



Section II: Planning Process



1) INTRODUCTION..... 3

A) PLANNING PROCESS APPROACH..... 3

B) FEMA REQUIREMENTS ADDRESSED IN THIS SECTION 3

2) MITIGATION PLANNING COUNCIL..... 4

A) PURPOSE 4

B) ORGANIZATIONAL STRUCTURE..... 4

 i) *Planning Team* 4

 (1) *Responsibilities*..... 4

 (2) *Participants and Agency Descriptions* 5

 ii) *Mitigation Planning Council Steering Committee* 5

 (1) *Responsibilities*..... 5

 (2) *Participants and Agency Descriptions* 6

 iii) *MPC General Body* 8

 (1) *Responsibilities*..... 9

 (2) *Participants* 9

3) HAZARD MITIGATION PLAN DEVELOPMENT..... 11

A) REVIEW AND INCORPORATION OF EXISTING PLANS AND STUDIES 11

B) RISK ASSESSMENT 12

 i) *Identifying Hazards* 12

 ii) *Profiling Hazards*..... 12

 iii) *Estimating Potential Losses* 13

C) MITIGATION STRATEGY 13

 i) *Establishing Goals and Objectives*..... 13

 ii) *Identifying Preliminary Mitigation Actions*..... 13

 iii) *Agency One-on-One Meetings*..... 14

 iv) *Finalizing Mitigation Actions*..... 14

 v) *Evaluating Mitigation Actions*..... 14

 vi) *Prioritizing Mitigation Actions*..... 14

D) COMMUNITY INVOLVEMENT 15

 i) *Community Involvement Meetings*..... 15

 (1) *Academic Institutions Meeting* 15

 (2) *Private Sector and Professional Organizations Meeting* 16

 (3) *Community-Based Groups and Neighboring Jurisdictions Meeting* 17

 ii) *Public Review*..... 18

4) PLAN DEVELOPMENT MEETINGS..... 20

5) MEETING DOCUMENTATION 21

6) LIST OF TABLES..... 33

1) Introduction

Effective planning efforts result in high quality and useful plans, but written plans are only one element in the process. The planning process is as important as the plan itself. A successful planning process forges partnerships and brings together a cross-section of government agencies, the public, and other stakeholders to reach consensus on how to achieve a desired outcome or resolve a community issue. Applying an inclusive and transparent process adds validity to the plan. Those involved gain a better understanding of the problem or issue and how solutions and actions were devised. The result is a common set of community values and widespread support for directing financial, technical, and human resources to an agreed upon action. The planning process was an integral part of the New York City Hazard Mitigation Plan (HMP). This section describes New York City's planning process and how the HMP evolved over the course of one year.

a) Planning Process Approach

This section serves as a permanent record of the New York City mitigation planning process and describes the following:

- Identification of planning participants
- Coordination with government agencies and other stakeholders
- Development of the plan document
- Purpose and outcome of planning activities and meetings
- Community involvement

b) FEMA Requirements Addressed in this Section

The New York City Hazard Mitigation Planning Team (Planning Team) devised a planning process consistent with the steps presented in the Federal Emergency Management Agency's (FEMA) How-To-Guide: Building Support for Mitigation Planning (FEMA 386-1). The following FEMA requirements are addressed in this section:

- **Requirement §201.6(b):** The planning process *shall* include:
 - (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
 - (2) 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; and
 - (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.
- **Requirement §201.6(c)(1):** [The plan *shall* document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

2) Mitigation Planning Council

The Mitigation Planning Council (MPC) is composed of representatives from 39 essential governmental and non-governmental stakeholders that have an interest in reducing the impact of natural hazards throughout New York City. Representatives from these agencies have a comprehensive knowledge of policies, plans, and projects that relate to hazard mitigation in New York City. The MPC played an essential role in the development of the Plan. MPC members contributed and reviewed information concerning New York City's risk and vulnerability to natural hazards. They also developed a comprehensive list of existing and potential mitigation actions that reduce or eliminate the impact of natural hazards.

a) Purpose

The MPC's purpose is as follows:

- Develop, review, revise, and maintain an HMP for New York City that is consistent with the Disaster Mitigation Act of 2000 (DMA 2000) and related Acts.
- Implement actions that reduce the potential for loss of life, property damage, and environmental degradation from natural disasters.
- Provide a forum for mitigation issues, programs, policies, and projects that will provide information and skills needed to assist in the implementation of the HMP.
- Develop and foster natural hazard mitigation partnerships.

b) Organizational Structure

The New York City Office of Emergency Management (OEM) organized the MPC structure to help guide the mitigation planning process. To make the MPC more focused and effective, the group has three components: the Planning Team, the MPC Steering Committee (Steering Committee), and the MPC General Body (MPC).

i) Planning Team

OEM served as the coordinating agency for the development of the HMP. The Planning Team was comprised of four planners from the OEM Planning and Preparedness Division and one Hazard Impact Modeler from the Geographic Information Systems (GIS) Unit. OEM planners facilitated the overall plan development to ensure the HMP met the requirements of DMA 2000, while OEM's Hazard Impact Modeler worked with GIS specialists to customize and execute hazard models, and create maps and data tables in support of the Plan.

(1) Responsibilities

As the HMP coordinator, the Planning Team had many responsibilities including administration, content organization, and text development. The following list summarizes the Planning Team's responsibilities.

- Organize and guide all meetings with the Steering Committee and MPC members.
- Develop and implement the community involvement process.
- Guide the plan development to adhere to DMA 2000 requirements.

- Manage identification, collection, and analysis of mitigation actions submitted by the MPC.
- Facilitate responsibilities and provide support for all participants in the hazard mitigation planning process.
- Coordinate with MPC members to identify relevant material for the HMP.

(2) *Participants and Agency Descriptions*

Planning Team participants and a brief description of the lead agency:

Hazard Mitigation Planning Team Participants		
Agency	Description	Members
	The New York City Office of Emergency Management (OEM) plans and prepares for emergencies, educates the public about preparedness, coordinates emergency response and recovery, and collects and disseminates emergency information. To accomplish this mission, OEM maintains a disciplined unit of emergency management personnel, including responders, planners, watch commanders, and administrative and support staff, to identify and respond to various hazards.	Rexford Asiedu, Planner
		David Blitzer, Planner
		Joshua Friedman, Hazard Impact Modeler
		Heather Roiter, Planner
		Amy Schultz, Project Manager

Table 1: Planning Team Participants

ii) *Mitigation Planning Council Steering Committee*

The Steering Committee is a core group of eight agencies and organizations that own or manage some of the City’s largest infrastructure networks and/or engage in planning for or regulating these systems. The Steering Committee provides subject-matter expertise in the following areas: emergency management, land use planning, building codes, transportation, infrastructure protection, climate change, regional planning, and natural resource protection. This team combines skills, expertise, and experience to achieve a common goal of natural hazard mitigation for New York City.

The Steering Committee helps develop, manage, and implement the City’s HMP. On January 18, 2008, OEM held the first Steering Committee meeting. Following the first meeting, Steering Committee members participated in monthly meetings throughout the planning process to facilitate the development of the Plan. During these meetings, Steering Committee focused on providing information for and reviewing the Risk Assessment section, evaluating mitigation actions, and assisting with the community involvement process. Beyond the monthly meetings, OEM conducted individual meetings with Steering Committee members and maintained regular phone and email contact to develop specific ideas and identify additional resources related to the plan development.

(1) *Responsibilities*

The following list summarizes the Steering Committee’s responsibilities.

- Support plan development.

- Attend monthly meetings through September 2008.
- Develop HMP mission statement, goals, and objectives.
- Provide subject matter expertise.
- Assist in evaluating and prioritizing mitigation actions.
- Assist in community involvement process.
- Review and comment on draft HMP sections provided by the Planning Team.
- Assist with plan maintenance.

(2) *Participants and Agency Descriptions*

Steering Committee participants and a brief description of each agency:

Participants in the Steering Committee		
Agency	Description	Participant(s)
	<p>New York City Department of Buildings (DOB) ensures the safe and lawful use of more than 950,000 buildings and properties through enforcing the City's Building Code, Electrical Code, Zoning Resolution, New York State Labor Law, and New York State Multiple Dwelling Law. DOB's main activities include performing plan examinations, issuing construction permits, inspecting properties, and the maintenance of construction codes and licensing trades.</p>	David Nussbaum
		Charles Shelhamer
	<p>New York City Department of City Planning (DCP) is responsible for the City's physical and socioeconomic planning, including land-use and environmental review; preparation of plans and policies; providing technical assistance and planning information to government agencies, public officials, and community boards. The commissioner of the agency serves as the chair of the City Planning Commission.</p>	Carolyn Grossman
	<p>New York City Department of Environmental Protection (DEP) delivers drinking water from upstate reservoirs to over nine million state residents – more than 1.1 billion gallons a day. Within New York City, the department operates over 13,000 miles of water mains and sewers. To protect the environment of the surrounding waterways, the DEP operates 14 treatment plants capable of processing over 1.3 billion gallons of wastewater a day. In addition, the DEP enforces the City's Noise, Air, and Hazardous Materials Code.</p>	Kathryn Garcia
		Constance Vavilis

Participants in the Steering Committee		
Agency	Description	Participant(s)
 <p>City of New York Parks & Recreation</p>	<p>New York City Department of Parks & Recreation (Parks) is responsible for maintaining the City's parks system, preserving and maintaining the ecological diversity of the City's natural areas, and furnishing recreational opportunities for City residents. The department maintains more than 1,700 parks, playgrounds, and recreation facilities across the five boroughs. It is responsible for more than 950 playgrounds, 700 playing fields, 550 tennis courts, 35 major recreation centers, 30 outdoor pools, 14 miles (23 km) of beaches, and 13 golf courses, as well as seven nature centers, six ice skating rinks, four zoos, four botanical gardens, and four major stadia. Parks also cares for park flora and fauna, community gardens, historic houses, statues and monuments, and more than 2.5 million trees.</p>	Jon Ells
		Keith Kerman
 <p>NEW YORK CITY</p>	<p>New York City Department of Transportation (DOT) is responsible for providing safe, efficient, and environmentally responsible movement of people and goods throughout New York City. The agency's responsibilities include day-to-day maintenance of the City's 5,800 miles of streets, highways, and sidewalks. The agency's responsibilities also include the management of 789 bridge structures, six tunnels, and the operation of the Staten Island Ferry service, along with other ferry operations on City-owned piers. DOT staff installs and maintains more than 1.3 million street signs, traffic signals at more than 11,900 signalized intersections, over 300,000 streetlights, 69 million linear feet of markings, and approximately 63,000 parking meters.</p>	Nelson Castillo
		Ted Oberman
 <p>MTA</p>	<p>Metropolitan Transportation Authority (MTA) is a public benefit corporation responsible for North America's largest transportation network. This network services a population of 14.6 million people in the 5,000-square-mile area fanning out from New York City through Long Island, southeastern New York State, and Connecticut. The MTA is divided into seven subsidiary agencies: New York City Transit (NYCT), which is the busiest and largest transit system in North America; Long Island Rail Road (LIRR), the largest and oldest commuter railroad; Long Island Bus, a unified transportation system of 10 private bus companies that serve Long Island; Metro-North Railroad, the second largest commuter</p>	Fredericka Cuenca, MTA Headquarters
		Ben Hellwege, MTA Headquarters
		Judy Walker, MTA Headquarters
		Detective Keyla Hammam, MTAPD

Participants in the Steering Committee		
Agency	Description	Participant(s)
	railroad in the nation; Bridges and Tunnels, which operates seven bridges and two tunnels; Capital Construction, which serves as the construction management for MTA projects; and MTA Bus Company, which is responsible for local and express bus operations of seven former bus franchises.	Lillian Fernandez, MTAPD
		Inspector Sean Montgomery, MTAPD
	Mayor's Office of Long Term Planning and Sustainability (OLTPS) coordinates and oversees efforts to develop and implement a strategic vision for the City's future, working closely with City agencies and the Mayor's Advisory Board for Sustainability. OLTPS manages the implementation of <i>PlaNYC: A Greener, Greater New York</i> , released by Mayor Bloomberg in 2007. This plan proposes 127 initiatives that address New York City's growing population, aging infrastructure, and increasing environmental risk from climate change using a timeframe of 2030.	Jon Dickinson
		Adam Freed
	Regional Plan Association (RPA) is an independent, not-for-profit regional planning organization that focuses on recommendations to improve the quality of life and the economic competitiveness of the 31-county New York-New Jersey-Connecticut region through research, planning, and advocacy. RPA's mission is to help shape transportation systems, protect open spaces, and promote better community design for the region's continued growth. RPA addresses future challenges to the region and works to mobilize the region's civic, business, and government sectors to take action.	Rich Barone

Table 2: Steering Committee Participants

iii) MPC General Body

The General Body of the MPC is composed of representatives from 39 essential governmental and non-governmental stakeholders who provided information on existing and/or potential projects that mitigate the effects of a natural hazard within New York City. The MPC members participated in a large-group meeting during the planning process on February 8, 2008. The Planning Team used this meeting to introduce participants to hazard mitigation, request a list of mitigation actions from each participant, discuss hazard mitigation funding and eligible projects, and finalize a schedule for the plan maintenance process. The General Body played an integral role identifying existing and potential mitigation actions that will make New York City more resilient to natural disasters.

In addition to the large-group meeting, the Planning Team met with each MPC-member agency or organization individually to provide additional hazard and risk information and discuss specific mitigation actions the agency might contribute to the Mitigation Strategy.

(1) *Responsibilities*

The following list summarizes the MPC’s responsibilities.

- Attend MPC meetings.
- Identify, develop, and submit alternative mitigation actions for inclusion in the Mitigation Strategy section.
- Review and comment on the draft HMP.
- Provide ongoing monitoring of hazard mitigation efforts between plan maintenance-periods.

(2) *Participants*

OEM coordinated with a variety of government organizations, public authorities, and private utility providers that have a stake or interest in natural hazard mitigation. The following agencies participated in the MPC.

MPC Participating Agencies	
Agency	Participant(s)
New York City Agencies	
Department for the Aging (DFTA)	Linda Whitaker Joy Wang
Department of Buildings (DOB)*	Charles Shelhamer David Nussbaum
Department of City Planning (DCP)*	Carolyn Grossman
Department of Citywide Administrative Services (DCAS)	Mike Sicilano
Department of Corrections (DOC)	Office of Emergency Preparedness
Department of Design and Construction (DDC)	William Svilar
Department of Education (DOE)	Angelo Lisa John Rodriguez
Department of Environmental Protection (DEP)*	Kathryn Garcia Constance Vavilis
Department of Health and Mental Hygiene (DOHMH)	Nancy Clark David Grass Erich Giebelhaus
Department of Homeless Services (DHS)	Sarah Friedenthal-Greene
Department of Information Technology and Telecommunications (DoITT)	Joseph Gallagher
Department of Parks and Recreation (Parks)*	Jon Ells Keith Kerman
Department of Sanitation (DSNY)	Charlie Herbst
Department of Transportation (DOT)*	Nelson Castillo Ted Oberman
Economic Development Corporation (EDC)	Jawad Assaf Brian Larsen Jack Powers

MPC Participating Agencies	
Agency	Participant(s)
Fire Department of New York (FDNY)	Robert J Strong
	Fred Villani
Health and Hospitals Corporation (HHC)	Susan Meehan
	Karen Mattera
Housing and Preservation Development (HPD)	Vito Mustaciado
	Eugene Mc Ardle
Human Resources Administration (HRA)	Antonio Linares
Landmarks Preservation Commission (LPC)	Jared Knowles
New York Police Department (NYPD)	Anthony Tria
Office of Emergency Management (OEM)*	Rexford Asiedu
	David Blitzer
	Joshua Friedman
	Heather Roiter
	Amy Schultz
Office of Long-Term Planning and Sustainability (OLTPS)*	Adam Freed
	Jon Dickinson
Small Business Services (SBS)	Bernadette Nation
Other New York City Mitigation Stakeholders	
Amtrak	Emma Cattafi
Con Edison (Con Ed)	Dennis Connelly
MTA Bridges and Tunnels (B&T)	Donald Knapp
	Barry Silberfarb
MTA Buses	Josephine Brown
	William Keenan
MTA Headquarters*	Ben Hellwege
	Fredericka Cuenca
	Judy Walker
MTA Long Island Rail Road (LIRR)	Bret Becker
	Ken Sundberg
MTA Metro-North Railroad (MNR)	Joseph P. Streany
MTA New York City Transit (NYCT)	Mohammed Baalbalki
	Shoshana Cooper
MTA Police Department	Detective Keyla Hammam
	Lillian Fernandez
	Inspector Sean Montgomery
National Weather Service (NWS)	John Koch
New York City Housing Authority (NYCHA)	Barry Jennings
Port Authority of New York and New Jersey (PANYNJ)	Dave Dlugolenski
Regional Planning Association (RPA)*	Rich Barone
United States Army Corps of Engineers (USACE)	Russell Smith
Verizon	Debbie Cowart
	JJ Finn

*Also member of the Steering Committee

Table 3: MPC Participating Agencies

3) Hazard Mitigation Plan Development

a) Review and Incorporation of Existing Plans and Studies

The Planning Team members reviewed various plans, studies, and guides to begin developing the HMP. These plans included hazard mitigation plans from surrounding jurisdictions and other cities, FEMA guidance documents, emergency-services documents, contingency plans, community plans, federal, local, and state regulations and ordinances, and other similar documents. Table 4 lists the plans and other documents the Planning Team used to guide the HMP's development.

Existing Plans and Studies	
Plans/Studies/Guides	Author
Broome County Multi-Jurisdictional Hazard Mitigation Plan	Broome County, New York
Citywide Interagency Management System (CIMS) Protocol	OEM
Earthquake Hazard Program	United States Geological Survey
FEMA's How-to-Guide (Series 386-1, 2, 3, 4, and 5)	FEMA
Flood Insurance Study for New York City	FEMA
Flood Mitigation Taskforce Stormwater Mitigation Study Area Report	New York City Mayor's Office
Hazard Mitigation Planning	FEMA
Historical Hurricane Track	National Oceanic Atmospheric Administration Coastal Services Center
History of New York City Water Supply System	DEP
Improving Drought Management in the West	University of Nebraska Drought Mitigation Center
Landfalling Hurricane Probability Project	William Gray and P. Klotzbach
Nassau County Hazard Mitigation Plan	Nassau County, New York
National Flood Insurance Program	FEMA
Nature's Most Violent Storms	National Severe Storms Laboratory
New York City Construction Code	DOB
New York City Coastal Storm Plan	OEM
New York City Drought Management Plan	DEP
New York City Flash Flood Emergency Plan	OEM
New York City Heat Emergency Plan	OEM
New York City Local Waterfront Revitalization Plan	DCP

Existing Plans and Studies	
Plans/Studies/Guides	Author
New York City Winter Weather Emergency Plan	OEM
New York City Zoning Resolution	DCP
New York State Coastal Erosion Act	NYSDEC
New York State Coastal Erosion Map	NYSDEC
New York State Hazard Mitigation Plan	New York State Disaster Preparedness Commission
NFIP Community Rating System	FEMA
Northeastern U.S. Going through Dry Spell	USACE
Planning Population: Projecting the Future	DCP
PlaNYC	OLTPS
Protection from Extreme Wind	Texas Tech University Wind Science and Engineering Research Center
Seattle All-Hazards Mitigation Plan	City of Seattle, Washington
Suffolk County Hazard Mitigation Plan	Suffolk County, New York
2000 Census	U.S. Census Bureau
Vital Signs: Deaths Associated with Heat Waves in 2006	DOHMH

Table 4: Existing Plans and Studies Relevant to Natural Hazard Mitigation in New York City

b) Risk Assessment

The following section details the process the Planning Team used to develop the Risk Assessment section.

i) Identifying Hazards

To determine which hazards to profile in the HMP, the Planning Team examined the list of hazards profiled in the 2008 New York State Standard Multi-Hazard Mitigation Plan (NYS HMP). Based on this preliminary review, the Planning Team researched numerous natural hazard resources to determine the hazards that have the potential to occur in New York City. The Planning Team distributed a hazard selection worksheet to the Steering Committee members to determine which hazards may affect their facilities or operations and gain consensus on the list of hazards. The Planning Team eliminated some hazards addressed in the NYS HMP because they were either outside of the scope of the Plan or did not impact New York City. The final list of hazards included in the New York City HMP are coastal erosion, coastal storms, drought, earthquakes, extreme temperatures, floods, windstorms/tornadoes, and winter storms.

ii) Profiling Hazards

The hazard profiles provide a general description, as well as an analysis of the severity, probability of occurrence, location, and historical occurrences of the hazard. To ensure

the Risk Assessment section contains the most accurate information, the Planning Team reviewed local and state hazard mitigation plans and natural hazard-related publications, attended conferences, and consulted with hazard-specific subject matter experts. Based on this research, the Planning Team drafted the section and the Steering Committee conducted a review and provided comments. The Planning Team used the most up-to-date and readily available research and information for the Plan.

iii) Estimating Potential Losses

OEM's Hazard Impact Modeler used HAZUS-MH and GIS technology to determine potential loss estimates for New York City. Initially, OEM determined the default HAZUS-MH data did not accurately reflect New York City's built environment. OEM GIS specialists worked with Applied Research Associates, Inc. to replace the general building stock data with New York City-specific data. OEM's Hazard Impact Modeler used the new data to generate loss estimates for the Risk Assessment section.

HAZUS-MH can generate potential loss estimates for earthquakes, coastal storms, and floods. OEM GIS specialists and the Planning Team employed a variety of methods to generate loss estimates for the remaining hazards, like estimating exposure, identifying vulnerable populations, and mapping infrastructure. The Risk Assessment section details the methodology and potential loss estimates for the hazards.

c) Mitigation Strategy

The Steering Committee followed a systematic planning process to develop the Mitigation Strategy section for the HMP. The following steps detail the planning process.

i) Establishing Goals and Objectives

Using information garnered from the NYS HMP, hazard profiles, vulnerability assessments, and community meetings, the Planning Team drafted a set of goals and objectives that represent New York City's long-term vision for reducing the impact of natural hazards on the built environment and the City's population. The Planning Team distributed the draft goals and objectives to the Steering Committee for review and comments. Mitigation goals were also presented at community involvement meetings. Based on these meeting discussions and comments, the Planning Team produced a final set of five goals and 23 objectives for the HMP as outlined in the Mitigation Strategy section.

ii) Identifying Preliminary Mitigation Actions

The MPC was the designated entity for identifying preliminary mitigation actions. To provide the MPC members with information on hazard mitigation and the planning process, the Planning Team coordinated a kick-off meeting. The MPC kick-off meeting included opening remarks by OEM Commissioner Joseph Bruno, expressing the importance of mitigation planning and support of this effort. It also included presentations by FEMA Region II and the Planning Team regarding hazard mitigation and mitigation actions. At the conclusion of the kick-off meeting, the Planning Team asked the MPC to identify existing and potential mitigation actions within their respective agencies. The Planning Team recommended the MPC use the following criteria to

identify mitigation actions: mitigates against one or more of the eight natural hazards profiled in the HMP, falls under one of the six FEMA mitigation categories (prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural projects), and meets at least one of the five mitigation goals.

Participating MPC agencies completed mitigation action worksheets, attached as appendices to this Plan, that established criteria for implementation for each action. For each mitigation action, agencies identified the following information: lead agency, supporting agencies, relevant hazard(s), projected timeframe, estimated project cost, and possible funding sources. These criteria serve as a guide for implementing each action.

iii) Agency One-on-One Meetings

After receiving the mitigation actions worksheets from the MPC agencies, the Planning Team scheduled one-on-one meetings with each agency to review the actions. During each meeting, the participants determined what, if any, modifications were necessary to the text and/or content of the worksheet and if there were additional mitigation actions the agency could undertake in future. These meetings were a valuable opportunity for each agency to ask specific questions and gain a better understanding of how their operations relate to hazard mitigation. The Planning Team also gained a better understanding of the mitigation actions proposed by the agencies. Following the meetings, agencies reviewed their submissions, made appropriate corrections and additions, and resubmitted a revised list of mitigation actions for incorporation into the HMP. In total, the Planning Team conducted 26 one-on-one meetings.

iv) Finalizing Mitigation Actions

Upon receiving the revised mitigation action worksheets from the MPC agencies, the Planning Team reviewed and evaluated the compiled list of 493 mitigation actions based on consistency with mitigation funding guidelines and relevancy to natural hazard mitigation. This review resulted in 306 final mitigation actions for the HMP.

v) Evaluating Mitigation Actions

The Planning Team and Steering Committee performed a qualitative analysis of the final 306 mitigation actions. The Planning Team and Steering Committee used FEMA's Social, Technical, Administrative, Political, Legal, Economic, and Environmental (STAPLEE) analysis to understand the opportunities and constraints for implementing the potential mitigation actions. See the Mitigation Strategy section for the full results of the STAPLEE analysis.

vi) Prioritizing Mitigation Actions

In accordance with the FEMA requirements, the Planning Team prioritized the mitigation actions with an emphasis on maximizing benefits with consideration for the potential project's associated costs. The Planning Team devised a prioritization methodology using the seven STAPLEE criteria as well as the number of objectives each action addressed, project cost, and project timeframe. Based on these criteria, the potential mitigation actions received a numerical ranking that translated to a high, medium, or low priority.

See the Mitigation Strategy section for a detailed explanation of the prioritization process. The prioritization rankings generated by the methodology are dynamic and can change because of funding availability, revisions to the mitigation actions, or changing city conditions. The Steering Committee will work closely with New York State Emergency Management Office (NYSEMO) and FEMA to secure funding for all mitigation actions that are in accordance with the goals and objectives of this Plan.

d) Community Involvement

To engage the community in the hazard mitigation planning process, the Planning Team developed a comprehensive community involvement strategy. The Planning Team first held a series of meetings designed to garner support and comments from a range of stakeholder organizations. The draft HMP was available on the OEM website for a 30-day public comment period (November 1–30, 2008) and hard copies were available at nine public libraries throughout the City. To publicize the plan and garner additional support, OEM sent email notifications to members of New York City’s Community Emergency Response Teams (CERT), Citizen Corps Council, elected officials, private sector, academics, and non-profit organizations, requesting feedback. The strategy the Planning Team employed to engage the public in the planning process is outlined in detail below.

i) Community Involvement Meetings

To engage private sector and community-based stakeholders, the Planning Team held three meetings designed to inform the participants about hazard mitigation, generate discussion, and receive feedback on the HMP. The meetings targeted New York City academic institutions, professional organizations, the private sector, community-based organizations, and neighboring jurisdictions.

(1) Academic Institutions Meeting

The Planning Team held its first community involvement meeting on July 22, 2008. Representatives from a variety of New York City academic institutions engaged in the fields of hazard mitigation, climate change, urban planning, architecture, and engineering participated in this discussion. The Planning Team first presented a brief overview of the HMP, which included a discussion of the hazards and highlighted some of the mitigation actions the MPC had submitted. The Planning Team then asked the participants for feedback as well as suggestions for additional research and potential mitigation actions. Throughout the meeting, participants had the opportunity to ask questions and participate in a planning discussion. One major theme of the discussion was the need to recognize the importance of climate change as it relates to hazard mitigation. The Planning Team addressed this by coordinating with OLTPS and other agencies to include a number of climate change-based mitigation actions in the Plan. Another key point made during the discussion was how the lack of viable infrastructure-based hazard models is especially problematic for New York City. The Planning Team addressed this by adding a mitigation action that proposes developing such models. To solicit additional comments and suggestions, all meeting invitees were notified when the draft HMP was available for review online. The full invitee list is included in Appendix C. Table 5 lists the meeting attendees.

Academic Institutions Meeting Attendees	
Affiliation	Name
Columbia University–Graduate School of Architecture, Planning, and Preservation	Sigurd Grava
Columbia University–Lamont Doherty Earth Observatory	Arthur Lerner-Lam
	Klaus Jacob
Columbia University–Mailman School of Public Health	Joyce Rosenthal
	Patrick L. Kinney
Hunter College–Graduate Center of Geography	Lesley Patrick
NASA Goddard Institute for Space Studies	Megan O’Grady
New York University–Center for Atmosphere Ocean Science	David Holland
New York University–Center for Catastrophe Preparedness and Response	David Berman
	Ian Portelli
New York University–Wagner Graduate School of Public Service	Rae Zimmerman
State University of New York at Stony Brook–Department of Marine Sciences	Douglas Hill
Steering Committee and Planning Team Attendees	
Charles Shelhamer (DOB), David Nussbaum (DOB), Nelson Castillo (DOT), Adam Freed (OLTPS), Jon Dickinson (OLTPS), Amy Schultz (OEM), Dave Blitzer (OEM), Elizabeth Rothstein (OEM), Heather Roiter (OEM), Josh Friedman (OEM) Lynn Seirup (OEM), Rexford Asiedu (OEM)	

Table 5: Academic Institutions Meeting Attendees

(2) *Private Sector and Professional Organizations Meeting*

On August 8, 2008, the Planning Team held the second community involvement meeting with representatives from New York City’s private sector and professional organizations. The Planning Team presented a brief overview of the HMP, which included a discussion of the hazards and some of the mitigation actions the MPC had identified. The participants were asked for feedback on the work presented as well as suggestions about how the Planning Team can help participants educate their members about hazard mitigation. Throughout the meeting, participants were given the opportunity to ask questions and provide input. Several participants expressed a desire to continue to work with the Planning Team and provide a forum and audience for hazard mitigation. The Planning Team will work with the interested parties to help promote hazard mitigation through future working groups or mitigation discussions. Table 6 lists the meeting attendees. The full invitee list is included in Appendix C. All meeting invitees were notified when the draft HMP was available for review online.

Private Sector and Professional Organizations Meeting Attendees	
Affiliation	Name
American Institute of Architects–NY Chapter	Rick Bell
Building Owners & Management Assoc./LFG., Inc.	Sylvester A. Giustino
Food Industry Alliance of New York State	Pat Brodhagen
Small Business Services	Eric Parker
Partnership for New York City	Merrill Pond

Private Sector and Professional Organizations Meeting Attendees	
Affiliation	Name
Structural Engineers Association of New York	Savita Goel
Steering Committee and Planning Team Attendees	
Judy Walker (MTA), Nelson Castillo (DOT), Sharita Hunter (DOT), Jon Dickinson (OLTPS), Amy Schultz (OEM), Dave Blitzer (OEM), Elizabeth Rothstein (OEM), Heather Roiter (OEM), Ira Tannenbaum (OEM), Josh Friedman (OEM), Rexford Asiedu (OEM), Seth Cummins (OEM)	

Table 6: Private Sector and Professional Organizations Meeting Attendees

(3) *Community-Based Groups and Neighboring Jurisdictions Meeting*

The final community involvement meeting occurred on August 20, 2008 with representatives from a variety of New York City community-based organizations and neighboring jurisdictions. At the meeting, the Planning Team presented a brief overview of the HMP, which included a discussion of the hazards and some of the mitigation actions identified by the MPC. The participants were asked for feedback as well as suggestions to improve the Plan. The community-based organizations are a resource to educate the public about hazard mitigation and actions the community can engage in to make New York City more disaster resilient. Neighboring jurisdictions were given the opportunity to attend the meeting to provide insight, comments, and coordinate resources for Plan revisions. Throughout the meeting, participants were given the opportunity to ask questions. One important discussion point was whether pandemic influenza and other health hazards should be included in a hazard mitigation plan. This is something the Planning Team will research further, discuss with FEMA, and consider for possible inclusion in the next HMP submission. Table 7 lists the meeting attendees. The full invitee list is included in Appendix C. All meeting invitees were notified when the draft HMP was available for review online.

Community Groups and Neighboring Jurisdictions Meeting Attendees	
Affiliation	Name
American Red Cross in Greater New York	Diane Reiners, Jeanine Pekkarinen, Seth Golbey
Animal Care and Control	Michael Pastore
Coler Goldwater Specialty Hospital and Nursing Facility	Karen Miller
The Salvation Army	Diana C. Lopez, Ian Anderson, Zachery Hodgson
Tzu Chi	David Chao, John Hung, Yuru Chou
World Vision	Tim Bomgardner
Neighboring and Upstate Counties	
Bergen County, NJ	Barry Leventhal
Bergen County, NJ (NJ Meadowlands Commission)	Larry Scorzelli, Nicholas Agnoli, Ralph Venturini
NYSEMO Region I	David Zatlín
Steering Committee Attendees	
Judy Walker (MTA), Kathryn Garcia (DEP), Nelson Castillo (DOT), Sharita Hunter (DOT), Amy Schultz (OEM), Dave Blitzer (OEM), Elizabeth Rothstein (OEM), Heather Roiter (OEM), Josh Friedman (OEM), Rexford Asiedu (OEM)	

Table 7: Community Groups and Neighboring Jurisdictions Meeting Attendees

ii) Public Review

To engage the public in the planning and development of the HMP, the Planning Team posted the draft Plan on the OEM website for a 30-day comment period beginning November 1 and concluding November 30, 2008. The website provided an on-line comment form and a Frequently Asked Questions sheet to assist those who reviewed the Plan and/or provided comments. The Plan was also available at the following public libraries for review and comment:

Draft Hazard Mitigation Plan Hard Copy Locations	
Library	Address
Bronx	
Bronx Library Center	310 East Kingsbridge Road Bronx, NY 10458
Grand Concourse Library	155 East 173rd Street Bronx, NY 10457
Parkchester Library	1985 Westchester Avenue Bronx, NY 10462
Brooklyn	
Central Library	Grand Army Plaza Brooklyn, NY 11238
Manhattan	
Countee Cullen Library	104 West 136th Street New York, NY 10030
Seward Park Library	192 East Broadway New York, NY 10002
Queens	
Central Library	89-11 Merrick Boulevard Jamaica NY 11432
Flushing Library	41-17 Main Street Flushing NY 11355
Staten Island	
St. George Library Center	5 Central Avenue Staten Island, NY 10301

Table 8: List of Libraries with Hard Copies of Draft HMP

The Planning Team documented and reviewed comments received during the official comment period for inclusion in the 2009 HMP. Comments received after the 30-day period will be discussed at annual mitigation planning meetings and considered for inclusion in the Plan revision.

The Planning Team coordinated with the New York City Citizens Corps Council to help publicize the Plan and solicit feedback. The Citizen Corps Council is part of the national initiative to bring together local leaders from community organizations, government agencies, the private sector, and volunteer programs to promote community preparedness

and volunteerism. The HMP was noted in the Citizen Corps newsletter and an email notification introducing the Plan and requesting comments was sent to Citizen Corps members. The Planning Team also notified local elected officials, including City Council members and Borough President's offices, when the plan was available for comment.

4) Plan Development Meetings

The Planning Team initiated the 2009 New York City HMP development in October 2007 and concluded the process in October 2008. During this timeframe, the Planning Team coordinated and participated in plan development meetings and discussions with agencies and public stakeholders, orchestrated one-on-one meetings with nearly all MPC members, devised and implemented a community involvement strategy, and drafted the sections of the HMP. The Planning Team had a standing weekly meeting, but met numerous other times for specific planning issues.

5) Meeting Documentation

The table below documents the meetings that took place during the planning process of the HMP. The HMP meeting tracker outlines the date meeting occurred, the purpose for holding the meeting, the participants, any outcomes generated from the meeting, and the appropriate section to which the meeting relates. Note weekly plan development meetings are not included in the meeting tracker.

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
1	10/3/2007	Discuss strategy to complete HMP	Planning Team	<ul style="list-style-type: none"> Created a draft work plan 	All
2	10/17/2007	Discuss strategy for HMP development and approval	FEMA, NYSEMO, OEM	<ul style="list-style-type: none"> Discussed development of New York City HMP and expectations of OEM and FEMA 	All
3	10/22/2007	Review HMP Toolkit	FEMA, Planning Team	<ul style="list-style-type: none"> FEMA furnished OEM with digital and hard copies of the HMP Toolkit 	All
4	10/23/2007	Discuss link between the OLTPS and OEM for PlaNYC and HMP	OLTPS, Planning Team	<ul style="list-style-type: none"> Initial discussion of potential overlap between HMP and PlaNYC goals Discussed Critical Infrastructure Task Force 	All
5	11/2/2007	Kick-off meeting	FEMA, NYSEMO, Planning Team	<ul style="list-style-type: none"> Planning Team presented outline of MPC and work plan 	All
6	11/16/2007	Discuss link between OLTPS and OEM for PlaNYC and HMP	OLTPS, Planning Team	<ul style="list-style-type: none"> Discussed goals of HMP and MPC Discussed overlap between OLTPS goals and HMP goals 	Planning Process
7	11/20/2007	HAZUS-MH	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Demonstration of HAZUS-MH capabilities and current resources dedicated to HAZUS-MH Commenced earthquake, flood, and hurricane modeling details 	Risk Assessment
8	11/26/2007	HAZUS-MH for coastal storms	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Reviewed HAZUS-MH capabilities for coastal storms Determined methodology for HAZUS-MH modeling Decided on a probabilistic approach for earthquakes and coastal storms 	Risk Assessment

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
9	11/30/2007	HAZUS-MH for floods	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Reviewed HAZUS-MH capabilities for floods GIS will load DFIRMS into HAZUS-MH GIS will initially run HAZUS-MH with just DFIRM flood boundaries GIS may incorporate urban flash flooding boundaries based on DEP data for future runs 	Risk Assessment
10	12/18/2007	Relationship between OLTPS and OEM for PlaNYC and HMP	OLTPS, Planning Team	<ul style="list-style-type: none"> Discussed PlaNYC's climate change initiatives Brainstormed overlapping tasks between Critical Infrastructure Task Force and MPC 	Planning Process, Mitigation Strategy
11	12/18/2007	HAZUS-MH	OEM-GIS, Planning Team	<ul style="list-style-type: none"> OEM GIS reviewed their HAZUS-MH training Participants decided on potential models for earthquakes, floods, and earthquakes 	Risk Assessment
12	1/3/2008	Coordination between MPC and OLTPS	OLTPS, Planning Team	<ul style="list-style-type: none"> Discussed overlap Critical Infrastructure Task Force and MPC Agreed to modify invitations to address other group since they will overlap in certain initiatives and invitees 	Planning Process
13	1/7/2008	Review NYC Sea, Lake, and Overland Surges from Hurricanes (SLOSH) study and technical information	OEM-Technology, Planning Team	<ul style="list-style-type: none"> Discussed 2003 SLOSH model and technical details with OEM Project Manager 	Risk Assessment

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
14	1/18/2008	Steering Committee Kick-Off Meeting	DCP, DEP, DOB, DOT, MTA, OLTPS, Parks, RPA, Planning Team	<ul style="list-style-type: none"> • Kick-off meeting for the Steering Committee • Agenda items included: Commissioner and Deputy Commissioner introductions, NYSEMO presentation on HMP overview and funding opportunities, current work plan and expectations of the Steering Committee, next steps, and assigned tasks • Tasks included: 1) complete hazard selection worksheet by identifying which natural hazards have impacted agency and; 2) Local capabilities assessment worksheet 	All
15	1/31/2008	Mapping critical infrastructure	OEM-GIS, Planning Team	<ul style="list-style-type: none"> • Discussed mapping critical infrastructure and facilities for Risk Assessment section • Discussed mapping citywide structural information 	Risk Assessment
16	2/5/2008	Mapping thermal imagery and vulnerable populations	OEM-GIS, Planning Team	<ul style="list-style-type: none"> • Discussed methods for mapping extreme temperatures vulnerable population • OEM-GIS will obtain thermal imagery of NYC as well as vegetative land-cover data 	Risk Assessment

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
17	2/8/2008	MPC Kick-Off Meeting	Amtrak, ConEd, DCAS, DCP,DDC, DEP, DFTA, DHS, DOB, DOC, DOE, DOHMH, DoITT, DSNY, EDC, FEMA, FDNY, HHC, HPD, LPC, MTA-HQ, MTA-MNR, MTA-NYCT, MTA-Police, MTA-B&T, NYCHA, NYPD, OLTPS, PANYNJ, Parks, SBS, USACE, Verizon, Planning Team	<ul style="list-style-type: none"> • Kick-off meeting for MPC included: Commissioner and Deputy Commissioner greetings, OEM presentation on HMP and mitigation actions, FEMA presentation on funding, and example mitigation projects • Goal of meeting was for agencies to identify existing and potential mitigation projects within their agency and complete a worksheet • The Planning Team will follow-up with each agency to review their identified mitigation actions 	Planning Process, Mitigation Strategy
18	2/14/2008	Plan requirement discussion	DHS, Planning Team	<ul style="list-style-type: none"> • OEM met with DHS to discuss the MPC and mitigation actions worksheet • Reviewed the type of projects that qualify for mitigation funding • Brainstormed more potential mitigation actions for DHS 	Planning Process, Mitigation Strategy
19	2/20/2008	Earthquake hazards in New York City	Columbia University-Lamont Doherty Earth Observatory, OEM-GIS, Planning Team	<ul style="list-style-type: none"> • Columbia staff presented earthquake risks to New York City • Explained scientific studies taking place to understand hazards better across the region • Demonstrated the application tools that assist with identifying, locating, and understanding earthquakes 	Planning Process, Risk Assessment

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
20	3/3/2008	Agency one-on-one	NYPD, Planning Team	<ul style="list-style-type: none"> Reviewed HMP and MPC Discussed Mitigation Actions Worksheet and potential hazard mitigation actions for NYPD 	Mitigation Strategy
21	3/5/2008	Understanding grant-eligible mitigation actions	FEMA–Mitigation Grants, Planning Team	<ul style="list-style-type: none"> Mike Foley met with the Planning Team to review projects that are eligible and ineligible for mitigation findings Focused on submitted mitigation actions from the MPC Discussed other applicable FEMA grants that relate to the mitigation actions 	Mitigation Strategy
22	3/10/2008	Agency one-on-one	Parks, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by Parks Discussed potential modifications 	Mitigation Strategy
23	3/10/2008	Agency one-on-one	DOB, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DOB Discussed potential modifications 	Mitigation Strategy
24	3/12/2008	Identifying overlap between Continuity of Operations (COOP) and hazard mitigation	OEM–COOP, Planning Team	<ul style="list-style-type: none"> Reviewed the COOP strategy and HMP strategy Exchanged information to determine if there are overlapping contacts or initiatives within the two projects 	Mitigation Strategy
25	3/12/2008	Agency one-on-one	DOC, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DOC Discussed potential modifications 	Mitigation Strategy
26	3/13/2008	Agency one-on-one	MTA B&T, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by MTA B&T Discussed potential modifications 	Mitigation Strategy

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
27	3/13/2008	Agency one-on-one	MTA (NYCT–Subways), Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by MTA (NYCT – Subways) Discussed potential modifications 	Mitigation Strategy
28	3/13/2008	Agency one-on-one	MTA (NYCT–Buses), (Bus Co.), Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by MTA (NYCT – Buses) and (Bus Co.) Discussed potential modifications 	Mitigation Strategy
29	3/14/2008	Agency one-on-one	DSNY, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DSNY Discussed potential modifications 	Mitigation Strategy
30	3/14/2008	Agency one-on-one	HPD, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by HPD Discussed potential modifications 	Mitigation Strategy
31	3/17/2008	Agency one-on-one	Verizon, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by Verizon Discussed potential modifications 	Mitigation Strategy
32	3/17/2008	Agency one-on-one	EDC, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by EDC Discussed potential modifications 	Mitigation Strategy
33	3/17/2008	Agency one-on-one	DCP, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DCP Discussed potential modifications 	Mitigation Strategy
34	3/18/2008	Agency one-on-one	SBS, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by SBS Discussed potential modifications 	Mitigation Strategy
35	3/18/2008	Agency one-on-one	Amtrak, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by Amtrak Discussed potential modifications 	Mitigation Strategy

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
36	3/19/2008	Agency one-on-one	DEP, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DEP Discussed potential modifications 	Mitigation Strategy
37	3/19/2008	Agency one-on-one	DFTA, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DFTA Discussed potential modifications 	Mitigation Strategy
38	3/20/2008	Agency one-on-one	DCAS, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DCAS Discussed potential modifications 	Mitigation Strategy
39	3/20/2008	Agency one-on-one	DHS, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DHS Discussed potential modifications 	Mitigation Strategy
40	3/21/2008	Agency one-on-one	NYCHA, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by NYCHA Discussed potential modifications 	Mitigation Strategy
41	3/24/2008	Agency one-on-one	HRA, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by HRA Discussed potential modifications 	Mitigation Strategy
42	3/25/2008	Agency one-on-one	DOT, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DOT Discussed potential modifications 	Mitigation Strategy
43	3/26/2008	Update on HAZUS-MH and incorporation into Mitigation Strategy	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Discussed current HAZUS-MH capabilities and updates to running earthquake models Reviewed critical facilities selection and potential for adding critical facilities to HAZUS-MH Discussed potential mitigation actions to model in HAZUS-MH 	Risk Assessment and Mitigation Strategy

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
44	3/27/2008	Agency one-on-one	DOHMH, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DOHMH Discussed potential modifications 	Mitigation Strategy
45	3/28/2008	Steering Committee Meeting #3	DCP, DEP, DOB, DOT, MTA-HQ, MTA-Police, OLTPS, Parks, RPA, Planning Team	<ul style="list-style-type: none"> Reviewed status of Risk Assessment and Mitigation Strategy Sections Reviewed critical facilities maps and asked for input Introduced HAZUS-MH and potential for future modeling of mitigation strategies Assigned Agency Capability Assessment Form 	Planning Process and Mitigation Strategy
46	3/31/2008	Agency one-on-one	PANYNJ, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by PANYNJ Discussed potential modifications 	Mitigation Strategy
47	3/31/2008	Agency one-on-one	DOE, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by DOE Discussed potential modification 	Mitigation Strategy
48	4/14/2008	Agency one-on-one	HHC, Planning Team	<ul style="list-style-type: none"> Reviewed Mitigation Actions Worksheet submitted by HHC Discussed potential modification 	Mitigation Strategy
49	5/8/2008	Update on HAZUS-MH and incorporation into Mitigation Strategy	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Discussed potential mitigation strategies to model in HAZUS-MH 	Mitigation Strategy
50	5/16/2008	Steering Committee Meeting #4	DCP, DEP, DOB, DOT, MTA-HQ, MTA-Police, OLTPS, Parks, RPA, Planning Team	<ul style="list-style-type: none"> Reviewed status of Risk Assessment and Mitigation Strategy sections Discussed potential mitigation actions to model in HAZUS-MH as a case study Performed STAPLEE and reviewed STAPLEE 	Mitigation Strategy

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
51	6/4/2008	Modeling DEP mitigation actions in HAZUS-MH	DEP, Planning Team	<ul style="list-style-type: none"> Reviewed potential mitigation actions to model in HAZUS-MH 	Mitigation Strategy
52	6/20/2008	Modeling Parks mitigation actions in HAZUS-MH	Parks, Planning Team	<ul style="list-style-type: none"> Reviewed potential mitigation actions to model in HAZUS-MH 	Mitigation Strategy
53	6/26/2008	Modeling DOB mitigation actions in HAZUS-MH	DOB, Planning Team	<ul style="list-style-type: none"> Reviewed potential mitigation actions to model in HAZUS-MH 	Mitigation Strategy
54	7/14/2008	HAZUS-MH update	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Reviewed HAZUS-MH outputs and case studies of mitigation actions 	Mitigation Strategy
55	7/17/2008	Identify OEM-GIS mitigation actions	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Discussed potential mitigation actions for OEM-GIS to submit to the OEM mitigation actions list 	Mitigation Strategy
56	7/18/2008	HAZUS-MH update	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Reviewed HAZUS-MH outputs and case studies of mitigation actions 	Mitigation Strategy
57	7/18/2008	Update on HMP FEMA requirements	NYSEMO, Planning Team	<ul style="list-style-type: none"> Discussed preliminary review by NYSEMO of Risk Assessment section Reviewed October 2008 HMP requirements 	All
58	7/22/2008	Academic Sector Meeting	Columbia University, NYU, SUNY Stonybrook, Hunter College, NASA Goddard Institute for Space Studies, DOB, MTA, DOT, OLTPS, Planning Team	<ul style="list-style-type: none"> The Planning Team presented the HMP and the work accomplished thus far Attendees received a draft copy of the Steering Committee mitigation actions to use as examples in hope that they will submit additional mitigation actions or research related to the Plan Discussed future hazard mitigation partnerships between the City and the academic sector 	All

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
59	7/24/2008	Finalize OEM mitigation actions	OEM–External Affairs, Planning Team	<ul style="list-style-type: none"> Reviewed all Ready New York and CERT mitigation actions to include in the HMP 	Mitigation Strategy
60	7/28/2008	Finalize OEM mitigation actions	OEM–Public/Private, Planning Team	<ul style="list-style-type: none"> Reviewed all Public/Private Partnership programs at OEM that will be part of the mitigation actions list in the HMP 	Mitigation Strategy
61	7/29/2008	HMP planning process	Boston Consulting Group, OLTPS, Planning Team	<ul style="list-style-type: none"> The Planning Team met with OLTPS and their consultant, to discuss the HMP planning process OEM provided guidance and advice for PlaNYC's Climate Change Adaptation Task Force Identified overlap between the two planning groups 	All
62	8/6/2008	Private Sector and Professional Organizations Meeting	AIA–NY Chapter, NYS Banking Department, BOMA, Partnership for New York City, FIA, SBS, SEAoNY, Time Warner Cable, DOT, MTA, OLTPS, Planning Team	<ul style="list-style-type: none"> The Planning Team presented the HMP to the private sector and professional organizations Overview of the components of the HMP Explained how attendees can become involved with the planning process Attendees encouraged to review the draft version of the Plan and use its content for operations decisions within their organization 	All

Hazard Mitigation Plan Meeting Tracker					
Meeting #	Date	Meeting Purpose	Participants	Notes	Relevant Plan Section(s)
63	8/20/2008	Community-Based Groups and Neighboring Jurisdictions Meeting	Animal Care and Control, ARCGNY, Bergen County, NJ Meadowlands Commission, Catholic Charities, Coler Goldwater Specialty Hospital and Nursing Facility, Salvation Army, NYSEMO, Tzu Chi, World Vision, DEP, DOT, MTA, Planning Team	<ul style="list-style-type: none"> The Planning Team presented the HMP to neighboring jurisdictions and community groups Overview of the components of the Plan and explained how attendees can become involved with the planning process Attendees encouraged to review the draft version of the Plan and use its content for operations decisions within their organization 	All
64	8/21/2008	HAZUS-MH update	OEM-GIS, Planning Team	<ul style="list-style-type: none"> Reviewed HAZUS-MH outputs and case studies of mitigation actions Reviewed map modifications for the Risk Assessment section 	Risk Assessment, Mitigation Strategy
65	8/21/2008	Hazard mitigation and COOP	OEM-COOP, Planning Team	<ul style="list-style-type: none"> Reviewed the overlap between the HMP and COOP with new staff Explained how COOP can reference hazard mitigation with their partner agencies COOP planners are encouraged to mention hazard mitigation when agencies do a hazard vulnerability assessment of their critical facilities 	All
66	TBD	MPC	MPC, Planning Team	TBD	All

Table 9: Meeting Tracker

6) List of Tables

TABLE 1: PLANNING TEAM PARTICIPANTS 5
TABLE 2: STEERING COMMITTEE PARTICIPANTS 8
TABLE 3: MPC PARTICIPATING AGENCIES 10
TABLE 4: EXISTING PLANS AND STUDIES RELEVANT TO NATURAL HAZARD MITIGATION IN NEW YORK CITY
..... 12
TABLE 5: ACADEMIC INSTITUTIONS MEETING ATTENDEES 16
TABLE 6: PRIVATE SECTOR AND PROFESSIONAL ORGANIZATIONS MEETING ATTENDEES 17
TABLE 7: COMMUNITY GROUPS AND NEIGHBORING JURISDICTIONS MEETING ATTENDEES 17
TABLE 8: LIST OF LIBRARIES WITH HARD COPIES OF DRAFT HMP 18
TABLE 9: MEETING TRACKER 32