



2014 NEW YORK CITY HAZARD MITIGATION PLAN



Bill de Blasio, Mayor
Joseph F. Bruno, Commissioner of New York City
Office of Emergency Management

THE CITY OF NEW YORK
HAZARD MITIGATION PLAN

2014



Report Editor: Jane Margolies
Report Design: Melissa Umberger
Cover Photo: Power outage in Lower
Manhattan during Hurricane Sandy

THE PLAN:

CHAPTER 1: INTRODUCTION

CHAPTER 2: PLANNING PROCESS

CHAPTER 3: RISK ASSESSMENT

CHAPTER 4: MITIGATION STRATEGY

CHAPTER 5: PLAN ADOPTION

CHAPTER 6: PLAN MAINTENANCE

APPENDICES:

APPENDIX A: MEETING DOCUMENTATION

APPENDIX B: INACTIVE MITIGATION ACTIONS

APPENDIX C: HAZARD MITIGATION SURVEY

APPENDIX D: ACRONYM LIST

APPENDIX E: GLOSSARY

This Page is Intentionally Left Blank

CHAPTER 1: INTRODUCTION



Overview

Hazard mitigation, the effort to reduce or eliminate the risks from hazards to people and property, is the first of the four phases of emergency management. It is followed by preparedness, response, and recovery (see Figure 1.1: Phases of Emergency Management). Although the mitigation stage of emergency management often gets the least attention, it is one of the most important steps in creating a disaster-resistant community.

Hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed *before* a disaster actually occurs. Although it is impossible to predict exactly when and where disasters will occur or the extent to which they will affect localities, careful planning and collaboration among public agencies, stakeholders, and citizens can minimize losses.

The 2014 New York City Hazard Mitigation Plan (HMP) is the result of this kind of extensive, collaborate effort. The plan—which assesses hazard vulnerabilities, identifies mitigation opportunities, and secures funding for the benefit of New York City—was developed by the New York City Office of Emergency Management (OEM) and the New York City Department of City Planning (DCP) working with the Mayor's Office of Long-Term Planning and Sustainability (OLTPS).

The development of the plan coincided with the arrival of Hurricane Sandy in October 2012, which provided both constraints and opportunities. In early 2013, the City of New York developed a long-term, comprehensive climate resiliency plan, *A Stronger, More Resilient New York*, to assess the impacts of Hurricane Sandy and provide recommendations for rebuilding communities and increasing the resilience of infrastructure and buildings citywide. The research and recommendations in this report heavily influenced the development of the HMP. The HMP is also the culmination of a cooperative partnership among dozens of city, state, and federal agencies, authorities, and organizations, with input from the private sector, academic institutions, community organizations, and citizens.

The 2014 update differs from New York City's original HMP, published in 2009, in two important ways:

Figure 1.1: Phases of Emergency Management



First, it includes *non-natural* hazards along with natural hazards. Second, it addresses the impacts of climate change on identified natural hazards. The plan is a living document and will be refined and updated every five years.

This plan meets all requirements for hazard mitigation plans under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). The Stafford Act was signed into law in 1988 and provides the authority for federal disaster assistance activities, including preparedness and mitigation along with assistance for response and recovery.

The Disaster Mitigation Act of 2000 (DMA 2000) amended the Stafford Act to reinforce the importance of mitigation planning and emphasize planning for disasters before they occur. DMA 2000 established provisions and requirements for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. States and communities must have an approved Hazard Mitigation Plan to be eligible to apply for and receive FEMA hazard mitigation funds. The plans must demonstrate that the proposed mitigation actions are based on a sound planning process that accounts for the risk to and the capabilities of the community. To facilitate plan development, the Federal Emergency Management Agency (FEMA) has issued guidelines under DMA 2000 regulations.

The New York State Division of Homeland Security and

Emergency Services (DHSES) supports the development of HMPs for jurisdictions within the state, including New York City, through various planning initiatives. NYS DHSES also administers select hazard mitigation grants as well.

Benefits of Mitigation Planning for New York City

Hazard mitigation planning helps New York City reduce risk from hazards by identifying vulnerabilities and developing strategies to lessen and sometimes even eliminate the effects of the hazard. Some of the benefits of mitigation planning to New York City agencies and other stakeholders are as follows:

- **Leads to selection of risk-reduction actions.** Hazard mitigation planning is a systematic process of learning about the hazards that can affect the city; setting clear goals; and identifying and implementing policies, programs, and actions that reduce losses from disasters.
- **Builds partnerships.** Hazard mitigation planning enhances collaboration among a broad range of stakeholders to achieve a common vision for New York City. Increased collaboration also reduces duplication of efforts among organizations with similar or overlapping goals.
- **Creates a more sustainable and disaster-resistant city.** There is an intrinsic link between the concept of sustainability and natural hazard risk

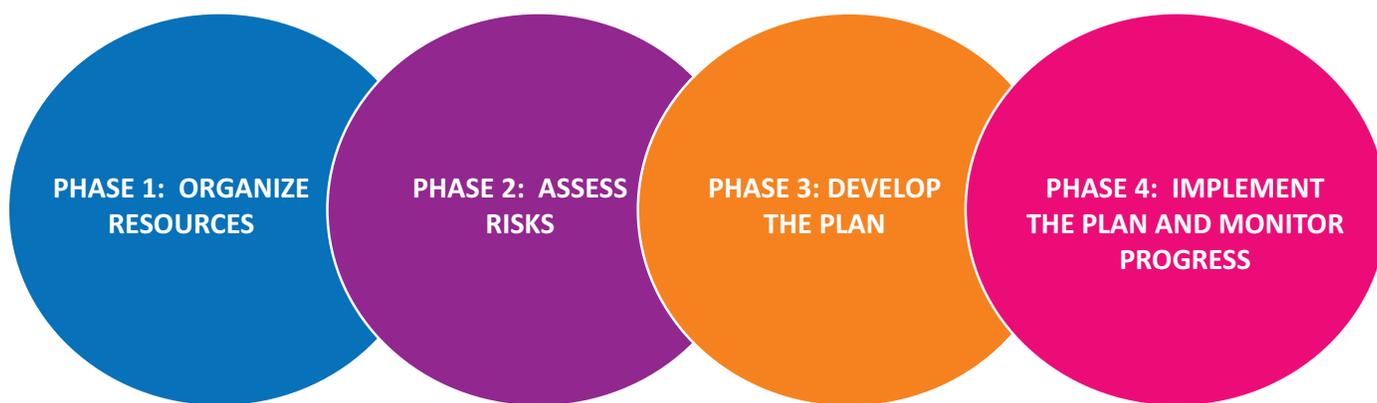
reduction. An essential characteristic of a sustainable city is its resilience to disasters.

- **Establishes funding priorities.** Mitigation planning coordinates existing and potential mitigation actions into a unified mitigation strategy. A mitigation plan allows New York City to better identify and articulate its needs to state and federal officials when funding becomes available, particularly after a disaster. With its HMP in place, New York City can propose projects as part of an overall, agreed-upon strategy. Importantly, this plan ensures New York City's eligibility to receive FEMA's Unified Hazard Mitigation Assistance funds for mitigation projects, especially Hazard Mitigation Grant Program (HMGP) funding.
- **Increases public awareness of hazards.** Mitigation planning serves to help residents better understand the threat to public health, safety, and welfare; economic vitality; and the operational capability of critical infrastructure.

Planning Phases for the New York City Hazard Mitigation Plan

New York City engaged in a four-phase planning process, as recommended by FEMA guidelines and as illustrated in Figure 1.2: Four-Phase Planning Process.

Figure 1.2: Four-Phase Planning Process



Phase 1: Organize Resources. The first phase of the process involved coordinating with agencies and organizations, integrating hazard mitigation with other planning efforts, and involving community groups and other stakeholders in the planning process.

Phase 2: Assess Risks. The second phase included identifying and profiling hazards, assessing vulnerability, and estimating potential losses. This phase helped establish the scientific and technical foundation for mitigation actions.

Phase 3: Develop the Plan. The third phase included developing hazard mitigation goals and objectives, conducting a capability assessment, working with planning participants to identify and analyze mitigation actions, and documenting the planning process.

Phase 4: Implement the Plan and Monitor Progress. New York City is currently in this fourth phase of mitigation planning. This phase involves adopting, implementing, monitoring, and reviewing the HMP to ensure the plan's goals and objectives are met.

Organization of the New York City Hazard Mitigation Plan

New York City's HMP is organized into the following sections:

Chapter 1: Introduction

The Introduction—the section you are now reading—provides a brief overview of the HMP's background and purpose.

Chapter 2: Planning Process

This chapter outlines the manner in which New York City created the HMP. It identifies which agencies and organizations were involved in the process, how they were involved, and the methods of public participation that were employed. It also provides a detailed description of the decision-making and prioritization processes.

Chapter 3: Risk Assessment

This analysis of the hazards and risks facing New York City contains detailed hazard profiles and loss esti-

mates—the scientific and technical basis for mitigation actions.

Chapter 4: Mitigation Strategy

This chapter shows how New York City intends to reduce losses identified in the Risk Assessment chapter. It includes goals and objectives to guide the selection of actions to mitigate and reduce potential losses. It contains a prioritized list of cost-effective, environmentally sound, and technically feasible mitigation actions. It identifies current and potential sources of funding and other resources needed to implement the mitigation actions. Finally, it includes a discussion of New York City's policies and programs that will serve to help administer many of the identified actions.

Chapter 5: Plan Adoption

As the Plan Adoption chapter indicates, New York City will formally adopt the HMP by executive order. This ensures comprehensive mitigation planning citywide, strong program management, and a citywide commitment to mitigation planning.

Chapter 6: Plan Maintenance

New York City will monitor, evaluate, and update its plan according to the process outlined in the Plan Maintenance chapter. The section establishes a review process and method for measuring progress during the five-year period until the next HMP update.

Plan Status and Contact Information

This report incorporates comments submitted by the Planning Team, the Mitigation Planning Council Steering Committee, Mitigation Planning Council members, members of the public, and other stakeholders during the 30-day public comment period as well as comments from NYS OEM and FEMA during the formal HMP review process. The City formally adopted the final plan by Executive Order on April 15, 2014.

If you have any questions or comments on the New York City HMP or require additional information, please contact:

Hazard Mitigation Unit

New York City Office of Emergency Management

165 Cadman Plaza East

Brooklyn, NY 11201

Email: mitigation@oem.nyc.gov

Website: nyc.gov/hazardmitigation

This Page is Intentionally Left Blank