February 13, 2015, [http://www.nj.gov/dep/newsrel/2014/14\\_0124.htm](http://www.nj.gov/dep/newsrel/2014/14_0124.htm)

include planning concerns, e.g., “clusters of flood-prone homes or whole neighborhoods” and “opportunity for significant environmental impact and/or improvement to public health, safety, and welfare.”<sup>31</sup> In Sayreville, the municipality bundled and submitted a single package of homeowner applications to DEP and FEMA. In South River, the Borough Planner commented that the buy-out program was divorced from local planning, stating “This process, by the nature of the NJDEP acquisition program is an entirely administrative endeavor, and is removed from traditional planning, public input, comprehensive master planning, or a land use zoning process.”<sup>32</sup> A natural hazards element of the master plan, as discussed above under Policy Recommendation 1.8, could provide an opportunity for a municipality to consider a buy-out program as part of, not separate from, its local planning processes.

As with Policy Recommendation 2.1, Policy Recommendation 3.2 is directed implicitly at the State, and only indirectly at local planners. One potential impact of a buy-out program on a municipality is an adverse fiscal impact, as homes are demolished and properties are removed from local tax rolls as they become open space, an impact recognized by South River that created a planning challenge, in part to replace rateables.

### **3.3 Encourage greater participation by a broader set of state and local agencies in state and local emergency management and hazard mitigation planning.**

State and county emergency management agencies have had the lead in undertaking emergency management and hazard mitigation planning in cooperation with FEMA. Counties prepare so-called multi-jurisdictional plans that encompass most if not all of their respective municipalities. Trenton, Elizabeth, and Lambertville draft their own HMPs as Single Jurisdiction. The State has not funded individual municipal plans since 2011. Currently, the State and all counties have HMPs that are either approved, pending review, or being updated.<sup>33</sup>

3.3 Greater participation by a broader set of state and local agencies (including public health officers, local planning offices, environmental commissions, community and faith-based organizations, etc.) in state and local emergency management and hazard mitigation planning should be encouraged. The State Office of Emergency Management can serve to foster a participatory approach to emergency management and hazard mitigation planning which, in turn, can promote similar integration at the local level.

FEMA approval of hazard mitigation plans (“HMPs”) prepared by the State and counties is a prerequisite to certain non-disaster federal funding for four types of hazard mitigation projects or mitigation actions:

<sup>31</sup> DEP FAQs, Superstorm Sandy Blue Acres Buyout program, accessed February 13, 2015, <http://www.nj.gov/dep/greenacres/pdf/faqs-blueacres.pdf>

<sup>32</sup> Bignell Planning Consultants, Inc., Strategic Recovery Planning Report, Borough of South River, March 1, 2014, page 8, accessed February 13, 2015, [http://www.southrivernj.org/notices/Strategic\\_Recovery\\_Planning\\_Report\\_060514.pdf](http://www.southrivernj.org/notices/Strategic_Recovery_Planning_Report_060514.pdf)

<sup>33</sup> FEMA, “Ahead of the Game: New Jersey’s Hazard Mitigation Initiative Will Pay Off in Future Storms.” Press Release Number: SRFO-NJ NR-024, May 30, 2014, accessed February 16, 2015, <https://www.fema.gov/news-release/2014/05/30/ahead-game-new-jerseys-hazard-mitigation-initiative-will-pay-future-storms>

1. Plans and regulations, e.g., adopt ABFE maps
2. Structure and infrastructure projects, e.g., acquire damaged properties
3. Natural system protection, e.g., build dunes
4. Education and awareness programs, e.g., outreach through local radio

For example, Ocean County's 2014 HMP details 558 proposed municipal actions and 28 proposed county actions.<sup>34</sup> The Ocean County HMP is also an example of the widespread practice where the County Sheriff manages the lead agency for the HMP, the county's Office of Emergency Management. In Ocean County, the county planning department actively participated in the HMP process and greater participation by a broader set of local agencies was achieved and welcomed as well.

FEMA regulations prescribe HMP content and indicate that "[t]he mitigation planning process [for a state HMP] should include coordination with other State agencies, appropriate Federal agencies, interested groups, and be integrated to the extent possible with other ongoing State planning efforts ... ."<sup>35</sup> For a local HMP, FEMA regulations stress, "An open public involvement process is essential to the development of an effective plan. FEMA's local (i.e., county in New Jersey) planning process regulations require opportunities for public comment on a draft plan before its approval and specifically require "...An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process ... ."<sup>36</sup>

Policy Recommendation 3.3 is directed more at the New Jersey Office of Emergency Management (part of the State Police) and county emergency management agencies responsible for HMPs than at local (municipal) planners. As HMPs must be updated regularly, every three years for the State and every five years for counties, opportunities exist and can be easily created to expand the range of "interested groups" and "interests involved in the [HMP] planning process." Expanded concepts of vulnerability to hazards may also be necessary to insure inclusive HMP processes that encompass the full range of direct and indirect climate change issues potentially faced by individuals, families, and communities in New Jersey, including the most vulnerable and marginalized.<sup>37</sup>

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<sup>34</sup> Ocean County 2014 Multi-Jurisdictional All Hazard Mitigation Plan, Appendix G – Detailed Mitigation Action Worksheets, pp. G-1 through G-614, accessed February 16, 2015, <http://www.oceancountyhmp.com/fema-approved-hmp>

<sup>35</sup> 44 CFR 201.4(b), accessed February 16, 2015, [http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=e63c0b17b2c76390184c081f4e63611d&rqn=div5&view=text&node=44:1.0.1.4.53&idno=44#\\_top](http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=e63c0b17b2c76390184c081f4e63611d&rqn=div5&view=text&node=44:1.0.1.4.53&idno=44#_top)

<sup>36</sup> 44 CFR 201.6(b)(2), accessed February 16, 2015, [http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=e63c0b17b2c76390184c081f4e63611d&rqn=div5&view=text&node=44:1.0.1.4.53&idno=44#\\_top](http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=e63c0b17b2c76390184c081f4e63611d&rqn=div5&view=text&node=44:1.0.1.4.53&idno=44#_top)

<sup>37</sup> For illustrative equity-based indicators of vulnerability and resilience, see the blog post by Jacqui Patterson, Director of the NAACP Environmental and Climate Justice Program, Equity in Building Resilience in Adaptation Planning, January 26, 2015, accessed January 27, 2015, <http://www.naacp.org/blog/entry/equity-in-resilience-building-for-climate-adaptation-planning>

As FEMA regulations seek the involvement in county hazard mitigation planning of “... agencies that have the authority to regulate development ...,” there can be no mistake that in New Jersey this points to the value of full integration of local planners, who wield primary responsibility for land use decision-making, into the hazard mitigation planning process. More systematic, collaborative, and frequent involvement by local planners and other interests in hazard mitigation planning will likely increase the extent of integration of hazard mitigation and land use planning. The State does recognize, albeit in a low-key manner, the desirability of increased local level planning integration and noted recently, when assessing the current effectiveness of land use planning, that

“While local capabilities continue to increase to reduce the impacts of hazards, progress is still possible regarding integration of local HMP risk assessment results and mitigation goals and strategies into comprehensive and land use planning.”<sup>38</sup>

Implementation of Policy Recommendation 3.3 is at the discretion of the leadership of the State and county HMP agencies and there is growing recognition both within the statewide OEM and planning communities that more integration of key agencies offers serious value. In some jurisdictions, HMP agencies are leading the way to more fully integrate local planners and other interests in order to yield a more comprehensive and impactful HMP process. No legislation is required, although a directive from the Governor could make unequivocal the importance of early and frequent opportunities for public involvement as well as support for efforts already underway to more fully integrate local planners and other key agencies (e.g. public health) into the hazard mitigation planning process. More and more, local planners and HMP agencies are recognizing the need for a more integrated process and fostering greater integration among county emergency management agencies and their hazard mitigation planning consultants, local planners, stakeholders and other key interests at the point when each county’s cycle of plan update occurs.

At the state level, in 2014 the New Jersey Chapter of the American Planning Association offered detailed, well-reasoned recommendations to the State on how New Jersey’s hazard mitigation planning process could be made more inclusive and effective.<sup>39</sup> Implementation of the NJ-APA recommendations and Policy Recommendation 3.3, particularly in combination with implementation of Policy Recommendation 1.8 on a hazards plan element in municipal master plans, would improve significantly local planning practice, integrate best practices in hazard mitigation and adaptation with local planning, and make important strides towards increasing the resiliency of New Jersey communities.

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<sup>38</sup> State of New Jersey 2014 Hazard Mitigation Plan, Section 6. Mitigation Strategy, page 6-43, accessed February 16, 2015, [http://www.state.nj.us/njoem/programs/mitigation\\_plan2014.html](http://www.state.nj.us/njoem/programs/mitigation_plan2014.html)

<sup>39</sup> APA-NJ Comments on 2014 NJ State Hazard Mitigation Plan, April 11, 2014, accessed February 16, 2015, <http://njplanning.org/news/apa-nj-comments-on-2014-nj-state-hazard-mitigation-plan/> and APA-NJ Hazard Mitigation & Recovery Planning Committee: How a “Gold Standard” Hazard Mitigation Plan Might Take Shape in New Jersey, May 2014, accessed February 16, 2015, [http://njplanning.org/wp-content/uploads/Hazard-Mitigation-Planning-Gold-Standard\\_NC.pdf](http://njplanning.org/wp-content/uploads/Hazard-Mitigation-Planning-Gold-Standard_NC.pdf)

**5.2 Authorize enhanced state training and resources for local officials regarding climate adaptation and resiliency planning.**

In 2005, the Legislature amended the Municipal Land Use Law to mandate that members of local planning boards and zoning boards of adjustment complete successfully a basic course in land use law and planning.<sup>40</sup> The New Jersey Department of Community Affairs (“DCA”) prescribed the curriculum,<sup>41</sup> in cooperation with the nonprofit New Jersey Planning Officials organization, which offers the one day, five hour course frequently throughout the state.<sup>42</sup>

Policy Recommendation 5.2 is directed at the Legislature, not at local planners, although local planners would be the target recipients of training on climate adaptation and resiliency planning.

To implement this recommendation, the Municipal Land Use Law and implementing DCA rules could be amended to expand the curriculum of the currently required planning training to include climate adaptation and resiliency planning. Or a separate training program could be authorized, funded, and conducted by an appropriate nonprofit or educational organization.

5.2 The Legislature should authorize enhanced training and qualifications for local officials regarding climate adaptation and resiliency planning. Local officials including planning and zoning board members are critical to ensuring local communities are prepared for a changing climate. Therefore, state training and certification programs, as well as state resources, related to climate change impacts and adaptation leading practices should be authorized for planning and zoning board members as well as for municipal engineers, including but not limited to flood hazards and mapping, stormwater management planning, climate change projections and green infrastructure.

Municipal engineers, for example, could receive this training as part of the Certified Municipal Engineer program administered by the New Jersey Society of Professional Engineers.<sup>43</sup>

Implementation of Policy Recommendation 5.2 would improve local planning practice by increasing the knowledge base on climate change issues and their ramifications for local planning of the citizen planners and their professional advisors who make the local land use decisions.

<sup>40</sup> N.J.S.A. 40:55D-8, -23.3 and -23.4, P.L. 2005, c. 133.

<sup>41</sup> N.J.A.C. 5:87-3.

<sup>42</sup> New Jersey Planning Officials website, accessed February 16, 2015, [http://njpo.org/NJPO\\_Seminars.php](http://njpo.org/NJPO_Seminars.php)

<sup>43</sup> New Jersey Society of Professional Engineers website, accessed February 16, 2015, <http://www.njsme.org/cme.html>

Appendix A:  
 Updated Flood Hazard Area Maps and Flooding Exposure Risk Assessments  
 (Detailed explanation of Policy Recommendation 2.1)

The updated flood hazard maps and the flooding exposure risk assessment should be incorporated into regulations, policies, planning, capital and infrastructure investments in order to restrict and discourage future development and redevelopment in areas identified as being of high risk to current and future storms, flooding and sea level rise. This effort should include, but not be limited to incorporation into the areas outlined below:

- The flooding exposure risk assessment should be incorporated into a review of building construction and elevation standards to result in more stringent standards that provide the necessary safety precaution for projected increases in sea level rise and future development/impervious cover;
- The flooding exposure risk assessment should be consistently incorporated into State and countywide all Hazard Mitigation Plans as they are updated in the next cycle;
- The flooding exposure risk assessment should be used to develop comprehensive statewide guidelines for existing development in highest risk areas to guide/facilitate/promote strategic relocation using techniques such as Transfer of Development Rights and public acquisition, looking at what can reasonably be protected using current technology considering direct costs and benefits and application of policies that recognize indirect long-term ecosystem service costs and benefits. These guidelines should incorporate a statewide analysis of the long term public costs of development and redevelopment in high hazard areas as well as the long-term economy-wide costs of failing to act;
- The flooding exposure risk assessment should be used to inform a statewide ranking of climate risk to infrastructure most at risk (i.e., transportation, energy, telecommunications, drinking water and wastewater infrastructure);
- The flooding exposure risk assessment should be used to identify a statewide ranking of site remediation case priorities for sites in high risk areas to prevent increased exposure or mobilization of contaminants at high risk of flooding;

- The flooding exposure risk assessment should inform revisions to the Municipal Land Use Law that would require county and municipal master plans to identify and address, consistent with the policy at 1.8, above, high risk areas as part of local master plans and zoning and encourages the exceedance of state requirements to establish appropriate local ordinances that provide climate change adaptation functions including: protection of natural features such as dunes, overwash areas and tidal wetlands via strategies such as setback and buffer requirements as well as standards addressing stream corridors and steep slopes. Some of this effort can benefit from developing model local ordinances that integrate existing elements of the state's Coastal Zone Management rules that promote resiliency of natural systems to mitigate hazards.

- State Agencies, county and municipal governments, as well as regional planning entities and Metropolitan Planning Organizations, should incorporate the updated flood hazard maps and the flooding exposure risk assessment into planning and decision making including master planning and zoning decisions to reduce risk to people, places and assets as well as to enhance local economies;

- A risk assessment should be undertaken to identify specific types of new development for which even a limited chance of flooding is too great a threat. Federal Executive Order 11988, issued in 1977, directs federal agencies to avoid long and short term adverse impacts associated with occupancy and modification of the floodplains. FEMA guidance issued pursuant to the Executive Order lays out an eight-step process for federal agencies to utilize in making risk determinations. A risk assessment will allow New Jersey to identify types of development that should be prohibited in flood prone areas in the future, such as hospitals, health care facilities, nursing homes, facilities that handle hazardous materials, facilities associated with continuity of government operations, landfills, etc. as well as to determine whether to apply the FEMA guidance or a different standard in light of the statewide climate impact assessment.

Appendix B:

Proposed Amendments to the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.  
New Hazard Plan Element of the Municipal Master Plan

**Matter enclosed in brackets and stricken through [thus] is intended to be omitted in the law.  
Matter underlined thus is intended to be added to the law.**

Amend N.J.S.A. 40:55D-28.b.

b. The master plan shall generally comprise a report or statement and land use and development proposal, with maps, diagrams and text, presenting, at least the following elements (1) and (2) and, where appropriate, the following elements (3) through ~~[(46)]~~ (17):

Amend N.J.S.A. 40:55D-28.b. to add the following new plan element, after (16) green buildings and environmental sustainability plan element:

(17) A hazard plan element, which shall: identify hazards, risks, and vulnerabilities likely to affect the municipality or pose a risk of catastrophic damage, to the extent such hazards relate to land use and development plans and decisions; assess the anticipated impacts of natural and other hazards, including but not limited to storms, shoreline erosion, flooding, storm surge, wind, landslides, sea level rise, increased temperature, and other impacts of a changing climate; specify objectives, policies, and programs to mitigate, adapt, and guide recovery from the anticipated impacts of these hazards, risks, and vulnerabilities; consider best practices in hazard mitigation recommended by the Federal Emergency Management Agency; and include specific policy statements on the consistency, coordination, and integration of the hazard plan element with (i) the other plan elements of the municipality's master plan, (ii) the applicable multi-jurisdiction hazard mitigation plan prepared under the federal Disaster Mitigation Act of 2000, Public Law 106-390, as amended, and approved by the Federal Emergency Management Agency, and (iii) applicable plans, maps, and programs prepared by the New Jersey Office of Emergency Management. A municipality that receives federal disaster relief funding after the

federal declaration of the state as a “major disaster area” on October 30, 2012 shall prepare and adopt its hazard plan element within one year of the effective date of P.L. , c. (pending before the Legislature as this bill).

Amend N.J.S.A. 40:55D-62.a.

The governing body may adopt or amend a zoning ordinance relating to the nature and extent of the uses of land and of buildings and structures thereon. Such ordinance shall be adopted after the planning board has adopted the land use plan element, ~~[and]~~ the housing plan element, and the hazard plan element of a master plan, and all of the provisions of such zoning ordinance or any amendment or revision thereto shall either be substantially consistent with the land use plan element, ~~[and]~~ the housing plan element, and the hazard plan element of the master plan or designed to effectuate such plan elements; provided that the governing body may adopt a zoning ordinance or amendment or revision thereto which in whole or part is inconsistent with or not designed to effectuate the land use plan element, ~~[and]~~ the housing plan element, and the hazard plan element, but only by affirmative vote of a majority of the full authorized membership of the governing body, with the reasons of the governing body for so acting set forth in a resolution and recorded in its minutes when adopting such a zoning ordinance; and provided further that, notwithstanding anything aforesaid, the governing body may adopt an interim zoning ordinance pursuant to subsection b. of section 77 of P.L.1975, c.291 (C.40:55D-90).

The zoning ordinance shall be drawn with reasonable consideration to the character of each district and its peculiar suitability for particular uses and to encourage the most appropriate use of land. The regulations in the zoning ordinance shall be uniform throughout each district for each class or kind of buildings or other structure or uses of land, including planned unit development, planned unit residential development and residential cluster, but the regulations in one district may differ from those in other districts.