



THE CITY OF NEW YORK  
OFFICE OF THE MAYOR  
NEW YORK, NY 10007

**THE HOUSE COMMITTEE ON HOMELAND SECURITY  
SUBCOMMITTEE ON EMERGENCY PREPAREDNESS, RESPONSE AND COMMUNICATIONS**

“A Prepared Community is a Resilient Community”

Testimony of Daniel A. Zarrilli, Senior Director for Climate Policy and Programs and Chief Resilience Officer  
New York City Mayor’s Office

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**I. INTRODUCTION**

Good afternoon. My name is Daniel Zarrilli and I am the Senior Director for Climate Policy and Programs and the Chief Resilience Officer at the New York City Mayor’s Office. I want to congratulate Congressman Donovan on his recent appointment as Chair of the Subcommittee on Emergency Preparedness, Response and Communications. On behalf of New York City, we are honored to have a New Yorker in this unique position of leadership. I would like to thank the Chairman and all the members for the opportunity to speak today about New York City’s experience building a more prepared and resilient city.

Nearly four years ago, Hurricane Sandy hit New York City with unprecedented force, tragically killing 44 New Yorkers, and causing over \$19 billion in damages and lost economic activity. Neighborhoods were devastated: 88,700 buildings were flooded; 23,400 businesses were impacted; and our region’s infrastructure was seriously disrupted. Over 2,000,000 residents were without power for weeks and fuel shortages persisted for over a month. In short, Sandy highlighted New York City’s vulnerability to climate change and rising seas and underscores the actions we’ve taken since then to build a stronger, more resilient city.

It is particularly meaningful that we here on the East Shore of Staten Island at Staten Island University Hospital (SIUH) discussing resiliency. This neighborhood saw some of the worst of Sandy, and this hospital was nearly inundated, which is why we were proud to support the hospital with \$28 million for its resiliency program, and why we are working with many partners on critical neighborhood infrastructure investments, coastal protections, and housing recovery efforts.

Today, I aim to accomplish two things. First, I would like to walk the committee through our multilayered resiliency plan and how we are making investments to ensure that our neighborhoods, economy, and public services will be ready to withstand and emerge stronger from the impacts of climate change and other 21<sup>st</sup> century threats. Second, I would like to offer suggestions on how Congress and our federal partners can better support cities with preparing for the inevitable physical and humanitarian disasters that climate change will bring.

**II. PLANS FOR THE FUTURE**

**A. Special Initiative for Rebuilding and Resiliency**

In the aftermath of Hurricane Sandy, it was imperative that New York City emerge from Hurricane Sandy a stronger and more resilient city – one that did not just prepare for the next storm, but one that invested against a wider range of threats – all guided by the best available science. We turned to the New York City Panel on Climate Change (NPCC), an independent body of leading climate scientists who advise the Mayor on the latest climate change projections. The latest projections are challenging.

By the 2050s, according to just the middle-range projections by the NPCC, average New York City temperatures are projected to increase between 4.1°F and 5.7°F, annual precipitation is projected to increase between 4 and 11 percent, and sea levels are projected to rise between 11 inches and 21 inches, *on top of a foot of sea level rise that we have already witnessed since 1900*. And extreme events, like flooding, are becoming more frequent and more intense. What this means is that a similar Sandy-like event in 2050 could cause \$90 billion in damage and lost economic activity – compared to Sandy’s \$19 billion.<sup>1</sup>

In 2013, based on these NPCC projections, the Special Initiative for Rebuilding and Resiliency (or SIRR) put forth a comprehensive plan to rebuild neighborhoods hardest hit by Sandy and to prepare our citywide infrastructure for the future. The resulting document, *A Stronger, More Resilient New York*, described the City’s \$20 billion resiliency program that is now well underway.<sup>2</sup>

## **B. One New York: The Plan for a Strong and Just City**

In April 2015, Mayor de Blasio released the ground-breaking *One New York: The Plan for a Strong and Just City* (OneNYC), a strategic plan for inclusive growth and climate action.<sup>3</sup> OneNYC, supported by our partnership with 100 Resilient Cities, expanded and accelerated that SIRR program.

It also injected a focus on equity into the City’s climate resiliency program. Equity and climate change are inescapably linked. Although climate change affects everyone, its impacts are not equally felt. Simply put, the poorest and most vulnerable are the hardest hit and least able to recover. That is why addressing the growing economic and social inequality facing the city’s most vulnerable communities is now at the heart of our resiliency work.

## **C. Putting Our Plans into Action**

With OneNYC, our multilayered approach to resiliency encompasses four key areas – neighborhoods, buildings, infrastructure, and coastal defense. I will *briefly* describe a few key highlights of our accomplishments in those areas.<sup>4</sup>

### **1. Neighborhoods**

Our neighborhoods – the places where we live, work, and play – are the first layer of our resiliency efforts. Our goal is to make every single New Yorker safer by strengthening the social and economic resiliency of their communities.

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<sup>1</sup> For an in-depth look at the NPCC’s projections, see, *Building the Knowledge Base for Climate Resilience: New York City Panel on Climate Change 2015 Report*, vol. 1336 of *Annals of the New York Academy of Sciences*, January 2015, <http://onlinelibrary.wiley.com/doi/10.1111/nyas.2015.1336.issue-1/issuetoc>

<sup>2</sup> The full version of *A Stronger, More Resilient New York* can be found at: <http://www.nyc.gov/html/sirr/html/report/report.shtml>

<sup>3</sup> The full version of *One New York: The Plan for a Strong and Just City* can be found at: <http://www.nyc.gov/html/onenyc/downloads/pdf/publications/OneNYC.pdf>

<sup>4</sup> One April 22, 2016, Mayor De Blasio released the *OneNYC 2016 Progress Report*, detailing the City’s year-to-date progress delivering on our OneNYC commitments. The full version of the report can be found at: <http://www1.nyc.gov/html/onenyc/downloads/pdf/publications/OneNYC-2016-Progress-Report.pdf>

We have improved risk communication and emergency preparedness by updating our evacuation maps, releasing a new comprehensive hazard mitigation plan, and expanding neighborhood-based programs. We are investing to make emergency shelter sites accessible to New Yorkers with disabilities.

We are also focused on small business resiliency. To date, we have invested over \$54 million in Sandy impacted small businesses. We have also created over 2,000 jobs and hired over 900 residents from Sandy-impacted areas, continuing our commitment to ensure that New Yorkers have opportunities to participate in the recovery process in their neighborhoods.<sup>5</sup>

## **2. Buildings**

The second layer is working to upgrade the city's buildings to withstand climate change impacts. Sandy showed us that structures built to the latest codes perform well in storms and better protect their inhabitants. We have learned from this and have already upgraded the city's building codes, including sixteen new local laws to account for vulnerabilities related to extreme weather and climate change.

## **3. Infrastructure**

The third layer of the City's multilayered resiliency strategy is adapting the City's infrastructure and supply chains to climate impacts. We are directly investing billions of dollars into the City's infrastructure and we are collaborating with our many regional infrastructure partners to ensure that their investments align with the City's vision for resiliency and affordability.

## **4. Coastal defense**

Finally, the fourth layer of our OneNYC resiliency program is strengthening our coastal defenses against sea level rise, wave action, and storm surge. When Sandy struck, our coastal defenses were nearly non-existent. In response to the devastation, the City released and began implementing its first-ever comprehensive coastal protection plan. Using this as a foundation, OneNYC aims to further reduce the city's coastal vulnerabilities.

# **III. SUPPORTING CITIES**

As we seek to implement this recovery and resiliency program, federal support has been critical. Throughout the recovery process, we have seen the innovations that federal agencies can make to adjust to the specific challenges of urban disasters, and we have also witnessed their limitations. The converging effects of urbanization and climate change present an enormous challenge to cities, which in turn, will require even greater federal support. I would now like to offer several options for how Congress and our federal partners can better support cities with preparing for the magnitude and urgency of climate change.

## **A. Support Urban Mass Shelter Programs**

First, the City's FEMA-funded programs to shelter New Yorkers displaced by Hurricane Sandy is a clear example of what works.

Sheltering survivors displaced by a disaster is a challenge anywhere, but is often made far more complex in a densely populated urban environment, like New York, where traditional approaches (such as trailers) are unworkable.<sup>6</sup> Sandy displaced nearly 70,000 people across the city, completely overwhelming our emergency shelter options. In response, the City in partnership with FEMA developed the Hotel Essential Sheltering Program

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<sup>5</sup> For an extensive list of City's resiliency projects currently underway, please visit: <https://maps.nyc.gov/resiliency/>

<sup>6</sup> For in-depth look at the success of the Rapid Repairs Program see Danielle Baussan and Miranda Peterson, *Lessons from the Storm, Center for American Progress*, October 2015.

(HESP) and the Rapid Repairs Program (RRP), two innovative sheltering solutions tailored to an urban environment.

Between November 18, 2012 and September 30, 2013 HESP, provided safe emergency shelter in hotels across the City to over 1,300 households displaced due to the storm. RRP restored heat, hot water, and power to affected residences and sealed up damaged building envelopes, thereby reducing the demand for other shelter options and allowing individuals to return to or remain in their homes. In total, RRP helped 20,000 households avoid long-term displacement by restoring basic services in less than four months and significant savings to the taxpayer.<sup>7</sup>

Both programs allowed the City to prevent a public health crisis and provide sheltering in a cost-effective way.<sup>8</sup> And although Rapid Repairs was ad hoc, it worked. Had the City not been limited by red tape, it would have worked even better since we are now returning to some of these same homes in our Build it Back program. Nevertheless, Rapid Repairs was a clear success and, with the right support, could be a model for responding to mass displacement in urban contexts in the future.

### **B. Make FEMA's 428 Program Permanent**

Second, Congress authorized an innovative Public Assistance pilot program called Section 428, designed to expedite disaster recovery, improve flexibility to support better mitigation investments, and reduce overall administrative costs.

To date, the City has been the single biggest user of this program, with nearly \$5.9 billion worth of Section 428 projects. From our point of view, this program has been a success; the capped grants incentivize efficiency while providing flexibility to reprogram funds when needed for enhanced mitigation. We support the Section 428 Program and believe it should be made a permanent feature of the federal government's disaster response and resiliency toolkit.

### **C. Reform FEMA's National Flood Insurance Program**

Third, FEMA's National Flood Insurance Program (NFIP) requires fundamental reform. Thanks to Congressional action in 2014, devastating rate increases have been slowed down, but the risks of continued premium increases, foreclosures, and loss of value remains.

The NFIP is due to be reauthorized in 2017. Congress should act to (1) better protect ratepayers and taxpayers by mandating FEMA to expand mitigation options and funding, including increasing pre-disaster mitigation funding and offering partial credit on insurance premiums for partial mitigation measures that make sense for the building stock of a dense urban environment, and (2) ensure affordability of flood insurance for those least able to pay for this vital financial product based on the National Academy of Sciences affordability reports. This is an urgent matter given that flooding is the fastest-growing and most costly natural disaster in the country, a problem which climate change will only make worse.

### **D. Ensure FEMA's Flood Maps are Accurate**

Fourth, the City is working towards a successful resolution to its appeal of FEMA's 2015 Preliminary Flood Insurance Rate Maps, which overstate the size of the city's 100-year floodplain due to inaccuracies in FEMA's underlying analysis, which ultimately affects not just the City and Westchester, but much of coastal New Jersey as well. Conveying flood risk accurately to our residents is among the City's top priorities. Inaccurate FIRMs would not only undermine the integrity upon which the City's resiliency program rests. They would place an

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<sup>7</sup> A study by FEMA's chief economist found that temporary housing in three events prior to Sandy cost on average \$173,000 per unit. The unit cost for RRP was approximately \$30,700 per unit. See Darlene Bouma, Chief Economist to Brad Kieserman, Chief Counsel, December 3, 2012, FEMA Preliminary Business Case for Sheltering and Temporary Essential Power (STEP) Pilot Program. FEMA-4085-DR-NY.

unnecessary financial burden on low and moderate income residents. Accurate flood maps are also critical to the success of the NFIP. That is why the City is urging FEMA to resolve the appeal and adopt accurate flood maps, consistent with the City's appeal, as quickly as possible.<sup>9</sup>

### **E. Improve FEMA's Hazard Mitigation Grant Program**

Fifth, FEMA's Hazard Mitigation Grant Program (HMGP) has been a useful mechanism for New York City to fund long term and cost-effective resiliency projects. Through Section 404 of the Stafford Act, this post-disaster grant is available after a presidential declaration, and funds are awarded to States based on a percentage of statewide damage.

In practice, this means that funds may not necessarily be directed to areas that suffered the greatest damage. For example, New York City incurred nearly 70 percent of Sandy-related damage in New York State but received less than 30 percent of HMGP funds. To ensure funds go where they are needed most, FEMA should consider issuing guidance to states to direct a fair share of HMGP dollars to jurisdictions affected by the applicable disaster declaration.

### **F. Improving Federal Coordination**

Sixth, climate change is proving that we need every tool at our disposal to mitigate its effects. This means cities like New York are looking to Congress to expand funding eligibility and improve federal coordination for flood mitigation strategies, like stormwater pumps and storage tanks, as well as non-structural measures like bluebelts and green infrastructure, to manage the risks from coastal flooding and heavy rainfall.

For example, although \$32 million in federal USDA Emergency Watershed Protection funds has been secured for an award-winning Bluebelt Project here on Staten Island, it is stalling because the USDA and USACE cannot agree on conservation easements at the project site. Both federal agencies want to use the land for the exact same thing. Congress should continue to underscore the imperative that both federal agencies come to an agreement immediately.

We are also looking to Congress to help rationalize how federal agencies calculate their benefit-cost ratios, since each agency has its own methodology. These methodologies should be streamlined to support faster recovery and mitigation investments. Furthermore, benefit-cost ratios are biased by higher property values, placing lower-income communities at a disadvantage when comparing mitigation projects.

Similarly, Congress should also urge federal agencies to coordinate environmental review policies. For example, HUD and FEMA fund the same projects here in the city. However, despite HUD performing an environmental review, FEMA may not allow a project to move forward until its own review is complete. As a result, vital housing resiliency projects are often delayed by these duplicate efforts and administrative burdens.

### **G. Improve Situational Awareness of the Liquid Fuel Supply**

And finally, New York City experienced fuel shortages for weeks following Hurricane Sandy. The lack of data and information sharing regarding the fuel supply and movements created a situation where public sector officials were unable to maintain adequate situational awareness to make sound public safety decisions. Congress should urge the Department of Energy to establish data sharing requirements for the industry to report critical information on a facility-specific basis. Federal agencies should also consider conducting regional exercises and drills to address fuel supply product emergencies or shortages.

## **IV. CONCLUSION**

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<sup>9</sup> The City has been collaborating on this issue with regional partners including the Port Authority of NY & NJ, who recently won their mapping appeal at Newark Liberty International Airport.

To conclude, our understanding of the impacts of climate change continues to improve, highlighting the actions that we must take to reduce risk and prepare for the future. To do this, we will require an expanded partnership with Congress and the federal government to better support local climate preparedness and resiliency. We thank our federal partners here today for their tireless work to support recovery and resiliency in New York City and urge them to help us maintain our momentum as we build a more resilient city. And I'd like to thank Chairman Donovan and the committee members for their leadership as we work together to confront the challenges that climate change will bring to our nation. Thank you.