Superstorm Sandy at Five: Lessons on Law as Catalyst and Obstacle to Long-Term Recovery Following Catastrophic Disasters

by Donovan Finn and John Travis Marshall

Donovan Finn is an Assistant Professor of Environmental Design, Policy, and Planning in the Sustainability Studies Program and School of Marine and Atmospheric Sciences at Stony Brook University. John Travis Marshall is an Assistant Professor of Law, Georgia State University College of Law.

Summary

Nine of the 10 costliest U.S. hurricanes on record have ravaged the Atlantic and Gulf Coasts in the first two decades of the 21st century, yet federal, state, and local governments continue to struggle with devising an efficient and effective way to help cities and towns recover. This Article focuses on law-related obstacles encountered during the disaster response and recovery post-Superstorm Sandy. It considers how Sandy's long-term recovery can inform the deliberations of cities nationwide regarding the strengths and potential vulnerabilities of their local laws, institutions, and capacities for promoting resilient recovery. The authors conclude by suggesting six takeaways to guide communities in the United States facing potential hazards-related risks.

Hurricane Sandy has often been referred to as a "wake-up call" for the most densely populated regions of the United States, which includes New York City, coastal New Jersey, and suburban Long Island (New York).[1] Most would agree that this region is currently thriving. It rebounded vigorously from the devastating September 11 terrorist attacks and is home to some of the country's most valuable real estate, iconic cultural landmarks, and productive industries.[2] However, Sandy exposed the region's fundamental and ongoing vulnerability to major hazards and illustrates how all communities, even those with access to financial and technical resources and possessing experience with recovery, can face structural challenges that complicate recovery. The storm not only served as a wake-up call about the region's lack of physical protection from extreme events and slow-onset climate change, but also served notice that the existing legal infrastructure for recovery[3] was, and remains, inadequate.

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1. *See, e.g.*, Beth Gardiner, *Britain Haunted by Risk of Flooding*, N.Y. Times, Mar. 21, 2013 ("Hurricane Sandy was a wake-up call around coastal flooding"), http://www.nytimes.com/2013/03/22/business/energy-environment/britain-haunted-by-risk-of-flooding.html; Designing for Flood Risk, *infra* note 18, at 5.
2. *See* Konrad Putzier, *NYC vs. the World*, Real Deal N.Y., Oct. 1, 2015 (discussing New York City's rising real estate prices and their continuing climb that will likely outpace other expensive cities such as Hong Kong and London in the near future), https://therealdeal.com/issues_articles/nyc-vs-the-world/; TripAdvisor, *Top 25 Landmarks—United States* (as of April 19, 2018, five of the top 10 landmarks in the United States are in New York City), https://www.tripadvisor.com/TravelersChoice-Landmarks-cTop-g191 (last visited Apr. 19, 2018); IHS Global Insight, U.S. Metro Economies (2013) (New York City and northern New Jersey areas have almost double the gross metropolitan product of the next highest city in the United States), https://web.archive.org/web/20150305224230/http://www.usmayors.org/metroeconomies/2013/201311-report.pdf.
3. We write more than five years after Sandy's destructive landfall to consider lessons emerging from the New York metropolitan region's long-term recovery. Generally speaking, "recovery" begins as the immediate disaster "response" phase ends. Response includes search and rescue and emergency food and shelter provision. The "recovery" phase, which follows, includes "timely restoration, strengthening and revitalization of infrastructure, housing and a sustainable economy, as well as the health, social, cultural, historic and environmental fabric of communities affected by a catastrophic incident." *See* Federal Emergency Management Agency (FEMA), U.S. Department of Homeland Security, National Preparedness Goal (2d ed. 2015), *available at* https://www.fema.gov/media-library-data/1443799615171-2aae90be55041740f97e8532fc680d40/National_Preparedness_Goal_2nd_Edition.pdf. *See also* John Travis Marshall et al., *Core Capabilities and Capacities of Developer Nonprofits in Postdisaster*

Foundational to city resilience are laws and policies.[4] These range from federal programs that fund recovery projects, to local comprehensive plans and zoning codes, to state constitutional provisions and statutes. As post-Sandy rebuilding efforts have illustrated, and as major natural disasters preceding Sandy have also proven, the laws and policies that guide federal, state, and local government recovery activities can impede—instead of facilitate—robust and equitable rebuilding efforts. If, before an event, a community fails to address potential deficiencies with the statutes, ordinances, policies, and procedures relevant to recovery, then these shortcomings may frustrate recovery from future disasters.

In response to the lessons learned after Sandy, the region's local and state governments have expended significant effort to update state and local codes and lobby for changes to federal policy.[5] The federal government has also begun to address some of these issues.[6] But the challenges are far from resolved. These issues also have important implications well beyond the New York and New Jersey region most directly affected by Sandy, and offer lessons for sister cities of all sizes. The pitfalls that have revealed themselves over the past five years have common pathology to the miscues and oversights documented during long-term recovery processes that have previously unfolded in other regions of the country. In other words, the same types of challenges faced by the New York City region's residents, businesses, local governments, and states may be pertinent to subsequent recoveries, including those recently commenced in Florida, Puerto Rico, and Texas following the 2017 hurricane season.

This Article examines the programs that New York City, the state of New York, and the state of New Jersey created to help deliver desperately needed federal assistance to residents and businesses throughout the region.[7] As might be expected of any multibillion-dollar enterprise conceived and developed in a matter of just a few months, these programs had flaws and shortcomings. Among the challenges the city and the states faced were federal funding sources constricted by rigid regulations and local government laws ill-suited to the exigencies of disaster recovery. We focus on these law-related obstacles encountered during the post-Sandy disaster response and recovery, highlighting ways that state and local governments attempted to work within the constraints of existing legal structures to develop locally effective recovery programs. We also identify how certain laws emerged as structural barriers to community recovery following Superstorm Sandy.

The Article proceeds as follows. Part I provides a brief overview of Hurricane Sandy, its widespread devastation of New York and New Jersey, and the New York City metro area's distinctive urban form and socioeconomic profile—both characteristics that set the Sandy recovery challenge apart from almost every other major U.S. disaster recovery experience. Mindful that the U.S. government's response to Sandy introduced major changes to federal disaster response and recovery programs, Part II furnishes a succinct history of federal involvement in disaster response and recovery leading up to October 2012.

Part III specifically outlines the major laws and programs that the federal, state, and local governments used to manage the Sandy response and recovery efforts. Despite important refinements and improvements to federal laws and programs that followed Hurricane Katrina and the 2008 Iowa floods, Hurricane Sandy revealed critical flaws in the federal, state, and local coordination of disaster recovery. Part IV details Sandy's gloss on the several key disaster response and recovery programs.

With the benefit of five years' hindsight, Part V takes a critical look at the nation's second most expensive disas-

Community Rebuilding, 18 Nat. Hazards Rev. 05016004 (2017) ("Long-term disaster recovery begins when neighborhood rebuilding is poised to commence. This is generally about the time homes and vehicles have been cleared from the streets, but also when housing, roads, sewers, libraries, and parks remain in ruin."); Elizabeth Kent, *"Where's the Cavalry," Federal Response to 21st Century Disasters*, 40 Suffolk U. L. Rev. 181, 194-95 & n.103 (2006) (quoting David McLoughlin, *A Framework for Integrated Emergency Management*, 45 Pub. Admin. Rev. 165, 166 (1985) (recovery includes the "long-term activities that return life to normal")).

4. *See, e.g.*, Daniel A. Farber et al., Disaster Law and Policy 345-64, 369-90 (2d ed. 2010); Anna K. Schwab & David J. Brower, *Increasing Resilience to Natural Hazards: Obstacles and Opportunities for Local Governments Under the Disaster Mitigation Act of 2000*, 38 ELR 10171, 10173-74 (Mar. 2008); Patricia E. Salkin, *Sustainability at the Edge: The Opportunity and Responsibility of Local Governments to Most Effectively Plan for Natural Disaster Mitigation*, 38 ELR 10158, 10158 (Mar. 2008); John R. Nolon, *Disaster Mitigation Through Land Use Strategies*, 23 Pace Envtl. L. Rev. 959, 963-64 (2006). *See also* John Travis Marshall, *Rating the Cities: Constructing a City Resilience Index for Assessing the Effects of State and Local Laws on Long-Term Recovery From Crisis and Disaster*, 90 Tul. L. Rev. 35, 36-41 (2015).

5. *See* Samuel Greengard, *Eye on the Storm: Engineering a Post-Sandy Recovery*, Engineering Inc., Sept./Oct. 2017, at 16 ("Hurricane Sandy forced everyone, including the government and the engineering industry, to completely rethink the way infrastructure is built, maintained and upgraded. The policy changes and code changes resulting from Sandy will have a hugely positive impact in the years ahead."), http://www.dewberry.com/docs/default-source/default-document-library/eye-on-the-storm-engineering-inc-2017.pdf?sfvrsn=0.

6. *See* Sandy Recovery Improvement Act, Pub. L. No. 113-2, 127 Stat. 5 (2013). President Barack Obama signed the Sandy Recovery Improvement Act into law on January 29, 2013.

7. A separate important inquiry surrounds the steps that the New York City region has taken—and must take in the future—to ensure its resilience to future storms and climate-related challenges. This Article does not focus specifically on the legal dimensions of New Jersey and New York's post-Sandy efforts to promote urban resilience. There are a range of resources to consult on this critical issue. *See, e.g.*, Sarah Adams-Schoen, *Sink or Swim: In Search of a Model for Coastal City Climate Resilience*, 40 Colum. J. Envtl. L. 433 (2015); Jessica Grannis et al., *Preparing for Climate Impacts: Lessons From the Frontlines* (July 2014), *available at* https://kresge.org/sites/default/files/Preparing%20for%20Climate%20Impacts%20-%20Georgetown%20Climate%20Center.pdf; Andrea McArdle, *Storm Surges, Disaster Planning, and Vulnerable Populations at the Urban Periphery: Imagining a Resilient New York After Superstorm Sandy*, 50 Idaho L. Rev. 19 (2014).

ter recovery. This part demonstrates how disaster recovery can be significantly impeded by flawed legal infrastructure, through examination of several significant challenges to a more equitable and efficient recovery. Part VI concludes by considering how Superstorm Sandy's long-term recovery can inform the deliberations of cities nationally regarding the strengths and potential vulnerabilities of their local laws, institutions, and capacities for promoting resilient recovery. We suggest six lessons or takeaways to guide not only communities affected by Sandy, but any community in the United States facing potential hazards-related risks, which is to say, everyplace.

I. Overview: Hurricane Sandy's Unprecedented Destruction in the Singularly Distinctive New York Metro Region

Each major natural disaster yields new lessons to share with communities that later find themselves in the crosshairs of a catastrophic event. That is because each hazard event brings its own unique challenges. It is also because those hazards strike new locations. As a result, there are often significant differences in the physical and legal landscapes of the affected communities. Superstorm Sandy is a case in point.

Sandy's massive size and destructive force set it apart from most other storms that have hit U.S. cities. Its impacts on the New York City region were similarly singular given the region's older and high-density settlement patterns, its orientation to the water, and other special characteristics. This part briefly highlights the factors that set Sandy apart and, in so doing, have yielded important new lessons not only for other large metropolitan regions, but for any community that faces the prospect of a future disaster of any kind.

Hurricane Sandy (later downgraded to Superstorm Sandy) made landfall on the northeast coast of the United States on October 29, 2012, first striking land near Atlantic City, New Jersey, with 80-mile-per-hour winds, having already caused severe damage to the Bahamas, Cuba, and Jamaica as well as the southern U.S. coast.[8] Though the storm had already been downgraded by the time of landfall, it was massive. Sandy's nearly 1,000-mile diameter made it the largest Atlantic storm on record, while its record-setting low barometric pressure, 940 millibars or 27.76 inches, meant it was also the most powerful storm to ever make landfall north of Cape Hatteras, North Carolina.[9] Sandy's 14-foot storm surge was a result of the storm's massive size, coupled with a full moon and a high tide at the time of landfall, further exacerbated by global sea-level rise.[10]

Sandy struck an enormous region. In all, 24 states were affected in some way by the storm, but by far, the most concentrated impact was on the New York City metropolitan region, including New York City, the entire state of New Jersey, and New York State's suburban Long Island counties of Nassau and Suffolk, located just east of New York City.[11] This metro region contains the nation's largest city, which is also one of the nation's densest cities, but also small coastal communities and sprawling suburban regions spread across two states and over two dozen counties and hundreds of municipalities.

The storm forced the practically unprecedented multiday shutdowns of the New York City transit system, the New York Stock Exchange, and the New York City school system.[12] Extensive coastal and inland flooding destroyed thousands of homes and damaged thousands more, and 8.5 million customers lost power during the storm.[13] At least 162 deaths were ultimately attributed to the storm in the United States alone.[14] The region's infrastructure was also severely impacted, including flooding of multiple rail tunnels under the Hudson and East Rivers, New Jersey's Hoboken Terminal rail station, and the runways at LaGuardia Airport. Overall, Sandy was the second most economically damaging hurricane in U.S. history after the $147.2 billion (adjusted to 2013 dollars) losses caused by Katrina. Sandy's price tag totaled $68 billion worth of losses in the United States, including $30 billion in New Jersey and $33 billion in New York State.[15]

The New York metro region's distinctive social and urban development profiles created special disaster response and recovery challenges. While the metro region includes buildings of every type, it contains a much higher percentage of multiunit buildings and party-wall structures than most other places in the United States.[16] Addi-

8. *See* Tim Sharp, *Superstorm Sandy: Facts About the Frankenstorm*, Live Sci., Nov. 27, 2012, https://www.livescience.com/24380-hurricane-sandy-status-data.html.
9. *See* Mark Fischetti, *Sandy Versus Katrina, and Irene: Monster Hurricanes by the Numbers*, Sci. Am., Oct. 29, 2012, https://www.scientificamerican.com/article/sandy-vs-katrina-and-irene/; Alan Duke, *Superstorm Sandy Breaks Records*, CNN, Oct. 31, 2012, http://www.cnn.com/2012/10/30/us/sandy-records/index.html.
10. *See* Bob Henson, *Dissecting Sandy's Surge*, AtmosNews, Dec. 31, 2012 (examining factors that caused the extreme storm surge associated with Superstorm Sandy, and what could have exacerbated the surge), https://www2.ucar.edu/atmosnews/perspective/8585/dissecting-sandy-s-surge.
11. *See* FEMA, U.S. Department of Homeland Security, Hurricane Sandy FEMA After-Action Report 1 (2013), https://www.fema.gov/media-library-data/20130726-1923-25045-7442/sandy_fema_aar.pdf.
12. *See id.* (reviewing FEMA's response to Hurricane Sandy, noting areas of strength during disaster recovery, and discussing areas of improvement for future disaster response efforts).
13. *Id.*
14. *Id.*
15. *See* Aon Benfield, Hurricane Sandy Event Recap Report 19, 21, 38 (2013) (the $68 billion figure does not include non-U.S. economic losses in the amount of $4 billion between the Bahamas, Canada, and the Caribbean), http://thoughtleadership.aonbenfield.com/Documents/20130514_if_hurricane_sandy_event_recap.pdf.
16. *See* New York City Department of City Planning, Coastal Climate Resiliency: Retrofitting Buildings for Flood Risk (2014) [hereinafter Retrofitting Buildings for Flood Risk] 15-21, *available at* https://https://www1.nyc.gov/assets/planning/download/pdf/plans-studies/retrofitting-buildings/retrofitting_complete.pdf; *see also* U.S. Census Bureau, American FactFinder, *Physical Housing Characteristics for Occupied Housing Units: 2012-2016 American Community Survey 5-Year Estimates* (showing that single-family detached structures account for 62.8% of all occupied residences in the United States as a whole, but only 9.4% of New York City residences), https://factfinder.census.gov/faces/tableservices/jsf/pages/

tional challenges relate to the overall land use patterns of the region, which include a much more fine-grained mix of uses than is typical in many other regions.[17] These complexities are well-known among recovery and planning officials in the region.

New York City's Department of City Planning has enumerated these challenges in multiple reports, guidebooks, and advisory documents, such as *Designing for Flood Risk*, *Retrofitting Buildings for Flood Risk*, and *Resilient Retail*.[18] As part of its remit, the mayor's Office of Recovery and Resiliency continues to advocate for reform of federal recovery policies to make them more reflective of on-the-ground situations in New York City and elsewhere. Other municipalities in the region, such as Hoboken, New Jersey, have faced similar issues and have also created resources to help property owners navigate the complexities of rebuilding and mitigation in dense urban environments such as the city of Hoboken's *Cross-Reference Guide to Post-Sandy Resiliency Planning and Engineering* and *Resilient Building Design Guidelines*.[19]

Another recovery challenge in the New York metro region is the cost of housing vis-à-vis national averages. While federal relief funding caps do not vary by geography, costs do, and the New York region's construction costs are significantly higher than anywhere else in the world.[20] Housing costs, not surprisingly, are also high. In New York City and the 11 coastal New York and New Jersey counties most affected by Sandy, the median value of owner-occupied housing units ranged from 1.26 to 2.77 times the national median of $178,600.[21] Gross rent is also universally higher in the region than the national median, from 1.12 times higher in Cape May County, New Jersey, to 1.35 times in New York City, and fully 1.7 times higher in Nassau County, New York. Table 1 summarizes these housing cost dynamics.

These steep housing costs hinder rebuilding and recovery because in many cases the cost of replacing existing homes, not to mention adding upgraded mitigation measures, is substantially greater than the level of aid available.[22] Consider that National Flood Insurance Program (NFIP) coverage is capped at $250,000 for residential structures and $500,000 for commercial structures.[23] While in many parts of the country that will pay to replace an entire home, in the Sandy region it is often inadequate. Similarly, the Federal Emergency Management Agency's (FEMA's) housing assistance (HA) aid through the Individuals and Households Program (IHP) is intended to cover temporary housing costs during the post-disaster repair period, repair damage to a primary residence, or help with the cost of replacing a primary residence. Benefits are adjusted annually based on the U.S. Department of Labor Consumer Price Index, currently capped at $34,000 as of October 1, 2017.[24] But this amount provides much more purchasing power in some parts of the country than others, as housing values in the Sandy region illustrate.

The federal Small Business Administration (SBA) also makes disaster recovery and post-disaster mitigation loans to eligible businesses, homeowners, and renters.[25] Again, due to the high labor and real estate costs in the Sandy region, federal maximums were often inadequate to address recovery needs.[26] Low-income renters and senior citizens were also overrepresented in the populations of Sandy-affected areas, and more than 1,800 owners in the inundation area in New York City alone were already in the mortgage foreclosure process before Sandy. These vulnerable households thus faced additional recovery pressures, including a lack of discretionary income available to finance recovery and inability to find new affordable housing options in the region's expensive and constrained housing market.[27]

In New York City in particular, temporary housing constraints were even more pronounced. Though 64.2% of the city's 3,400,093 housing units are rentals, the city's 2014 Housing and Vacancy Survey found a citywide rental vacancy rate of just 3.45%, and had reported even fewer

productview.xhtml?pid=ACS_16_5YR_S2504&prodType=table (last visited Apr. 19, 2018).

17. *See* ULI Foundation, After Sandy: Advancing Strategies for Long-Term Resilience and Adaptability 4 (2013), http://americas.uli.org/wp-content/uploads/sites/125/ULI-Documents/AfterSandy.pdf.
18. *See* New York City Department of City Planning, Coastal Climate Resilience: Designing for Flood Risk (2013) [hereinafter Designing for Flood Risk], http://www.sustainablenyct.org/news/NYCDCP_DESIGNING%20FOR%20FLOOD%20RISK_DRAFT-LOW.pdf; Retrofitting Buildings for Flood Risk, *supra* note 16; New York City Department of City Planning, Coastal Climate Resiliency: Resilient Retail (2016) [hereinafter Resilient Retail], http://www1.nyc.gov/assets/planning/download/pdf/plans-studies/resilient-retail/resilient-retail-full-report-2-pager.pdf.
19. *See* City of Hoboken, New Jersey, Cross-Reference Guide to Post-Sandy Resiliency Planning and Engineering (2015) (copy on file with the authors); Princeton Hydro, Resilient Building Design Guidelines (2015), http://www.hobokennj.gov/docs/communitydev/Resilient-Buildings-Design-Guidelines.
20. *See* Turner & Townsend, International Construction Market Survey 2017, at 16-20, 84-85 (2017) (as of 2017, New York City's construction costs have become the highest in the world, New York City has the second highest cost of labor, and both of these costs are expected to continue their rise), http://www.turnerandtownsend.com/media/2412/international-construction-market-survey-2017-final.pdf; *compare to* Kathryn Brenzel, *High Construction Wages, Material Costs, Make NYC the World's Most Expensive to Build: Report*, Real Deal N.Y., May 17, 2017, https://therealdeal.com/2017/05/17/high-construction-wages-material-costs-make-nyc-the-worlds-most-expensive-place-to-build-report/.
21. *See* U.S. Census Bureau, American FactFinder, *Selected Housing Characteristics: 2011-2015 American Community Survey 5-Year Estimates*, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP04&prodType=table (last visited Apr. 19, 2018).
22. *See* Russ Zimmer, *Out of Money? Four Options for Stuck Sandy Families*, App.com, Aug. 20, 2015, https://www.app.com/story/news/local/monmouth-county/sandy-recovery/2015/08/20/sandy-rehab-loans-home-construction/32044899/.
23. *See* HelpWithMyBank.gov, *Answers About Flood Insurance*, https://www.helpwithmybank.gov/get-answers/insurance/flood-insurance/faq-flood-insurance-18.html (last updated Sept. 2017).
24. *See* Notice of Maximum Amount of Assistance Under the Individuals and Households Program, 82 Fed. Reg. 47568 (Oct. 1, 2017).
25. *See* SBA, SBA Disaster Loan Program Frequently Asked Questions (2017), https://www.sba.gov/sites/default/files/articles/sba-disaster-loans-faq.pdf.
26. *See* Brenzel, *supra* note 20.
27. *See* Furman Center for Real Estate and Urban Policy, Sandy's Effects on Housing in New York City (2013), *available at* http://furmancenter.org/files/publications/SandysEffectsOnHousingInNYC.pdf.

Table 1: New York Metro Region Cost of Housing*

Geography	Median value of owner-occupied housing 2011-2015 (in US$)	Ownership costs compared to national median	Median gross rent 2011-2015 (in US$)	Rental costs compared to national median
United States	178,600	—	928	—
New York City	494,800	+277%	1,255	+135%
Bergen County, NJ	441,100	+247%	1,348	+145%
Hudson County, NJ	335,300	+188%	1,214	+131%
Middlesex County, NJ	323,300	+181%	1,299	+140%
Monmouth County, NJ	385,100	+216%	1,238	+133%
Ocean County, NJ	262,700	+147%	1,322	+142%
Essex County, NJ	356,600	+200%	1,068	+115%
Union County, NJ	345,500	+193%	1,174	+127%
Atlantic County, NJ	225,600	+126%	1,047	+113%
Cape May County, NJ	299,700	+168%	1,038	+112%
Suffolk County, NY	375,100	+210%	1,544	+166%
Nassau County, NY	446,400	+250%	1,578	+170%

* U.S. Census Bureau, American FactFinder, *Selected Housing Characteristics: 2011-2015 American Community Survey 5-Year Estimates*, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP04&prodType=table (last visited Apr. 19, 2018).

vacancies (3.12%) in its 2011 survey.[28] These numbers are far below the national vacancy average, which was 11.4% in 2010.[29] Only 16.5% of city residents live in single-family homes.[30] Most residents are apartment dwellers, and have little if any extra space to house displaced friends or relatives for any significant amount of time. The city also has few locations in which to site temporary housing (e.g., FEMA trailers).[31] These factors combined to make it extremely challenging, but absolutely essential, to develop innovative ways to get residents back in their own homes as quickly as possible.

II. A Brief History of Federal Disaster Recovery Law and Policy Leading Up to Hurricane Sandy

Federal involvement in response to specific disaster events extends almost as far back as the nation's founding. More recent, however, is the federal government's role in creating programs that could be deployed nationwide to support local response and recovery efforts. The evolution of these federal programs has progressed piecemeal, generally tracking the particular response and recovery challenges presented by successive natural disasters. To understand notable gaps in federal recovery programs in place when Superstorm Sandy hit the region in October 2012, it is important to appreciate the challenges associated with the federal government's effort to build a set of comprehensive disaster recovery programs.

The story of federal disaster policy begins not long after the nation's founding. In late 1802, Portsmouth, New Hampshire, suffered a series of fires known as the Great Portsmouth Parade Fire. One hundred thirty-two buildings burned, devastating the city. Because of the importance of the busy port and related shipbuilding industry, the fledgling U.S. Congress passed the first federal disaster aid bill on January 14, 1803, a "Bill for the Relief of Sufferers of Fire in the Town of Portsmouth," authorizing the city

28. *See* Elyzabeth Gaumer & Sheree West, New York City Department of Housing and Preservation and Development, Selected Initial Findings of the 2014 New York City Housing and Vacancy Survey 1-2, 11 (2015), http://www1.nyc.gov/assets/hpd/downloads/pdf/2014-HVS-initial-Findings.pdf.
29. *See* U.S. Census Bureau, American FactFinder, *General Housing Characteristics: 2010 Census Summary File*, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_QTH1&prodType=table (last visited Apr. 19, 2018).
30. U.S. Census Bureau, *supra* note 16.
31. *See* Cindy Rodriguez, *FEMA Says No to Trailers in New York City*, WNYC, Dec. 6, 2012, https://www.wnyc.org/story/255683-no-fema-trailers-new-york-city/.

to cancel all of its old bonds and issue new bonds to finance rebuilding. Over the next 147 years, Congress followed a practice of largely ad hoc response, passing 128 more bills to facilitate local disaster recovery after specific events.[32] The first concerted attempt to systematize the federal role in recovery did not come until the Disaster Relief Act of 1950, which established some of the basic concepts that inform federal disaster response to this day.[33]

Many other components of today's federal recovery infrastructure also date to the 1950s and 1960s. Under President Dwight D. Eisenhower, the Small Business Act of 1953 created the SBA, building on earlier precedents including the Reconstruction Finance Corporation and the U.S. Department of Commerce's Office of Small Business.[34] In addition to assisting small businesses in normal times, the SBA also provided recovery loans to disaster-impacted businesses and homeowners and continues to be an important recovery resource today.[35] The 1964 Amendments to the Alaska Omnibus Act[36] authorized the federal Housing and Home Finance Agency administrator to provide up to $25,000,000 in direct grant funding for urban renewal projects to help local communities rebuild after Alaska's March 1964 "Good Friday" earthquake. The Alaska Act established the precedent for using direct block grant programs for disaster relief that would later evolve into the Department of Housing and Urban Development's (HUD's) Community Development Block Grant Disaster Recovery (CDBG-DR) Program.

Another pillar of modern federal disaster policy emerged in 1968 with the creation of the NFIP, a critical piece of the country's flood-related mitigation and recovery framework.[37] The NFIP was created through the National Flood Insurance Act of 1968, though it was 40 years in the making.[38] The private insurance industry ceased covering flood losses after the Great Mississippi River Flood of 1927.[39] President Harry S. Truman later advocated for a national flood insurance program after the Great Flood of 1951 caused extensive losses in Kansas and President Truman's native Missouri. President Truman's successor, President Eisenhower, eventually oversaw passage of the Federal Flood Insurance Act of 1956, which included federal flood insurance, reinsurance, and disaster loan programs.[40] The impacts of Hurricane Betsy in 1965, and previous storms in the southern United States in 1963 and 1964, finally prompted the federal government to create and fund the NFIP through Title XIII of the Housing and Urban Development Act of 1968.[41]

The destruction caused by Hurricane Camille and 28 other major disasters that occurred in 1969 led to increased federal spending on disaster relief and recovery.[42] This prompted President Richard Nixon to issue his April 22, 1970, Special Message to Congress on Federal Disaster Assistance. This Message advocated a more aggressive federal approach to all aspects of disaster management.[43] In response, Congress passed the 1970 Disaster Relief Act and amendments in 1974. The Act attempted to unify the disparate existing federal disaster-related programs. It added a new emphasis on assistance for individuals, thus continuing a policy shift away from long-standing expectations that neighbors and philanthropies were responsible for household-level relief, loosened restrictions on the repair of municipal facilities, and further emphasized funding of mitigation as a federal priority.[44]

Together, passage of the National Flood Insurance Act and the 1970 Disaster Relief Act and its 1974 amendments created a more integrated—though still not completely streamlined—federal disaster recovery system. President Nixon continued to promote this integrated approach through Presidential Reorganization Plan No. 1 of 1973, which eliminated the Presidential Office of Emergency Preparedness and consolidated federal disaster relief and recovery efforts in the newly created Federal Disaster Assistance Administration (FDAA) within HUD.[45] Five years later, FEMA was created by President Jimmy Carter via Presidential Reorganization Plan No. 3 of 1978 and implemented through Executive Order Nos. 12127 and 12148 in an attempt to consolidate disaster-related functions in one agency.[46] Previously, these responsibilities had been divided among a broad range of federal entities, including the Defense Civil Preparedness Agency, the U.S. Department of Defense, the FDAA, HUD, the U.S. Department of Commerce, the Federal Preparedness Agency, the Gen-

32. *See* Rebecca Katz, Essentials of Public Health Preparedness 47-48 (1st ed. 2013).
33. *See* Federal Disaster Relief Act of 1950, Pub. L. No. 81-875, 64 Stat. 1109-11.
34. *See* Pub. L. No. 83-163, 67 Stat. 230 (1953).
35. *See* Keith Bea, *The Formative Years: 1950-1978*, *in* Emergency Management: The American Experience 1900-2010, at 81, 87 (Claire B. Rubin ed., Routledge 2012).
36. *See* Pub. L. No. 88-451, 78 Stat. 505 (1964).
37. *See* Federal Insurance and Mitigation Administration, FEMA, National Flood Insurance Program Fact Sheet (2016) [hereinafter National Flood Insurance Program Fact Sheet], https://www.fema.gov/media-library-data/1464700430600-c4b174ccadfea6b6a121acaeb06097a6/National-Flood-Insurance-Program-Fact-Sheet-May-2016r.pdf.
38. *See* Pub. L. No. 90-448, 82 Stat. 476 (1968); American Institutes for Research et al., A Chronology of Major Events Affecting the National Flood Insurance Program 3-12 (2002) (detailing how various flood control measures, and the government's support of them, evolved from 1917 until the founding of the NFIP in 1968), *available at* https://https://www.fema.gov/media-library-data/20130726-1602-20490-7283/nfip_eval_chronology.pdf.
39. *See* American Institutes for Research et al., *supra* note 38, at 3.
40. *See* Pub. L. No. 84-1016, 70 Stat. 1078 (1956).
41. *See* Pub. L. No. 90-448, 82 Stat. 476 (1986). The National Flood Insurance Act of 1968 established the NFIP and Federal Insurance Administration, both then housed within HUD to provide federal flood insurance to property owners in communities where local governments undertake voluntary flood mitigation and enact floodplain management ordinances.
42. *See* David Moss, *Courting Disaster? The Transformation of Federal Disaster Policy Since 1803*, *in* The Financing of Catastrophe Risk 307, 317 (Kenneth A. Froot ed., Univ. of Chicago Press 1999).
43. *See* President's Special Message to Congress on Federal Disaster Assistance, 1 Pub. Papers 379-84 (Apr. 22, 1970).
44. *See* Moss, *supra* note 42, at 317, 331; Disaster Relief Act of 1970, Pub. L. No. 91-606, 84 Stat. 1744; Disaster Relief Act of 1974, Pub. L. No. 93-288, 88 Stat. 143.
45. *See* Presidential Reorganization Plan No. 1 of 1973, 38 Fed. Reg. 1089 (July 1, 1973).
46. *See* Presidential Reorganization Plan No. 3 of 1978, 43 Fed. Reg. 41943; Exec. Order No. 12127, 44 Fed. Reg. 19367 (Mar. 31, 1979); Exec. Order No. 12148, 44 Fed. Reg. 43239 (July 20, 1979).

eral Services Administration, and the Office of Science and Technology Policy.

In 2002, FEMA ceased to be an independent federal agency and was integrated into the newly formed U.S. Department of Homeland Security.[47] The role of FEMA and other federal agencies related to disaster mitigation, response, and recovery is currently defined by the 1998 Robert T. Stafford Disaster Relief and Emergency Assistance Act.[48] The Stafford Act mandates that federal assistance supplement local and state efforts once exhausted, and it requires states (through their governors) to explicitly request federal assistance for response and recovery.[49] The Act also places a heavy emphasis on coordination, and it illustrates the most aggressive government role to date in promoting pre-disaster planning and mitigation, in addition to post-event relief and recovery.

In the several years leading up to Superstorm Sandy, a string of major disasters hit communities from the Gulf Coast to the Midwest to the Northeast. These events, which included Hurricanes Katrina, Rita, and Wilma in 2005, Hurricanes Gustav and Ike and the Iowa floods in 2008, and then Tropical Storm Irene in 2011, focused intense criticism on the federal government's coordination and leadership of recovery efforts. The Post-Katrina Emergency Management Reform Act amended the Stafford Act in 2006, requiring the creation of a National Disaster Recovery Strategy and National Disaster Housing Strategy to further delineate the disaster recovery responsibilities of federal agencies.[50]

In September 2011, the federal government issued its National Disaster Recovery Framework (NDRF), a new blueprint for more efficient and streamlined disaster recoveries.[51] The NDRF represented the federal government's effort to improve local, state, and federal coordination along the entire continuum of planning and response, from pre-disaster planning to the short-term, mid-term, and long-term recovery periods following a disaster.[52] It urges governments to begin preparing for a disaster event long before the event occurs by envisioning what the city or county would like recovery to look like. These preparations include anticipating possible post-disaster stressors, such as a local government's lack of staff and its ability to coordinate with nongovernmental organizations to achieve long-term recovery goals.[53]

Under the NDRF, federal, state, tribal, and local governments, as well as business and nongovernmental organizations, were each assigned particular spheres of responsibility in helping communities recover.[54] Released in its first iteration more than one year before Sandy, the NDRF's observation concerning the vulnerability of urban centers is prescient. But the NDRF's discussion of a densely settled urban community's vulnerability amounts to a brief paragraph.[55] It does not flag the types of challenges local governments may encounter in carrying out major disaster response and recovery in a densely settled urban setting.

As this history illustrates, decisions about the structure of the nation's disaster response and recovery programs have been informed by lessons learned from each previous disaster, involving constant and ongoing refinements. At the same time, the system is a product of politics and ongoing debates about the role the federal government should play in helping communities mitigate disaster risk and/or recover from disasters. Moreover, responsibilities for various aspects of recovery continue to be spread across multiple federal agencies and distributed among municipalities, states, and the federal government. This situation is neither inherently good nor bad, but it does mean that the nation's approach to disaster response and recovery is, and will remain, complex and constantly evolving. The lessons provided by Sandy furnish yet another opportunity to refine federal, state, and local recovery policies.

III. Current Federal Tools for Disaster Mitigation and Recovery

The preceding history of federal involvement in disaster recovery reveals the complex genealogy and orphan provenance of federal recovery efforts. This history also helps explain how so many different federal agencies have come to be involved in recovery, ranging from FEMA and HUD to the SBA and the U.S. Army Corps of Engineers (the Corps), and it illustrates, in part, why the recovery process is so dauntingly complicated.

This part describes the array of federal programs that were in place when the state of New Jersey, the state of

47. *See* Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135.
48. *See* Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§5121-5207.
49. *Id.* §5170.
50. *See* 6 U.S.C. §§771-772; Robert B. Olshansky & Laurie A. Johnson, *The Evolution of the Federal Role in Supporting Community Recovery After U.S. Disasters*, 80 J. Am. Plan. Ass'n 293, 299 (2015).
51. *See* FEMA, U.S. Department of Homeland Security, National Disaster Recovery Framework (2011) [hereinafter NDRF], https://www.fema.gov/pdf/recoveryframework/ndrf.pdf. Because the first edition of the NDRF was in place both during Sandy and the immediate aftermath, it is referenced here rather than the second edition that was released in 2016. The current version of the NDRF is available at https://www.fema.gov/media-library-data/1466014998123-4bec8550930f774269e0c5968b120ba2/National_Disaster_Recovery_Framework2nd.pdf.
52. *See* NDRF, *supra* note 51, at 8.
53. *Id.* at 13-17.
54. *See id.* at 19-24. The NDRF prescribes specific leadership positions that it expects local, state, and tribal organizations to fill prior to disaster events and then serve as critical points of contact for carrying out disaster response programming. *Id.* at 25-35. These local, state, and tribal leadership positions do not displace existing local, state, and tribal leadership positions, but are meant to encourage complementing them with qualified professionals and ensure that there are local and state coordinating officers to work with the federal disaster recovery coordinator. *Id.* at 25, 34.
55. Despite all of the attention to pre-event planning, coordination, and evaluation, it is important to highlight that completing an assessment of existing laws and policies related to recovery received only general treatment in the NDRF's initial iteration. The NDRF version in circulation in October 2012 advised local governments to review existing planning documents, but its pre-disaster planning guidelines did not specifically suggest a broader need to look at local or state laws relating to housing and community development. These laws might include building codes, code enforcement ordinances, or zoning codes. The NDRF did, however, specifically note that densely settled urban communities deserve special consideration in disaster planning because they are especially at risk to problems surrounding disaster response and recovery.

New York, and New York City began to rebuild following Superstorm Sandy. As this description makes evident, state and local governments faced an enormous challenge in deploying direct response aid in the days after the storm. At the same time that New Jersey, New York, and New York City were supplying immediate life-saving assistance, they were also already beginning to design and staff multibillion-dollar long-term recovery delivery systems that could effectively interface with federal programs. Simultaneously, they were crafting new relationships with key federal agencies and learning how to navigate the complicated requirements of several relatively distinct federal programs. The challenges facing individuals were perhaps just as great. State and local governments and affected families and businesses learned quickly that their path to recovery would involve a long and difficult process of "wading through federal alphabet soup," as described by Holly Leicht,[56] who was regional administrator for HUD's Region II at the time of Sandy.

The federal government's current role in long-term recovery is largely financial and legal. While the federal government provides significant technical assistance, it is the state and local governments that decide how recovery and rebuilding will occur, using a significant amount of federal money and working within the parameters established by Congress and federal agencies.[57] This part outlines the sources of funding that figure critically in state and local government recovery choices. First, we examine FEMA's post-disaster assistance, hazard mitigation, and insurance programs, then we describe the SBA post-disaster loan program and conclude with a review of HUD's long-term disaster recovery and resilience programs.

A. FEMA's Post-Disaster Assistance Programs

Following a presidentially declared major disaster, FEMA wears at least three hats: furnishing individual recovery assistance to affected homeowners, providing public assistance to local and state governments to rebuild public facilities and infrastructure, and making available a tranche of hazard mitigation funds to disaster-affected state and federally recognized tribal governments. FEMA uses four programs to carry out its responsibilities.

1. FEMA's IHP

FEMA's IHP assists residents whose primary residence has been affected by a disaster.[58] The amount of assistance is limited and adjusted annually (currently $33,000). The IHP is designed to be a relief mechanism of last resort. FEMA expects those with minor housing damage, short-term shelter needs, and/or financial or other resources such as insurance to address their own needs without IHP assistance. The program is intended to address serious and immediate needs for shelter and related needs, but not to reconstruct homes to a pre-event condition. An applicant must be a U.S. citizen, legal permanent resident, or qualified alien.

2. FEMA's Hazard Mitigation Grant Program

A post-disaster landscape usually yields strong clues regarding the changes communities should consider making to avoid future injuries, deaths, and repetitive losses. Choosing to rebuild a city in a manner resilient to floods, earthquakes, or tidal surges is expensive and often beyond the reach of local governments. Federal assistance is critical to help pay for the costs of elevating structures, strengthening them to seismic stressors, or buying out homeowners living in the most vulnerable locations.

FEMA's Hazard Mitigation Grant Program (HMGP)[59] provides funding specifically devoted to helping communities and their residents build back in a manner that prevents future loss of life and property when the hazard recurs.[60] FEMA reviews state HMGP applications looking for projects that fulfill a range of criteria.[61] The project must save lives and property well into the future when the community is threatened by similar hazards.[62] If FEMA funds the proposed project, the state must supply 25% of the project's funding. The states then make the awarded funds available to subapplicants—the homeowners, local governments, and nonprofits working in the disaster area.

New York and New Jersey deployed their allocations of HMGP funds both to assist individuals and to pay for improvements to public infrastructure potentially vulnerable to future flooding events. New York's Bridge Scour Program focused on upgrades to more than 100 bridges

56. *See* Holly M. Leicht, Rebuild the Plane Now: Recommendations for Improving Government's Approach to Disaster Recovery and Preparedness 4 (2017), http://communityp.com/wp-content/uploads/2017/07/IMPROVING-DISASTER-RECOVERY-PAPER-FINAL.pdf.
57. *See* 42 U.S.C. §5195.
58. IHP financial housing assistance is directly provided to affected residents to fund housing-related needs such as securing temporary housing or repairing critical components of a primary residence in order to make it habitable. Direct housing assistance is also available when affected residents are unable to use financial assistance, such as when there is no available short-term or long-term rental housing available.
59. It is important to note that the HMGP is not the only FEMA hazard mitigation program nor is FEMA the only federal agency that funds hazard mitigation projects. Under its post-disaster Public Assistance Program, FEMA supports hazard mitigation in rebuilding projects associated with public assistance investments, such as improvements that make a local government's buildings resistant to flooding. This public-sector infrastructure mitigation project is authorized by §406 of the Stafford Act. *See Hearing Before the House Subcommittee on Emergency Preparedness, Response, and Communications of the Committee on Homeland Security*, 114th Cong. 15 (2016) (Testimony of Michael Byrne, Deputy Regional Administrator, Region II, FEMA). HUD has also authorized local and state governments to use CDBG-DR funds for hazard mitigation purposes, such as HUD's $900 million post-Sandy investment in flood mitigation projects in both New York and New Jersey. *See Hearing Before the House Subcommittee on Emergency Preparedness, Response, and Communications of the Committee on Homeland Security*, 114th Cong. 20 (2016) (Testimony of Marion Mollegen McFadden, Deputy Assistant Secretary, HUD).
60. *See* FEMA, *Hazard Mitigation Grant Program*, https://www.fema.gov/hazard-mitigation-grant-program (last updated June 8, 2017).
61. *Id.* (Benefits of HMPG).
62. *Id.*

in 78 different local jurisdictions.[63] The state's remaining HMGP money was allocated to projects aimed at making infrastructure more resilient to natural hazards as well as to restoring natural landscapes that could play an important role in protecting communities from future flooding events.[64] New Jersey devoted a significant portion of its HMGP dollars to helping homeowners elevate their homes[65] or sell their homes for use as greenspace to help mitigate future losses due to flooding.[66]

3. FEMA's NFIP

Administered by FEMA, the NFIP is typically thought of as a source of financial assistance to homeowners affected by floodwaters, providing federally backed and subsidized flood insurance. In actuality, the program has a second rationale, which is to reduce the overall exposure to flood-related risks by facilitating effective floodplain management.[67] A third component of the NFIP is floodplain mapping and risk assessment.[68] We focus here only on the post-disaster assistance portion of the program, but other aspects of the NFIP will be discussed in subsequent sections.

To be eligible for NFIP coverage, a residential property owner, renter, or business owner must be located in one of the more than 22,000 jurisdictions that participate in the NFIP.[69] Participating communities are required to implement FEMA-approved floodplain management ordinances aimed at reducing the risk of flooding.[70] Flood insurance is optional for residents and business owners in both high- and low-risk areas of a participating community, though it is mandatory for structures located in high-risk zones (special flood hazard areas, or SFHAs) that currently carry a mortgage or other loan from a federally insured lender or the SBA.[71] Failure to maintain this mandatory coverage can also preclude a property owner from receiving additional SBA loans.[72] In 2016, there were more than 5.1 million existing NFIP policies totaling more than $1.25 trillion in coverage, while paid claims averaged more than $31,000.[73]

4. FEMA's Public Assistance Program

FEMA's Public Assistance (PA) Program provides funds for states, municipalities, tribal governments, and some nonprofit organizations delivering essential services, like medical care, education, or utility supply, to cover short-term response and long-term recovery from presidentially declared disasters.[74] PA funds can be used for emergency work, such as debris removal, as well as emergency protective measures like demolition of damaged structures. In addition, they can provide temporary community facilities.[75] Permanent work eligible for PA funding can include construction of infrastructure and facilities such as roads, bridges, utilities, parks, and public buildings.[76]

B. The SBA Disaster Loan Program

SBA loan programs are designed to help residents and businesses recover by providing funding to assist with uninsured losses. The SBA Disaster Loan Program has three components. Home disaster loans are available to homeowners to repair or replace real estate damaged by a disaster up to a maximum of $200,000.[77] Homeowners and residential renters may borrow up to $40,000 to replace lost or damaged personal property such as home contents and automobiles.[78] Business physical disaster loans are available in amounts not to exceed $2,000,000 to help businesses (including nonprofits, churches, and private universities) repair or replace property such as buildings, supplies, and equipment.[79] Economic injury disaster loans are loans of last resort to help small businesses meet financial obligations that result from a disaster.[80] Mitigation loans may

63. *See* Governor's Office of Storm Recovery, NY Rising: 2012-2015 at 16 (2015) (reviewing housing, small business, community, and infrastructure recovery projects funded by the New York Governor's Office in the wake of Hurricane Sandy), https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/GOSRreport102915.pdf.
64. *Id*. at 14-18.
65. *See* News Release, State of New Jersey Department of Environmental Protection, Christie Administration Announces Approval of First Sandy Elevation Grants From Department of Environmental Protection's HMGP Elevation Program (Apr. 4, 2014) (New Jersey committed $100 million in HMGP funds to help homeowners elevate their homes), http://www.nj.gov/dep/newsrel/2014/14_0023.htm.
66. *See* New Jersey Department of Environmental Protection, Superstorm Sandy Blue Acres Buyout Program—Frequently Asked Questions (2015), http://www.nj.gov/dep/greenacres/pdf/faqs-blueacres.pdf.
67. *See* Diane P. Horn & Jared T. Brown, Congressional Research Service, Introduction to the National Flood Insurance Program (NFIP) 2 (2017), https://fas.org/sgp/crs/homesec/R44593.pdf.
68. *See* FEMA, *National Flood Insurance Program: Flood Hazard Mapping*, https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping (last updated Apr. 16, 2018).
69. *See* FEMA, U.S. Department of Homeland Security, Flood Insurance 101: Talking Points for Community Officials (2012), https://www.fema.gov/media-library-data/1427808495979-1d43a43f7ed24e65171793481bcfc79e/Flood_Insurance_101_TPs_03_2015.pdf.
70. *See* FEMA, *Participation in the National Flood Insurance Program* (communities are required to have flood management ordinances that meet or exceed NFIP criteria), https://www.fema.gov/participation-national-flood-insurance-program (last updated Dec. 13, 2017).
71. *See* Federal Insurance and Mitigation Administration, FEMA—National Flood Insurance Program: A Homebuyers' Guide (2016), https://www.fema.gov/media-library-data/1464695739574-7e3648887255b0d9fa98767d8406115e/NFIP-Fact-Sheet-A-Home-Buyers-Guide-May-2016r.pdf.
72. *See* News Release, FEMA, Flood Insurance: Good Financial Sense Now Affects Disaster Assistance Later (Jan. 3, 2018), https://www.fema.gov/pt-br/node/326758.
73. *See* National Flood Insurance Program Fact Sheet, *supra* note 37.
74. *See* FEMA, *Public Assistance: Local, State, Tribal, and Private Non-Profit*, https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit (last updated Sept. 14, 2017).
75. *Id*.
76. *See* FEMA, U.S. Department of Homeland Security, Public Assistance Fact Sheet (2017), https://www.fema.gov/media-library-data/1497559657642-a01f6ee60e25394fa9a25cae2fd289d5/PublicAssistanceFactSheetJune2017.pdf.
77. *See* SBA, *supra* note 25, at 3.
78. *Id*.
79. *Id*.
80. *Id*.

also be available to fund efforts that will protect against damage from future events.[81]

SBA loans come with many stipulations. Second homes and property such as recreational vehicles and pleasure boats are ineligible, items such as antiques are valued only at their functional value, and exterior components of homes (e.g., swimming pools or decorative landscaping) are eligible for only limited coverage.[82] SBA loans may also be used to refinance home and business mortgages or to pay for relocation, subject to SBA guidelines.[83]

C. HUD's CDBG-DR

Along with FEMA and SBA funds, HUD's CDBG-DR funding constitutes one of the three major sources of federal disaster recovery funding.[84] CDBG-DR grant funds have become an increasingly important source of funds to help fuel affected communities' major post-disaster long-term recovery projects, with Congress and HUD having used CDBG-DR to help fund recovery from 18 different disasters before Sandy, totaling $31,887,000,000 in aid.[85] By law, 70% of a state's or city's CDBG-DR award must benefit low- and moderate-income families.[86] HUD defines low-income as individuals and families earning less than 80% of the area median income.[87] For example, in 2017, this would mean that post-disaster CDBG-DR funds are targeted to the needs of a New York City family of four earning $76,320 or less.[88] Despite these constraints, CDBG-DR is generally considered the most flexible source of funding for disaster recovery projects[89] in contrast to FEMA and SBA sources.

CDBG-DR allocations funded a range of state and local programs. New York State and New Jersey used these funds to create state-run programs to help Sandy-impacted homeowners rebuild their homes.[90] New York State earmarked CDBG-DR funds to "buy out" homeowners living in vulnerable locations near the water.[91] New Jersey used CDBG-DR funds to pay for housing, economic development programs, and infrastructure restoration. New York City used its $4.21 billion in CDBG-DR funds to address infrastructure, housing restoration, and housing and economic revitalization.[92]

Over six decades, in response to a variety of disasters in varied contexts, the federal government assembled this suite of FEMA, SBA, and HUD programs as the core of its recovery assistance strategy. These programs have been the principal funding source for the Sandy region's major programs for recovery from the storm's devastation. As detailed in Part IV, these federal programs have supported state and local implementation of initiatives tailored to the needs of local communities.

IV. Superstorm Sandy Recovery and the State and City Implementation of Federal Disaster Recovery Programs

Disasters on the scale of Sandy are rare. But they are not without precedent. In the past 25 years, Hurricane Andrew, the Northridge earthquake, Hurricane Katrina, and the 2008 Iowa floods had major impacts on midsize and large U.S. cities. In the summer of 2017, Hurricane Harvey drowned Houston and Hurricane Maria shredded San Juan's buildings and infrastructure. However, rarely has a disaster devastated a region as densely settled as New York, with its particular mix of sociodemographic characteristics, land use patterns, building types, forms of home ownership, cost of living, and other complicating factors.[93] It became clear relatively quickly in many parts of New Jersey, New York State, and New York City that federal recovery programs designed to respond to prior disasters were not calibrated for the realities of much of the Sandy region. To address the federal recovery programs' poor fit, state and local governments acted quickly to create a number of

81. *Id*. at 4.
82. *See id*. at 3.
83. *See* SBA, U.S. Small Business Administration Disaster Loans—Fact Sheet, https://www.sba.gov/sites/default/files/Concord%20Disaster%20Loan%20Fact%20Sheets.pdf.
84. *See* Eugene Boyd, Congressional Research Service, Community Development Block Grant Funds in Disaster Relief and Recovery 1 (2011), https://fas.org/sgp/crs/misc/RL33330.pdf.
85. *See* Kevin F. Gotham, *Reinforcing Inequalities: The Impact of the CDBG Program on Post-Katrina Rebuilding*, 24 Housing Pol'y Debate 192 (2014).
86. *See* Boyd, *supra* note 84.
87. *See* Office of Policy Development and Research, HUD, FY 2017 HUD Income Limits Briefing Material 1 (2017) ("Area Median Income is calculated annually by HUD for each urbanized area in the country based on date from the Census Bureau's American Community Survey"), *available at* https://www.huduser.gov/portal/datasets/il//il17/IncomeLimitsBriefingMaterial-FY17.pdf.
88. *See* NYC Housing Preservation & Development, *Affordable Housing—Area Median Income (AMI)*, http://www1.nyc.gov/site/hpd/renters/what-is-affordable-housing.page (last visited Apr. 19, 2018).
89. *See*, *e.g.*, Texas Rebuilds, *The Long-Term Road to Recovery*, http://www.texasrebuilds.org/Pages/AboutCDBG-DR.aspx (last visited Apr. 19, 2018); Jenny Hsu, *What to Know About the CDBG Disaster Recovery Program*, NAHRO Blog, Oct. 5, 2017, https://nahroblog.org/2017/10/05/what-to-know-about-the-cdbg-disaster-recovery-program/; Marion M. McFadden, *Senate Includes Long-Term Recovery Funds in Hurricane Aid Package*, Enterprise Community Partners, Sept. 7, 2017, https://www.enterprisecommunity.org/blog/2017/09/senate-includes-long-term-recovery-funds-hurricane-aid-package.
90. *See* ReNew Jersey Stronger, *Sandy Recovery Program Information*, http://www.renewjerseystronger.org/transparency/sandy-recovery-program-information/ (last visited Apr. 19, 2018); New York State Office of Community Renewal, State of New York Action Plan for Community Development Block Grant Program Disaster Recovery 1-2 (2013), http://www.nyshcr.org/Publications/CDBGActionPlan.pdf.
91. *See* ProSource Technologies, LLC &AKRF, Inc., Tier 1 Environmental Review Record Community Development Block Grant—Disaster Recovery Program NY Rising Housing Recovery Program: Environmental Assessment for 5+ Unit Residential Properties Nassau County, NY 196-98 (2014), https://stormrecovery.ny.gov/sites/default/files/uploads/MFH_Nassau_NEPA_EA_Amended.pdf.
92. *See* Memorandum From Kimberly Greene, Regional Inspector General for Audit, HUD, to Stanley A. Gimont, Acting Deputy Assistant Secretary for Grant Programs, HUD 4 (Dec. 21, 2016) (Audit Report No. 2017-NY-1004).
93. *See* Julia Zeveloff, *This Is the Most Densely Packed City in the US*, Business Insider, *available at* http://www.businessinsider.com/most-densely-populated-place-in-america-2012-3 (reporting the New York-Newark area as the fifth most densely settled urban region in the United States with 5,319 per square mile and the nation's most populous with 18.3 million residents); *see also* Retrofitting Buildings for Flood Risk, *supra* note 16, at 16.

programs designed specifically to deal with local contexts, using the existing, though sometimes limited, flexibility built into federal programs to tailor recovery strategies to the needs of local communities.

A. The New York City Rapid Repairs and Build It Back Programs

New York City crafted two ambitious housing recovery programs to address the immediate and longer-term housing repair and rebuilding needs created by Sandy. The Interim Assistance Rapid Repairs Program (Rapid Repairs) was the city's attempt to fill storm-impacted residents' desperate need for housing in the weeks immediately following the storm.[94] The city's Build It Back Program aided homeowners who needed to engage in a range of recovery activities from repair, to rebuilding, to sale of their storm-damaged home to the government.[95] Each program was remarkable in its scope and reach, aiding tens of thousands of New York City residents.[96] But the programs were novel and created under intense time pressure. As a result, program rollouts were problematic. City residents and regulators alike criticized both programs for shortcomings in design and implementation.

In Sandy's immediate wake, thousands of New York City residents were left with damaged homes that, even if structurally sound, lacked power, heat, or hot water. Aware that freezing temperatures were possible at any time during the late fall and winter months of 2012 and 2013, the city moved immediately to protect citizens by repairing these essential home systems.[97] Identifying quick, safe, and cost-effective post-disaster housing has long been a vexing challenge for local and state governments.[98] In prior disasters, state and local governments have often received FEMA trailers to house affected residents.[99] No such solution would work in New York City, where there are few large lots on which to house multiple trailers and, for individual families, little or no yard space on which to park a single trailer.[100] A tight rental market and other factors (as discussed in Part I) created additional challenges.

Given the urgency of approaching winter weather and these specific local constraints, the city was compelled to quickly develop its own locally tailored short-term housing program. Rapid Repairs was a modified application of FEMA's post-Sandy Sheltering and Temporary Essential Power Pilot Program (STEP) designed to assist residents with restoring essential housing components such as windows, doors, and utilities. The program allowed residents to remain in their homes during long-term reconstruction and thereby reduced the need for off-site shelters and temporary housing.[101] In a departure from precedents established after previous disasters, the city retained large construction contractors directly, deploying them on applicants' behalf.

Between November 2012 and the end of March 2013, the program repaired 11,800 structures, which included a total of 20,000 housing units.[102] As result, thousands of individuals and families were able to quickly return to or stay in their homes. These families were also remaining much closer to their jobs, schools, churches, and other important community resources, thus contributing to family and overall community recovery. FEMA's PA Grant Program paid for 90% of the Rapid Repairs Program's $97 million price tag.[103] The remaining 10% of the program costs were covered by HUD CDBG-DR funds.[104]

Rapid Repairs' highly innovative approach was not without criticism. Contractors retained by the city to perform emergency repairs noted that they waited months for final payment, meaning that private firms effectively helped finance the public program.[105] HUD's inspector general criticized the city for careless program administration decisions, including the city's erroneous payment of $18.2 million in state sales tax on program-related repairs and services, even though the city was supposedly exempt from such taxes.[106] Further, some homeowners complained of poor work, including electricians that left exposed wires and hot water heaters and boilers that were improperly installed.[107]

94. *See* Memorandum From Kimberly Greene, *supra* note 92, at 4; NYC Build It Back, *Rapid Repairs*, http://www.nyc.gov/html/recovery/html/resources/rapid.shtml (last visited Apr. 19, 2018).
95. *See Mayor Bloomberg Announces NYC Build It Back Program to Help New Yorkers With Homes Damaged by Hurricane Sandy Recovery and Rebuild* (June 3, 2013), *available at* http://www1.nyc.gov/office-of-the-mayor/news/185-13/mayor-bloomberg-nyc-build-it-back-program-help-new-yorkers-homes-damaged-by.
96. *See*, *e.g.*, *id.* (Rapid Repairs assisted more than 20,000 individuals); Mayor's Office of Housing Recovery Operations, NYC Build It Back: Stronger & Safer—*Completing the Build It Back Program* (Oct. 2017), *available at* http://www.nyc.gov/html/recovery/downloads/pdf/october_2017_build_it_back_progress_update.pdf (noting that the Build It Back Program had served more than 8,300 homeowners); Russ Buettner & David W. Chen, *Hurricane Sandy Recovery Program in New York City Was Mired by Its Design*, N.Y. Times, Sept. 4, 2014, https://www.nytimes.com/2014/09/05/nyregion/after-hurricane-sandy-a-rebuilding-program-is-hindered-by-its-own-construction.html.
97. *See* NYC Build It Back, *Rapid Repairs*, *available at* http://www.nyc.gov/html/recovery/html/resources/rapid.shtml.
98. *See* Build Abroad, *Post Disaster Housing: Contrasts Between Urban and Rural Relief*, https://buildabroad.org/2016/09/09/post-disaster-housing/ (last visited Apr. 19, 2018).
99. *See*, *e.g.*, Bill Barrow, *FEMA to Close Renaissance Village Trailer Site May 31*, Times-Picayune, Nov. 24, 2009, http://www.nola.com/news/index.ssf/2008/04/fema_to_close_renaissance_vill.html.
100. *See* Rodriguez, *supra* note 31.
101. *See* Gilbane Building Co., *New York City Department of Environmental Protection Rapid Repairs STEP Program*, https://www.gilbaneco.com/project/new-york-city-department-environmental-protection-rapid-repairs-step-program/ (last visited Apr. 19, 2018).
102. *See* Memorandum From Kimberly Greene, *supra* note 92, at 4.
103. *See* News Release, FEMA, Public Assistance: By the Numbers (June 20, 2013), https://www.fema.gov/news-release/2013/06/20/public-assistance-numbers.
104. *See* Memorandum From Kimberly Greene, *supra* note 92, at 4.
105. *See* Esther D'Amico, *Lesson Learned From a Superstorm*, ENR N.Y., May 31, 2013, http://www.enr.com/articles/11722-lessons-learned-from-a-superstorm.
106. *See* Memorandum From Kimberly Greene, *supra* note 92, at 2.
107. *See*, *e.g.*, Tom Wrobleski, *Staten Islanders Playing Rapid Repairs Roulette*, SILive.com, Feb. 11, 2013, http://www.silive.com/news/index.ssf/2013/02/staten_islanders_playing_rapid.html; Tara Palmeri, *Homeowners Blast Shoddy Repairs by Contractors Through FEMA's Rapid Repairs Program*, N.Y. Post, Jan. 28, 2013, http://nypost.com/2013/01/28/homeowners-blast-shoddy-repairs-by-contractors-through-femas-rapid-repairs-program/.

Rapid Repairs was an emergency effort to stabilize damaged properties, but not all necessary repairs could be completed in the first several months following the storm.[108] The city's Build It Back Program was designed to support the second stage of recovery, which included more substantial rehabilitation or reconstruction of homes and residential rental buildings as well as support for very low-income renters.[109] Once again, New York City did not have a reliable template for this program. Just as the federal government had a frustrating pre-Sandy track record for carrying out emergency disaster recovery programs, state and local governments have historically experienced significant challenges designing and administering long-term housing recovery programs.[110]

New York City was determined to avoid that fate. It designed Build It Back specifically to overcome the post-Katrina legacy of contractors who performed shoddy work, contractors who defrauded homeowners, and homeowners who spent their rebuilding funds to pay for expenses completely unrelated to rebuilding.[111] Sandy-impacted property owners had the option of using city-approved contractors or selecting their own contractor. Though reimbursement was also available for smaller repairs, Build It Back was designed to make payments directly to contractors for the most significant repairs as well as resiliency efforts such as housing elevation.[112]

Funded by federal CDBG-DR grant monies appropriated as part of the January 2013 Sandy Recovery Improvement Act, Build It Back ultimately established three strategies for revitalizing storm-impacted neighborhoods. Those strategies included a program to aid single-family homeowners who owned residences with up to four units; a multifamily property rebuilding program for structures supporting five or more housing units; and a comparatively small rental assistance program for very low-income renters.[113] The single-family program for buildings with one to four units initially offered those owners three options: repair, repair with elevation of the damaged structure, or rebuild.[114] In 2014, the program added two more options for single-family program participants: reimbursement for participants' storm repairs completed prior to their enrollment in Build It Back and, in limited instances, a government buyout of the storm-damaged property, which would allow the homeowner to relocate.[115] As of October 2017, Build It Back had served 8,207 properties containing more than 12,500 housing units, with 7,217 projects already completed.[116]

The design of Build It Back was significantly influenced by HUD regulations specifying the income of individuals that the federal government prioritized for post-disaster aid. Strict federal guidelines required that CDBG-DR grant funds primarily benefit low- and moderate-income families.[117] Under applicable HUD CDBG regulations, this meant that the Build It Back Program was required to spend at least 50% of its funding on families earning 80% or less of the New York City area median income, which in April 2014 was a family of four earning $68,700 annually.[118]

Creating and managing a post-storm redevelopment program that manages repairs for thousands of private homeowners is an enormous undertaking, unprecedented for any private developer, much less for a public entity such as a city. Initially budgeted in 2013 for $1.45 billion, by 2016, the Build It Back Program's obligations had surged more than 33% over budget.[119] The program also suffered from lengthy delays in beginning work on storm-damaged homes, with no work having been commenced by December 2013, more than 14 months after Sandy.[120]

The city cited a range of reasons for its major delays and cost overrides, including program design and implementation. Federal requirements governing expenditure of CDBG-DR grant funds necessitated that many homeowner applicants navigate multiple rounds of income verification, damage inspections, and assurances that Build It Back Program funds were not duplicating home rehabilitation benefits already covered by SBA disaster loans or FEMA-funded repair programs.[121] Recalibrating program implementation to fully accommodate these federal requirements meant that just a few months after rolling out Build It Back, the city changed program requirements and required completion of new forms, thus causing significant confusion among homeowners.[122]

Local regulatory requirements also impeded implementation. Build It Back required that homeowners work with the city's Department of Buildings to close all "open" permits for work they commenced before—sometimes years before—the proposed Build It Back Program rehab work.[123]

108. *See*, *e.g.*, Buettner & Chen, *supra* note 96.
109. *See* William Goldstein et al., One City, Rebuilding Together 7 (2014), http://www1.nyc.gov/assets/home/downloads/pdf/reports/2014/sandy_041714.pdf.
110. *See*, *e.g.*, Mark G. Welsh & Ann-Margaret Esnard, *Closing Gaps in Local Housing Recovery Planning for Disadvantaged Displaced Households*, 11 Cityscape: J. Pol'y Dev. & Res. 195-212 (2009) (examining how hurricanes in Broward County, Florida, displaced many disadvantaged households without having adequate pre- and post-disaster planning in place to assist those families), https://www.huduser.gov/portal/periodicals/cityscpe/vol11num3/ch9.pdf; Timothy F. Green & Robert B. Olshansky, *Rebuilding Housing in New Orleans: The Road Home Program After the Hurricane Katrina Disaster*, 22 Housing Pol'y Debate 75, 95-96 (2012).
111. *See* Goldstein et al., *supra* note 109, at 9.
112. *See* Mayor's Office of Housing Recovery Operations, NYC Build It Back Stronger & Safer: Completing the Build It Back Program 1-2 (2017), http://www.nyc.gov/html/recovery/downloads/pdf/october_2017_build_it_back_progress_update.pdf.
113. *Id.*
114. *Id.* at 10.
115. *Id.* at 11.
116. *See id.* at 1-2.
117. *See* Boyd, *supra* note 84.
118. *See* Goldstein et al., *supra* note 109, at 11. By 2017, this amount had increased to $76,320; *see* NYC Housing Preservation & Development, *supra* note 88.
119. *See* Goldstein et al., *supra* note 109, at 17.
120. Jen Kirby, *The City's "Build It Back" Program to Repair Sandy-Damaged Homes Will Miss Its Deadline*, N.Y. Mag., Oct. 20, 2016, http://nymag.com/daily/intelligencer/2016/10/city-wont-meet-sandy-build-it-back-program-deadline.html.
121. *See* Goldstein et al., *supra* note 109, at 12.
122. *Id.* at 9, 12-13.
123. *See id.* at 13.

Further, as detailed below in Part V, if the homeowners' post-storm repair work required a home's significant reconfiguration on small, narrow city lots, the proposed work often triggered local zoning code provisions that necessitated variances to allow minor nonconformities with the strict requirements of the city's zoning code.[124] These local zoning approvals demanded homeowners navigate a time-consuming public process while otherwise overseeing reconstruction of the storm-damaged home.

To complicate matters, the city's initial design of the program overlooked the potential value of coordinating program implementation directly with neighborhood-based community groups.[125] This meant that Build It Back Program administrators faced the challenge of implementing a program without neighborhood-based case managers who could coordinate communication with residents regarding program changes and delays.

Progress toward the program's goals of rebuilding homes and communities accelerated into the fifth year of post-storm recovery. At the end of May 2017, the city reported that it had completed repairs on almost three-fourths of homes enrolled in the program.[126] But in some neighborhoods, such as Breezy Point in Queens, repair work had been completed on fewer than one-half of the 425 homes enrolled.[127] Homeowner attrition has also been significant. Between May 2016 and May 2017, the program saw 466 homeowners drop out, equal to 13% of the total homeowners who remained in the program as of May 2016.[128]

B. New York's and New Jersey's State-Level Recovery Programs

While New York City received a direct allocation of CDBG-DR funding from the federal government and used those funds to pay for long-term recovery initiatives such as Build It Back and other programs, the states of New York and New Jersey used their own CDBG-DR allocations to craft programs tailored to the needs of each state and consistent with the respective governors' approaches and attitudes toward the state role in recovery. New York Gov. Andrew Cuomo established the Governor's Office of Storm Recovery (GOSR) in June 2013 to oversee recovery efforts from Sandy as well as the previous year's Hurricane Irene and Tropical Storm Lee, which together affected 38 of the state's 62 counties.[129] GOSR, also sometimes referred to as "NY Rising," was funded primarily with $4.4 billion in CDBG-DR funds and focused on four program areas, mainly, though not exclusively, targeting areas outside New York City: housing recovery, small business recovery, community reconstruction, and infrastructure.

GOSR's housing recovery programs included repair, mitigation, and buyout programs, as well as targeted assistance for multifamily rental property owners, cooperatives, and condominiums in addition to the state's buyout and acquisition programs.[130] The Interim Mortgage Assistance Program was also created, to assist homeowners with mortgage payments and rental housing costs if state-funded repairs, mitigation, and elevation projects forced them to vacate their homes temporarily.[131] Small businesses were eligible for grants of $50,000 to $250,000, loans of up to $1 million, and mentoring assistance.[132]

The NY Rising Community Reconstruction Program funded community-based recovery and resilience plans created through a state-mandated participatory process with technical assistance provided by the New York State Department of State and private planning consultants.[133] The 124 participating communities including municipalities, counties, and 16 New York City neighborhoods also received more than $700 million in cumulative grants to jumpstart implementation of the plans.[134] Additionally, infrastructure programs included grants to municipalities for use as a nonfederal match for FEMA PA grant applications, $383 million to fund sewer repair and improvement in Suffolk County, and projects like beach stabilization efforts at Robert Moses State Park on Long Island.[135]

New Jersey Gov. Chris Christie similarly used the flexibility of his state's $4.2 billion in CDBG-DR funding to develop locally appropriate responses under the umbrella of ReNew Jersey Stronger, coordinated by the governor's Office of Recovery and Rebuilding.[136] The state developed more than two dozen distinct programs focusing primarily on homeowners, rental housing, economic revitalization, infrastructure, and local governments. The Reconstruction, Rehabilitation, Elevation, and Mitigation Program, for instance, focused on primary residences.[137] Another

124. *Id.* at 14.
125. *Id.* at 9.
126. *See* Jillian Jorgensen, *NYC's Build It Back Makes Progress in Fixing Homes Damaged by Hurricane Sandy, but Many Quit the Program*, N.Y. Daily News, June 7, 2017, http://www.nydailynews.com/new-york/build-back-sees-progress-fixing-homes-damaged-sandy-article-1.3227130.
127. *See* Aaron Zebrook, *Living in Breezy Point, Queens*, N.Y. Times, May 24, 2017, https://www.nytimes.com/slideshow/2017/05/24/realestate/living-in-breezy-point-queens/s/28LIVING-BREEZY-POINT-slide-JZBM.html.
128. *See* Jorgensen, *supra* note 126.
129. *See* GOSR, *About*, https://stormrecovery.ny.gov/about (last visited Apr. 19, 2018).
130. *Id.*
131. *See* GOSR, NY Rising Interim Mortgage Assistance (IMA) Program Frequently Asked Questions (2017), https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/20170822_IMA_FAQ_FINAL_0.pdf.
132. *See* GOSR, *Small Business Recovery Program* (The second question in the FAQs section at the bottom of the page addresses these assistance amounts.), https://stormrecovery.ny.gov/business/small-business-recovery-program (last visited Apr. 19, 2018).
133. *See* GOSR, *Community Reconstruction Program*, https://stormrecovery.ny.gov/community-reconstruction-program (last visited Apr. 19, 2018).
134. *Id.*
135. *See* Laura Figueroa, *Cuomo Announces $383M for Suffolk Sewer Projects, $97M for Bay Park in Nassau*, Newsday, Oct. 29, 2014, https://www.newsday.com/long-island/cuomo-announces-funding-for-li-water-sewer-projects-1.9555915; GOSR, New York Rising: 2012-2014, at 32, https://stormrecovery.ny.gov/sites/default/files/uploads/gosr_report_letter_full_high.pdf.
136. *See* ReNew Jersey Stronger, *Sandy Recovery Program Dashboard*, http://www.renewjerseystronger.org/transparency/sandy-recovery-program-dashboard/ (last visited Apr. 19, 2018).
137. *See* ReNew Jersey Stronger, *About the Reconstruction, Rehabilitation, Elevation, and Mitigation (RREM) Program*, http://www.renewjerseystronger.org/

program, the Low-to-Moderate Income Homeowners Rebuilding Program, provided an additional pool of $50 million focused on lower-income property owners, with special consideration for owners of substantially damaged manufactured homes.[138] The Superstorm Sandy Blue Acres Program allocated $300 million to buy approximately 1,300 Sandy-affected or flood-prone properties.[139]

New Jersey's Resettlement Program awarded $10,000 grants to owners of damaged properties to remain in their existing home or buy a new home in the same county, while the Sandy Homebuyer Assistance Program provided $50,000 forgivable interest-free loans to buyers purchasing primary residences in any of the nine New Jersey counties most affected by Sandy.[140] New Jersey renters and landlords were also eligible to apply for a host of programs, including the Tenant-Based Rental Assistance Program, the Landlord Incentive Program, the Landlord Rental Repair Program, the Fund for Restoration of Multifamily Housing, and the Predevelopment Fund for Affordable Rental Housing, which focused primarily on rebuilding and enhancing the state's supply of affordable rental property.[141]

New Jersey's business recovery programs included the Stronger NJ Business Grant Program, providing grants or forgivable loans of up to $50,000 to rebuild Sandy-damaged businesses, and the Stronger NJ Business Loan Program, providing low-interest recovery loans capped at $5 million.[142] Local government grants were available through the Post-Sandy Planning Assistance Grant Program designed to help municipalities develop or update community plans such as master plans, hazard mitigation plans, and others.[143] The Essential Services Grant and Zoning Code Enforcement Grant Program were both designed to help communities address the increased workload and associated personnel costs and simultaneous revenue losses that Sandy created, while the Unsafe Structures Demolition Program, Flood Hazard Risk Reduction Program, Neighborhood and Community Revitalization Program, and Neighborhood Enhancement Program also made CDBG-DR funds available to municipalities to address various community-scale recovery, rebuilding, and resilience issues.[144]

As the New York City, New York State, and New Jersey programs show, the inherent flexibility of CDBG-DR funding has been an important component of local recovery, with grantees using CDBG-DR funds to develop suites of programs addressing a range of recovery issues that are uniquely responsive to local conditions. CDBG-DR funds, like the CDBG program generally, "stand out as among the most flexible" sources of recovery aid available.[145] But there are downsides inherent in this dynamic as well. First, CDBG-DR's flexibility is relative. It only points to the rigidity and limitations of most other federal recovery programs, which often constrain the utility and effectiveness of those programs for affected residents, thereby placing significant strain on CDBG-DR to make up for the deficiencies and limitations of other federal programs.

Second, state and local programs funded by CDBG-DR must be created from the ground up after a disaster. Thus, they demand a high degree of capacity and expertise on the part of the governments that receive the CDBG-DR funds. This issue was somewhat muted after Sandy, given the significant amount of expertise available in the region related to issues like disaster recovery, urban planning, and finance, but this expertise is not always in ready supply in other parts of the country. Additionally, CDBG-DR funds are not delivered to the states (or New York City) instantaneously and programs cannot be created overnight. As a result, there is a built-in time lag during which affected residents, businesses, and communities must rely only on existing limited federal programs or local funds, if available.

Finally, state and local programs, though well-intentioned and designed to work effectively in local contexts, must be created quickly and without time for testing and refinement. The New York City Build It Back Program has been a sobering example of how an innovative and well-intentioned program may nonetheless prove largely unworkable or inefficient, but that knowledge has come far too late to help thousands of homeowners who placed their faith in the program only to be left unserved for years.[146]

The Sandy experience illustrates that it is not realistic to expect that local governments can use the flexibility of CDBG-DR funding to fully overcome shortcomings of federal recovery programs. Even in a region with significant recovery resources, local and state governments faced significant challenges. However, as discussed in Part V, implementation of federal programs has also encountered obstacles. These obstacles are due not only to implementing regulations at odds with the New York City region's development pattern, but also due to the pervasive chal-

homeowners /rrem/about-the-rrem-program/ (last visited Apr. 19, 2018).

138. *See* ReNew Jersey Stronger, *LMI Homeowners Rebuilding Program*, http://www.renewjerseystronger.org/homeowners/lmi-homeowners-rebuilding-program/ (last visited Apr. 19, 2018).

139. *See* ReNew Jersey Stronger, *Blue Acres Buyout Program*, http://www.renewjerseystronger.org/homeowners/blue-acres-buyout-program/ (last visited Apr. 19, 2018).

140. *See* ReNew Jersey Stronger, *Resettlement*, http://www.renewjerseystronger.org/homeowners/resettlement/ (last visited Apr. 19, 2018); ReNew Jersey Stronger, *Sandy Homebuyer Assistance Program*, http://www.renewjerseystronger.org/homeowners/sandy-homebuyer-assistance-program/ (last visited Apr. 19, 2018).

141. *See* ReNew Jersey Stronger, *Renters* (each of the programs discussed in this sentence are found in the sidebar, including descriptions of the program and the benefits provided to the covered groups), http://www.renewjerseystronger.org/renters/ (last visited Apr. 19, 2018).

142. *See* Brett Theodos et al., Urban Institute, Taking Stock of the Community Development Block Grant 8 (2017), https://www.urban.org/sites/default/files/publication/89551/cdbg_brief_finalized.pdf.

143. *See* ReNew Jersey Stronger, *Post-Sandy Planning Assistance Grant Program*, http://www.renewjerseystronger.org/communities/post-sandy-planning-assistance-grant-program/ (last visited Apr. 19, 2018).

144. *See* ReNew Jersey Stronger, *Communities* (each of the programs discussed is included in the Communities sidebar and is discussed in more detail), http://www.renewjerseystronger.org/communities/ (last visited Apr. 19, 2018).

145. *See* Theodos et al., *supra* note 142, at 8.

146. *See* Melissa H. Luckman et al., *Three Years Later Sandy Survivors Remain Homeless*, 32 Touro L. Rev. 313, 346-49 (2016).

lenge presented by the different land development standards imposed by local governments.

V. Flawed Law and Policy: Highlighting Sandy Recovery Challenges by Sector

Laws play an important role in facilitating and impeding community recovery. The preceding part describes how state and local governments harnessed federal funding, specifically federal community development block grant monies, to create their own recovery programs. These recovery programs took advantage of CDBG-DR's more flexible legal requirements to create programs attuned to local needs and conditions. But not all laws encountered in the Sandy long-term recovery proved as flexible or accommodating.

Unfortunately, New York City and the states of New Jersey and New York were forced to roll out their recovery programs in a legal landscape containing significant obstacles to efficient and equitable community recovery. Superstorm Sandy demonstrated that disaster recovery can be significantly impeded by well-intentioned but flawed legal infrastructure.[147] These flaws manifest themselves when a jurisdiction lacks laws and policies that facilitate robust recovery.[148] These flaws are also revealed when a jurisdiction's existing laws prove too rigid and ill-suited for achieving positive recovery outcomes.

The consequences are significant. The absence of critical laws or policies may leave a community without a legal tool or "gear" that might otherwise leverage optimal response and recovery results. Further, a law that hinders—or even renders unlawful—the recovery interventions that might be most helpful to individuals, businesses, or neighborhoods effectively denies the full measure of relief to affected communities.

A necessary step to devising more-effective disaster recovery programs is to develop an increasingly nuanced appreciation for how a disaster's context makes particular demands on the legal and policy landscape. A catastrophic coastal storm that devastates a densely settled metropolitan area requires a legal and institutional tool chest somewhat different from the one that serves a midwestern community decimated by a tornado or a sprawling southern city's recovery from a hurricane. Thus, some of the hard-earned lessons flowing from the Sandy recovery will be most applicable to recovery from future disasters in dense urban places and some may indeed be unique to the New York region. Yet, many of Sandy's long-term recovery lessons will have broad reach and application. Lessons flowing from Sandy can help illuminate the general types of challenges that other communities may face, even if specific local conditions are very different.

147. *See* Gerald Frug, *Rebuilding After Disasters Is Largely a Legal Challenge*, CityLab, Oct. 18, 2013, https://www.citylab.com/equity/2013/10/why-rebuilding-after-disasters-largely-legal-challenge/7248/.

148. *Id.* Gerald Frug notes that recovery is frequently impeded by a failure of integration between federal, state, and local governments that allows for an effective recovery.

This part provides detailed snapshots of four legal infrastructure deficiencies revealed by Sandy. These examples are representative of the array of legal challenges communities face, but they are not exhaustive. They are taken from federal, state, and local laws and policies, and focus primarily on the recovery of residences and businesses, including physical recovery (i.e., rebuilding and mitigation) and, in the case of businesses, operational recovery. These examples are particularly illustrative in that they show how existing legal frameworks can hinder effective recovery.

The first example illustrates how, after Sandy, federal disaster recovery programs proved a poor fit for densely settled urban neighborhoods and the types of buildings that constitute them. The second example shows how forms of property ownership common in the Sandy region created barriers to effective household recovery for many residents. The third example addresses the roadblocks to business recovery inherent in existing policies. The fourth and final example highlights how even a community's own zoning code can be an impediment to smooth and rapid recovery.

A. *Recovering and Rebuilding Damaged Structures in Urban Neighborhoods*

One of the principal challenges to a successful recovery from Sandy has been the visible disconnect between existing federal recovery policies and the realities of life in densely settled urban neighborhoods. The Sandy long-term recovery demonstrates that federal programs prove a poor fit for older vintage, mixed-use, high-density urban neighborhoods. In the United States as a whole, only 12.6% of housing units are located in structures built prior to 1940; in New York City, that number is three times higher (40.3%).[149] Rebuilding and retrofitting older structures—both residential and commercial—present challenges that are much different from suburban areas that are populated largely with single-family detached homes. Apart from their age, urban buildings are also more likely to be attached to one another and situated in neighborhoods that host a mix of uses.

In New York City and Hoboken, such neighborhoods may contain ground-level commercial uses (retail, restaurant, office, and service) with upper floors supporting residential units or offices.[150] Community uses such as schools, churches, healthcare facilities, libraries, and others may also be mixed into these neighborhoods at ground level or

149. *See* U.S. Census Bureau, *supra* note 16.

150. *See, e.g.*, Hannah Frishberg, *What Is a Mixed-Use Property? A Guide to the Residential-Commercial Hybrid*, Brownstoner, July 27, 2016, https://www.brownstoner.com/real-estate-market/mixed-use-property-definition-advantages-disadvantages-guide/; Tim Evans, New Jersey Future, Where Are We Going? Implications of Recent Demographic Trends in New Jersey (2017) (showing that Hoboken, New Jersey, is one of the few places in the state that is attracting millennials, in large part because of its convenient, mixed-use neighborhoods), http://www.njfuture.org/wp-content/uploads/2017/09/New-Jersey-Future-Demographic-Trends-by-Age-September-2017.pdf.

on upper floors.[151] In other New York City region neighborhoods, light industrial uses co-exist with retail, office, hotel, and even residential units.[152] Even in less densely populated parts of the region, such as suburban Long Island and New Jersey, the average densities, housing typologies, and tenure types (i.e., rental or home ownership) may be very different from the more typical suburban model found in much of the rest of the United States, where single-family homes and single-use zoning are the norm.[153]

The Sandy long-term recovery highlighted a range of ways that the Sandy region's urban context frustrated the then-existing federal standards for recovery-related decisions. Regulations applicable to recovery might be straightforwardly applied in Boulder, Montpelier, and New Orleans, but they caused consternation in New York City and Hoboken.

For instance, consider flood insurance regulations and the seemingly simple question: what is a basement? In many parts of the country, that would cause little confusion; according to the NFIP, a basement is "[a]ny area of the building having its floor subgrade (below ground level) on all sides."[154] However, this seemingly straightforward definition became a source of significant concern for many building owners after Sandy.[155] In Hoboken, Jersey City, New York City, and other municipalities in the region, the NFIP definition of a basement also technically describes many thousands of housing and retail units at the lowest level of attached row houses that are known in the local vernacular as "ground floor" or "garden" units.[156]

Such units may be located anywhere from a few inches to three feet below grade and, if conforming to stipulations in local laws, are legal for use as individual apartments, shops, offices, or fully habitable levels of a single-family home.[157] Many buildings containing this kind of unit actually have an additional cellar or basement level underneath this "ground" level.[158] However, while these units may sit above a second basement, and although they are discrete legal residences or commercial units according to local zoning and building codes, these units are classified by FEMA as basements and are therefore ineligible for NFIP reimbursement.[159]

One infamous case involved a Hoboken resident whose NFIP claim was denied because his apartment was determined to be 0.13 inches below grade.[160] As Hoboken Mayor Dawn Zimmer testified to the U.S. Senate Committee on Small Business and Entrepreneurship in December 2012, this rigid and overbroad definition of basement exemplifies the disconnect between one-size-fits-most federal recovery policy and the realities found in many American cities, especially older coastal cities:

> These rules do not reflect the reality that in places like Hoboken, New York City, and other urban areas, the premises characterized as basements house vibrant businesses and principal residences which are critical elements to the vibrancy of our cities. A store or apartment that requires you to walk down one or two steps is plain and simply not a basement. The business owners and residents who work and live in these stores and homes are required to buy flood insurance, are required to pay premiums into the flood insurance system, yet they receive virtually no coverage.[161]

As Mayor Zimmer's comments underscore, the NFIP's definition of a basement failed to capture the subtle, but essential, nuances differentiating structures common to Brooklyn and Hoboken from those often encountered in Topeka or Tuscaloosa. The consequences of this regulatory disconnect were significant. Hundreds of residents and business owners were denied their flood insurance payouts, thus crippling their family or business efforts to recover.[162]

The NFIP's broad definition for "basement" may be well-suited for contemporary or modern structures; however, for significant parts of the Sandy region's older and more dense building stock, this provides just one example of federal recovery policy poorly calibrated to address recovery from major natural hazards.

Another example relates to the way in which the NFIP recognizes compliance with NFIP guidelines for rebuilding in the flood zone. The NFIP recognizes four categories of compliance eligible for NFIP funding after a damaging event: relocation, demolition, elevation, or floodproof-

151. *See* New York City, N.Y., Zoning Resolutions art. II, ch. 2, §22-13 (2016).

152. *See id*. art. IV, ch. 2, §§42-02, 42-483, 42-00 (2017) (The table in §42-00 shows the use groups permitted in manufacturing districts, including commercial use.).

153. *See* Steven G. Wilson et al., U.S. Census Bureau, Patterns of Metropolitan and Micropolitan Population Change: 2000 to 2010, 2010 Census Special Reports 22 (2012), https://www.census.gov/prod/cen2010/reports/c2010sr-01.pdf.

154. *See* FEMA, Definitions (2011), https://www.fema.gov/pdf/nfip/manual201205/content/22_definitions.pdf.

155. *See* Lloyd Dixon et al., RAND Center for Catastrophic Risk Management and Compensation, Flood Insurance in New York City Following Hurricane Sandy 17 (2013).

156. *See* Chris Sturm & Nicholas Dickerson, New Jersey Future, Ripple Effects: The State of Water Infrastructure in New Jersey Cities and Why It Matters 22, 24-25 (2014) (describing "garden-level apartments" as "ground level spaces that are in fact partly below grade"), http://www.njfuture.org/wp-content/uploads/2014/05/Hoboken_Final.pdf.

157. *See*, *e.g.*, N.Y. Mult. Dwell. L. §34 (2018).

158. *See* Hannah Frishberg, *Do You Call It a Basement or Cellar? In New York, the Difference Is a Legal Matter*, Brownstoner, Feb. 18, 2016, https://www.brownstoner.com/real-estate-market/cellar-vs-basement-nyc-renting-legal-living/.

159. *See* Katie Zezima, S*uperstorm Challenges Definition of Basement in NJ*, San Diego Union-Trib., Jan. 20, 2013, http://www.sandiegouniontribune.com/sdut-superstorm-challenges-definition-of-basement-in-nj-2013jan20-story.html.

160. *See* Steven A. Meyerowitz, *Garden-Level Condo Ruled a "Basement" Under Flood Insurance Policy*, PropertyCasualty360, Sept. 6, 2017, http://www.propertycasualty360.com/2017/09/06/garden-level-condo-ruled-a-basement-under-flood-in?slreturn=1517951514.

161. *See Hearing Before the Senate Committee on Small Business and Entrepreneurship*, 112th Cong. (2012) (Testimony of Dawn Zimmer, Mayor of Hoboken, New Jersey), https://www.sbc.senate.gov/public/index.cfm/hearings?Id=64E7DB5E-9AF7-4D27-93DF-45E1AF243EE6&Statement_id=E3D88AF7-4DE1-425A-8B47-E67BC3E6C3B9.

162. *See* Emmarie Huetteman, *New Jersey Representative, Citing Fraud, Calls on Congress to Investigate FEMA*, N.Y. Times, Apr. 28, 2016, https://www.nytimes.com/2016/04/29/nyregion/new-jersey-congressman-citing-fraud-calls-on-congress-to-investigate-fema.html.

ing.[163] Each of the four categories has specific and unique challenges in the New York metro area. In a practical sense, relocation of buildings attached to their neighbors presents extraordinary logistical challenges and, thus, is expensive. Moreover, there is scant available land to relocate structures, let alone space to move entire urban neighborhoods.[164]

Except for a small area in the New York City borough of Staten Island and a few locations in Nassau and Suffolk Counties on Long Island that were part of a modest New York State-sponsored program, property buyout and acquisition programs have not been considered necessary or realistic.[165] Relocation and demolition have also largely been politically infeasible in the post-Sandy dialogue; as then-Mayor Michael Bloomberg stated in June 2013, "We cannot and will not abandon our waterfront. It's one of our greatest assets. We must protect it, not retreat from it."[166] Thus, elevation and floodproofing have remained as the predominant strategies used by property owners looking to rebuild and remain NFIP-compliant.

Floodproofing older and attached buildings has challenges, but most can be overcome even if they create additional expenses for property owners; elevation, however, creates many more challenges in a dense urban context. FEMA promotes elevation of structures as one of the most effective ways to protect against future flood-related risk.[167] In many Sandy-affected communities, elevation has been considered undesirable because it is expensive, inconvenient (because it creates the need to use stairs or ramps to access a building), and aesthetically undesirable (because it fundamentally alters the character of a neighborhood).[168] These grievances are not unique to the Sandy region, but local conditions create an additional layer of challenges.

Party-wall structures such as row houses and mid-rise commercial and mixed-use buildings, which are common in the region, are extremely difficult to elevate from an engineering perspective, and often almost impossible from a financial perspective.[169] In many cases, elevation may cost more than the building is worth.[170] Moreover, in the New York metro region, a significant percentage of these attached units are masonry and steel frame construction, which are inherently more resistant to flood-related risks than building typologies more common in other parts of the United States (e.g., balloon-framed, sheetrock-walled single-family homes and slab-on-grade commercial buildings).[171] However, this inherent resiliency is not accounted for in NFIP guidelines.[172]

Elevation can also come into conflict with other federal policies. Use of public funds for reconstruction, and in older buildings the mere act of doing the reconstruction regardless of the funding source, may trigger mandatory compliance with the Americans With Disabilities Act (ADA).[173] But ADA compliance, in turn, may be complicated by the design of the existing building, further complicated by the elevation strategy, and, finally, constrained by local building and zoning codes.[174]

For instance, in a publicly accessible building with ground-floor access that is already built to the edge of the property line, any alteration (e.g., elevation) would trigger an ADA requirement that "to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs."[175] In practice, this would require the building owner to add an elevator or entrance ramps reaching the design flood elevation (DFE) (i.e., the base flood elevation, or BFE, plus an additional amount dictated by local law; this additional increment above the BFE is known as "freeboard"). But, in New York City, ramps are permitted obstructions for only 44 inches past the build-to line on the parcel's street-facing facade, which in many cases is insufficient space to provide a useable and ADA-compliant ramp.[176] These types of conflict between NFIP requirements and local codes are further explored in Part V.D.

163. *See* FEMA, U.S. Department of Homeland Security, National Flood Insurance Program Dwelling Form Standard Flood Insurance Policy 10, 32, 52 (2011) ("compliance activities eligible for payment are: elevation, floodproofing, relocation, or demolition (or any combination of these activities) of your structure") [hereinafter National Flood Insurance Program Dwelling Form], https://www.fema.gov/pdf/nfip/manual201205/content/15_policy.pdf.

164. *See*, *e.g.*, Joyce Cohen, *Finding a Vacant Lot to Buy*, N.Y. Times, Apr. 13, 2007 (examining the distinct lack of vacant lots available in New York City as of 2007), http://www.nytimes.com/2007/04/13/realestate/15hunt.side.web.html.

165. *See* GOSR, *Buyout & Acquisition Programs*, https://stormrecovery.ny.gov/housing/buyout-acquisition-programs (last visited Apr. 19, 2018).

166. *See* Jarrett Murphy, *Sandy+3: NYC Not Pulling Back From the Water's Edge*, City Limits, Oct. 14, 2015, https://citylimits.org/2015/10/14/sandy3-nyc-not-pulling-back-from-the-waters-edge/.

167. *See* FEMA, U.S. Department of Homeland Security, Homeowner's Guide to Retrofitting: Six Ways to Protect Your Home From Flooding 5-1 (3d ed. 2014), https://www.fema.gov/media-library-data/1404148604102-f210b5e43aba0fb393443fe7ae9cd953/FEMA_P-312.pdf.

168. *See* Elizabeth A. Harris, *Going Up a Few Feet, and Hoping to Avoid a Storm's Path*, N.Y. Times, Apr. 15, 2013, https://www.nytimes.com/2013/04/16/nyregion/after-hurricane-sandy-homeowners-elevate-property.html.

169. *See* Alexandros Washburn, The Nature of Urban Design: A New York Perspective on Resilience 187 (2015) (briefly describing the difficulties in raising party-wall structures, both due to cost and inability to raise just a single structure that is part of the party-wall).

170. *See* Alice Gainer, *New York to Spend Up to $300M to Raise Homes in Flood Zone*, CBS N.Y., July 30, 2014 (noting that the cost of elevating a home can rise above $200,000), http://newyork.cbslocal.com/2014/07/30/new-york-to-spend-300m-to-raise-homes-in-flood-zone/.

171. *See* Joseph Lstiburek, *BSD-111: Flood and Hurricane Resistant Buildings*, Building Sci. Corp., Oct. 26, 2006, https://buildingscience.com/documents/digests/bsd-111-flood-and-hurricane-resistant-buildings.

172. *See* Resilient Retail, *supra* note 18.

173. *See* U.S. Department of Justice, 2010 ADA Standards for Accessible Design 21 (2010), https://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf.

174. *See*, *e.g.*, Civil Rights Division, U.S. Department of Justice, The ADA and City Governments: Common Problems (2009), https://www.ada.gov/comprob.pdf; Whole Building Design Guide, *Provide Accessibility for Historic Buildings*, https://www.wbdg.org/design-objectives/historic-preservation/provide-accessibility-historic-buildings (last updated Sept. 28, 2017).

175. *See* U.S. Department of Justice, *supra* note 173.

176. *See* Resilient Retail, *supra* note 18.

B. Navigating Forms of Ownership That Predominate in Urban Neighborhoods

Other issues beyond physical design can also create challenges when attempting to apply narrowly designed federal recovery programs in dense urban environments, and even the most fundamental property law questions regarding form of ownership can become significant.[177] A particular recovery challenge in New York City, and one that would also be pertinent to a lesser degree in other large cities like Chicago, Miami, or Washington, D.C., is the presence of significant numbers of cooperative and condominium apartment buildings. Of New York City's 3.4 million housing units in 2014, almost 10% (330,679 units) were located in buildings under the cooperative form of ownership and another 5% were condominiums.[178] New York University's Furman Center for Real Estate and Urban Policy estimates that 20% of the housing units in Sandy's flood zone were cooperatives and another 8% were condominiums.[179]

For owners of such units, there are multiple barriers to recovery under existing law. As currently interpreted by FEMA, the Stafford Act restricts the aid available to cooperatives and condominiums because of the way that ownership of these housing units is structured from a legal perspective.[180] Condominium units are real property owned by individual owners who live in their units and pay dues to a condominium association that maintains common areas of the building or complex.[181] As such, individual condominium unit owners can legally insure their units against flood damage by purchasing the NFIP's Standard Flood Insurance Policy Dwelling Form, just as a single-family homeowner would.[182] Alternatively, condominium associations may elect to insure the entire building or complex (including both common areas as well as residential units) through an NFIP Residential Condominium Building Association Policy (RCBAP). An RCBAP offers coverage for either the full replacement cost of the building, including funds to repair or replace the foundation and supporting structures, or $250,000 multiplied by the number of units in the building, whichever amount is smaller.[183] Content insurance for $100,000 per unit is also available.[184]

However, if a condominium association elects not to purchase an RCBAP, individual unit owners (as members of the condominium association) are then liable for repair of damaged common areas out of pocket. While the Stafford Act authorizes FEMA to provide emergency recovery funds for repair of uninsured or underinsured owner-occupied primary residences under the HA portion of the IHP, FEMA holds that the Stafford Act "does not provide the Agency with the authority to award grants to housing cooperatives and condominium associations to repair common-area damage as they are not, by any definition, individuals or households and are considered business associations."[185] In many condominiums in the Sandy region without RCBAP coverage, repairs to common elements (e.g., roofs, lobbies, stairwells, elevators, heating and cooling equipment) were $250,000 or more, and could only be paid through assessments on the owners of units in the association.[186] It is troubling and instructive that this costly disconnect between FEMA program regulations and the condominium form of ownership could have been anticipated, because this programmatic shortcoming was noted as far back as the 1994 Northridge (California) earthquake. It was never resolved in the interim.[187]

The situation for cooperatives is even more restrictive. Unlike condominiums, owners of cooperative units do not own real property. Rather, they own shares in a nonprofit corporation (the "cooperative") that, in turn, owns the entirety of the building or complex. Shareholders sign proprietary leases giving them the legal right to occupy a specific unit within the complex. Under current FEMA regulations, cooperatives are considered businesses, so individual unit owners are in effect not primarily residents at all, but simply corporate shareholders.[188] They are thus ineligible to purchase property insurance through the NFIP because they do not technically own a residence.[189]

This legal distinction creates a challenge for residents of cooperatives, especially those on low floors during flood

177. *See*, *e.g.*, *Staying on Task in Louisiana*, Appleseed Network, Nov. 11, 2011 (post-Katrina and post-Rita exposed issues with families not having clear title to land passed down through generations outside of the legal system), http://www.appleseednetwork.org/11_21_2011/.

178. *See* New York City Rent Guidelines Board, 2017 Housing Supply Report 4 (2017), http://www1.nyc.gov/assets/rentguidelinesboard/pdf/17HSR.pdf.

179. *See* Mireya Navarro, *U.S. Rules Bar Aid to Co-Ops Hit by Sandy*, N.Y. Times, May 1, 2013, http://www.nytimes.com/2013/05/02/nyregion/fema-policy-keeps-co-ops-from-disaster-aid.html.

180. *Id.*

181. *See* National Flood Insurance Program Dwelling Form, *supra* note 163, at 6.

182. *Id.* at 5.

183. *See* FEMA, U.S. Department of Homeland Security, National Flood Insurance Program Flood Insurance Manual CONDO 2 (2015) [hereinafter NFIP Flood Insurance Manual], https://www.fema.gov/media-library-data/1424446605297-1d4b4a2bdca13e3bb1e4edb96a73d245/changepackage_508_apr2015.pdf.

184. *Id.*

185. *See* FEMA, U.S. Department of Homeland Security, Individual Assistance for Housing Cooperatives and Condominium Associations 6 (2016) [hereinafter Individual Assistance for Housing Cooperatives and Condominium Associations], https://www.dhs.gov/sites/default/files/publications/FEMA%20-%20Individual%20Assistance%20for%20Housing%20Cooperatives%20and%20Condominium%20Associations%20-%20FY%202016.pdf.

186. *See*, *e.g.*, Navarro, *supra* note 179 (more than $500,000 in damages to seven-story condominium building).

187. *See* Robert B. Olshansky et al., *Rebuilding Communities Following Disaster: Lessons From Kobe and Los Angeles*, 32 Built Env't 354 (2006).

188. *See* Individual Assistance for Housing Cooperatives and Condominium Associations, *supra* note 185, at 2.

189. *Id.* Cooperatives are, however, eligible to purchase up to $100,000 of contents coverage under the Dwelling Form, which is also available to renters, dormitory residents, and residents of assisted living facilities. *See* NFIP Flood Insurance Manual, *supra* note 183.

events who are not eligible to purchase NFIP coverage even if they own an apartment in the floodplain.[190] Moreover, while cooperative corporations can purchase NFIP coverage to insure common areas for a maximum of $250,000 under the General Property Form, cooperatives are specifically ineligible for the much more substantial coverage available under the RCBAP.[191] This dynamic leaves cooperative owners—even more so than condominium owners—deeply exposed to liability for significant costs if their building's common areas or essential infrastructure are damaged by flooding.

Cooperative ownership further restricts coverage for recovery in other ways as well. While uninsured residents of cooperative units are eligible for FEMA assistance under §408 of the Stafford Act (i.e., HA and other needs assistance components of the IHP),[192] the legal structure of a cooperative limits how HA funds can be spent. Unlike condominiums, cooperative shareholders do not own the units in which they reside; rather, they rent the units from the corporation of which they are also an owner. Thus, because individual units are not considered "owner-occupied," HA funds cannot be used to repair damaged walls, ceilings, floors, or windows, all of which are property of the cooperative corporation, not individual shareholder/tenants that reside in affected units.[193]

These debilitating limitations on NFIP coverage and FEMA assistance for condominium and cooperative owners were widely felt across the region after Sandy. In response, then-Rep. Steve Israel (D-N.Y.) introduced H.R. 2887 in July 2013 "[t]o amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to provide assistance for condominiums and housing cooperatives damaged by a major disaster," which was eventually referred to the Subcommittee on Economic Development, Public Buildings, and Emergency Management.[194] However, Congress took no further action on the bill.[195]

To address some of the challenges H.R. 2887 would have rectified, certain ad hoc solutions were created by state and local governments. New York City structured the Rapid Repairs Program to include cooperatives and condominiums, while Build It Back contained the Multi-Family Program for rental properties, condominiums, and cooperatives.[196] New York State developed the Cooperative and Condominium Recovery Program to assist cooperatives, condominium associations, and homeowner associations in funding repairs to common areas and individual units.[197]

While condominium and cooperative ownership is much more common in the New York metro region than in many other parts of the country, these challenges nonetheless highlight the inherent difficulty in crafting one-size-fits-most national policies in the face of varying local conditions. Every community has its own mix of specific land use patterns, building typologies, and occupancy types (i.e., rental, ownership, informal, etc.). The way these issues interact with federal recovery regulations will vary from place to place, and it is inevitable that an approach designed to best address the needs primarily of owners of single-family, stand-alone, owner-occupied housing will not be as effective for residents of other kinds of properties. This points to the enduring challenge of developing recovery policies that are simultaneously effective and flexible, but lack of flexible recovery policies is not only a challenge for dense urban communities.

Another excellent example would be the higher rates of so-called heirs' property—families living in homes where legal title remains in long-deceased relatives—in some parts of the United States.[198] These deceased relatives lacked wills passing title to their property to family, or their family did not settle their estate following the relative's death.[199] This means current occupants cannot show "clear title" to storm-damaged property and, thus, cannot receive federal disaster funds for home repair.[200] This has been recognized as a major impediment to recovery in the southern United States' Black Belt, where a large number of African Americans were historically excluded from, or did not use, legal channels to pass property from one generation to the next.[201]

For a more recent example, following 2017's Hurricane Maria, thousands of residents of Puerto Rico were denied federal recovery aid because they could not supply evidence that they owned their homes, or even proof of residence.[202] As *Politico* reported in 2017, "More than half of Puerto Rico's houses are 'informal,' a euphemism for illegally constructed. As many as one in five are built on private or gov-

190. *See* National Flood Insurance Program Dwelling Form, *supra* note 163, at 5 (NFIP standard flood insurance coverage only offered to non-condominium residential buildings designed for principal use as a dwelling for one to four families, or a single-family dwelling unit in a condominium building).

191. *See* NFIP Flood Insurance Manual, *supra* note 183, at GR 7.

192. *See* Individual Assistance for Housing Cooperatives and Condominium Associations, *supra* note 185, at 3.

193. *See* FEMA, U.S. Department of Homeland Security, Individuals and Households Program Unified Guidance (IHPUG) 19 (2016), https://www.fema.gov/media-library-data/1483567080828-1201b6eebf9fbbd7c8a070fddb308971/FEMAIHPUG_CoverEdit_December2016.pdf. However, cooperatives, condominium associations, and homeowner's associations are eligible for low-interest SBA loans of up to $2 million for repair of common areas and infrastructure. Residents may apply for up to $200,000 for repair of their units and an additional $40,000 to replace personal property.

194. *See* Congress.gov, *Actions Overview H.R. 2887—113th Cong. (2013-2014)*, https://www.congress.gov/bill/113th-congress/house-bill/2887/actions (last visited Apr. 19, 2018).

195. *Id.*

196. *See* NYC Build It Back, *Multi-Family Program*, http://www.nyc.gov/html/recovery/html/landlords/landlords.shtml#more-information (last visited Apr. 19, 2018).

197. *See* Governor's Office of Storm Recovery of the Housing Trust Fund Corporation Office of Community Renewal, Condominium/Cooperative Program Guidebook (2016), https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/20161003_Condo-Coop%20Guidebook%20FINAL.pdf.

198. *See* Center for Heirs' Property Preservation, *What Is Heirs' Property?*, http://www.heirsproperty.org/who-we-are/what-is-heirs-property (last visited Apr. 19, 2018).

199. *See*, *e.g.*, *Staying on Task in Louisiana*, *supra* note 177.

200. *Id.*

201. *Id.*

202. *See* Adrian Florido, *Unable to Prove They Own Their Homes, Puerto Ricans Denied FEMA Help*, WABE, Mar. 21, 2018, https://www.wabe.org/unable-to-prove-they-own-their-homes-puerto-ricans-denied-fema-help/.

ernment land."[203] Until federal policies can be developed that are sensitive to these varied and unique place-based ownership issues, these kinds of challenges will remain.

C. *Helping Businesses Address Operational and Physical Recovery Challenges*

Post-Sandy recovery challenges were not confined to homeowners and residential renters. Businesses in the region also faced their own set of vexing issues after Sandy. Sandy's impacts were widespread, affecting not only the coastal neighborhoods that contain many of the region's small industrial businesses, but also retail stores, restaurants, and other types of businesses.[204] Foremost among these challenges were insurance-related issues. While lenders typically require mortgaged properties in SFHAs to have flood insurance, coverage is optional for properties located in the SFHA that are owned outright as well as for all businesses outside the SFHA.

But FEMA's flood insurance rate maps (FIRMs) in place in 2012 when Sandy struck were primarily based on data collected in 1983, and the land area flooded during Sandy was more than 50% larger than the SFHA delineated on the existing FIRMs.[205] Because many businesses were outside the then-current SFHA, many did not purchase flood insurance, and most commercial policies exclude flooding from their coverage.[206] Additionally, many businesses do not own the buildings that they are located in and are thus not allowed to purchase coverage for the building through the NFIP, making them reliant on landlords to either purchase flood insurance for the building or pay for repairs directly.

At the same time, even for those businesses with flood insurance, whether located inside or outside the SFHA, coverage was often inadequate, especially for businesses with expensive equipment or inventory, because the NFIP limits compensation for businesses to $500,000 for structural damage and an additional $500,000 for contents.[207] There were also other NFIP limitations. Sewer backups, for instance, which were common after Sandy even in neighborhoods that did not experience surface flooding, are not covered by the NFIP unless the backup "is a direct result of flooding."[208]

The NFIP also does not cover vehicles.[209] Many manufacturing and service-related businesses affected by Sandy rely heavily on vehicles as part of their operations. While some owners of affected business did have optional flood coverage on their business vehicles, many did not. In an additional layer of irony, many of these same businesses, such as those with heavy equipment that could be used in debris removal or infrastructure repair projects, experienced an increased demand for their services and a potential windfall after Sandy, but were unable to capitalize on the opportunity because of the damage they sustained and their inability to finance their recovery.

Finally, turning to the physical aspect of recovery, businesses forced to elevate as a recovery and mitigation strategy face a cascading set of design and operations challenges. Unlike in areas where most trips are made by automobile, commercial success in dense urban regions often depends on "foot traffic" or easy pedestrian access to commercial and service uses in ground-floor spaces.[210] FEMA only allows space below the BFE in an elevated building to be used for building access, automobile parking, and storage. This means that what had been a "ground floor" business may have to relocate substantially above grade, thereby impacting its ability to attract pedestrian customers.[211]

Again, basements can also become a complicating issue. Due to the high cost of real estate and typically small footprints of buildings in the Sandy region, many businesses rely on basements to provide space for functions like restrooms and offices, thereby freeing up more valuable ground-floor space for core business uses.[212] If forced to move these supporting uses out of the basement, and potentially even above the ground floor, businesses lose a significant amount of space for inventory or restaurant seating or other more lucrative uses. Restaurants face an additional challenge; many rely on basements or cellars

203. *See* Lorraine Woellert, *"We Have a Big Problem": Puerto Rico Seeks Aid for Tens of Thousands of Squatters*, Politico, Dec. 31, 2017, https://www.politico.com/story/2017/12/31/puerto-rico-squatters-hurricane-261495.

204. *See, e.g.*, Al McClain, *Hurricane Sandy Wreaks Havoc but Impact on Retail Mixed*, RetailWire, Oct. 31, 2012 (discussing the lengths to which large retail chains went in order to minimize impact from Sandy), http://www.retailwire.com/discussion/hurricane-sandy-wreaks-havoc-but-impact-on-retail-mixed/; Max Falkowitz, *How Hurricane Sandy Is Affecting Restaurants in NYC*, Serious Eats, Nov. 2, 2012 (examining the difficulties New York City restaurants faced in the aftermath of Sandy), https://newyork.seriouseats.com/2012/11/hurricane-sandy-restaurants-nyc-damages.html.

205. *See* New York City Mayor's Office of Recovery and Resiliency, A Stronger, More Resilient New York 23 (2013), http://s-media.nyc.gov/agencies/sirr/SIRR_spreads_Hi_Res.pdf.

206. *See* Bankers Insurance Group, *Commercial Flood Insurance Questions*, https://www.bankersinsurance.com/business-flood-insurance.html (last visited Apr. 19, 2018).

207. *See* NFIP Flood Insurance Manual, *supra* note 183, at RATE 1.

208. *See* News Release, FEMA, NFIP Flood Insurance Can Protect Against Financial Devastation (Sept. 20, 2017), https://www.fema.gov/news-release/2017/09/20/nfip-flood-insurance-can-protect-against-financial-devastation.

209. *See* FEMA, U.S. Department of Homeland Security, National Flood Insurance Program Summary of Coverage for Commercial Property 2 (specifically noting that cars are not covered), https://www.fema.gov/media-library-data/6a2ad0291e8d6a5452aa891a6c037039/fema_Summary_508C.pdf.

210. *See, e.g.*, Christopher B. Leinberger & Mariela Alfonzo, Metropolitan Policy Program at Brookings, Walk This Way: The Economic Promise of Walkable Places in Metropolitan Washington, D.C. (2012) (discussing how walkability of an area led to better economic performance in Washington, D.C., among other benefits such as decreased transportation costs in higher walkability areas, and the association between higher walkability and higher education and affluence), https://www.brookings.edu/wp-content/uploads/2016/06/25-walkable-places-leinberger.pdf; *see also* Christopher B. Leinberger & Michael Rodriguez, George Washington University School of Business, Foot Traffic Ahead: Ranking Walkable Urbanism in America's Largest Metros—2016 (2016) (ranking walkability in cities and discussing generally the benefits of walkability), https://www.smartgrowthamerica.org/app/legacy/documents/foot-traffic-ahead-2016.pdf.

211. *See* Resilient Retail, *supra* note 18, at 31.

212. *See id.* at 26.

to provide space for "prep kitchens."[213] This restaurant layout strategy provides more seating on the (typically much more expensive) ground-floor space. Thus, while elevating uses to meet NFIP programmatic requirements will help make businesses more resilient to future storms and allow them to qualify for NFIP coverage, these kinds of mitigation measures will also have significant long-term negative financial implications.[214]

D. Local Ordinances as Hidden Obstacles to Recovery: The Example of Zoning Codes

Local land development functions, including formulating and administering zoning and building codes, play important roles in guiding community recovery. These functions can either be vectors for safer, more-efficient growth or obstacles to recovery. In long-term recovery processes sometimes characterized by press coverage of brazen contractor fraud,[215] monumental rebuilding projects,[216] and alarming bureaucratic breakdowns,[217] problems created by local ordinances seem like low-level annoyances. Local code requirements are less likely to make headlines. Zoning code problems are inherently local and vary based on the town, city, or county where a homeowner or business is located.[218] Zoning code issues are also difficult for most people to appreciate because they involve technical legal language. Perhaps the main reason local code requirements remain "hidden in plain sight" following a disaster is that local governments do not begin to appreciate the problem until rebuilding has begun. The Sandy long-term recovery experience suggests that local zoning and building codes have indeed created some unnecessary obstacles to recovery.

Although discrete and technical by nature, the comparatively latent character of zoning codes' role in long-term disaster recovery cannot be overlooked if communities wish to rebound from disaster in a timely and equitable manner. Local code compliance, including building codes, health and safety codes, and zoning codes, is still a requirement for post-disaster recovery projects.[219] Compliance with local codes authorizes local permits, which in turn allows individual recovery projects to proceed. While unnecessary or narrowly conceived zoning code requirements may create merely inconvenient recovery delays for families with ample financial resources, for low- and moderate-income families including many elderly households, inapt zoning requirements can create a significant barrier to rebuilding a home or business.

At the very least, confusing or burdensome local requirements can saddle disaster victims with additional expenses and delays that they cannot easily afford, especially if they lack access to savings, insurance, or professional assistance that can help secure favorable local government review of a zoning application. Before disasters strike, local governments must consider how local codes and processes can be designed or modified in advance to help residents rebuild safely, sustainably, and quickly. This section highlights three ways in which local codes can prove ill-suited to post-disaster recovery needs, using examples from Sandy.

1. Dimensional Zoning Requirements

Images of Sandy's devastating impact frequently showed homes sitting cheek-by-jowl with one another.[220] On the Jersey Shore and in coastal Long Island neighborhoods, homes were pushed from their foundations by storm surge, and thousands of homeowners were forced to comply with federal requirements to elevate structures above the BFE in order to remain eligible for NFIP coverage against future storms.[221] Other homeowners in high-risk areas decided it was simply prudent to elevate, even though their homes did not incur significant damage during Sandy.[222] However, generally speaking, no homeowner was allowed to elevate a home in violation of local government set-back or height requirements merely because it was necessary or prudent.[223]

213. *See* Eric Ripert & Christine Muhlke, On the Line 21 (2008) ("Most New York restaurants have their (small) offices, prep kitchens, and locker rooms in the basement.").
214. *See* Cynthia Scarinci, *A Post-Superstorm Sandy Study of Small Business Disaster Preparedness and Perspectives on Planning for Future Incidents*, 3 J. Int'l & Interdisc. Bus. Res. 61-74 (2016), *available at* https://scholars.fhsu.edu/cgi/viewcontent.cgi?article=1078&context=jiibr.
215. *See* Jeff Jeffrey, *Texas Moves to Head Off Contractor Fraud Following Hurricane Harvey*, Bus. Journals, Aug. 29, 2017, https://www.bizjournals.com/bizjournals/news/2017/08/29/texas-moves-to-head-off-contractor-fraud-following.html.
216. *See* John Burnett, *All Things Considered: Billions Spent on Flood Barriers, but New Orleans Still a "Fish Bowl,"* NPR, Aug. 28, 2015, https://www.npr.org/2015/08/28/432059261/billions-spent-on-flood-barriers-but-new-orleans-still-a-fishbowl.
217. *See* Heather Haddon & Josh Dawsey, *Ousted Firm Blames New Jersey for Sandy Ills*, Wall St. J., June 13, 2014, https://www.wsj.com/articles/ousted-firm-blames-new-jersey-for-sandy-ills-1402706424.
218. *See* Bari Faye Siegel, *Zoning: One Size Does Not Fill All: Disaster Recovery Experts Must Follow Every Law Governing Every Municipality*, NJBIZ, Oct. 16, 2017 ("In New Jersey, every municipality has its own rules for almost everything. This is especially true when it comes to zoning laws. . . ."), http://www.njbiz.com/article/20171016/NJBIZ01/310169998/zoning-one-size-does-not-fit-all-disaster-recovery-experts-must-follow-every-law-governing-every-municipality.
219. *See generally* Joseph G. Jarret & Michele L. Lieberman, *"When the Wind Blows": The Role of the Local Government Attorney Before, During, and in the Aftermath of a Disaster*, 36 Stetson L. Rev. 293, 294 (2007) ("Failure to follow the requirements of all applicable laws during each phase of a disaster may significantly impact a local government's ability to receive assistance in its most crucial time of need.").
220. *See*, *e.g.*, Sarah Jacobs, *31 Photos That Show the Destruction of Hurricane Sandy 5 Years Ago*, Bus. Insider, Oct. 24, 2017 (highlight photos of Sandy's impact on Long Island's Breezy Point neighborhood), http://www.businessinsider.com/a-look-back-at-sandys-destruction-2016-9.
221. In New York City alone, 628 homeowners were granted permission to elevate their homes on or before Sandy's fifth anniversary. *See* Bridget Downes & Anthony Rifilato, *Hurricane Sandy, Five Years On: Some Residents Are Still Displaced, Rebuilding*, LI Herald.com, Oct. 26, 2017, http://www.liherald.com/eastrockaway/stories/hurricane-sandy-five-years-on,97044. In October 2017, 282 permits for elevation were still pending. *See id.*
222. *See* Mary Colleen Robinson, *House Raising, Booming Since Sandy, a Dangerous and Expensive Industry*, Ocean County Long Term Recovery Group, Jan. 13, 2017, https://oceancountyltrg.org/house-raising-booming-since-sandy-a-dangerous-and-expensive-industry/.
223. *See New NJ Law Allows Nonconforming Uses to Be Elevated Without Variance*, ShoreNewsToday, Aug. 9, 2013, http://www.shorenewstoday.com/ocean_city/news/new-nj-law-allows-nonconforming-uses-to-be-elevated-without/article_cd8c0d0e-b156-5ea5-aa3b-2d8484a6ff1a.html.

Construction could not proceed without compliance with local zoning and building codes.

Dimensional zoning requirements are code provisions that limit a building's size or envelope. Height limitations, for instance, cap a building's elevation above street level.[224] Set-back limitations establish a minimum distance between the structure and the edge of the property it improves.[225] A proposed structure demonstrating anything less than exacting compliance with these and similar standards generally requires a building owner to seek relief from a local government in the form of a variance.[226]

There is little dispute that building height and set-back requirements serve a valuable purpose. In urbanized settings, where land is scarce and often expensive, structures should be sited in a manner that promotes harmony with surrounding buildings. Property owners seeking relief from these requirements must typically prepare a detailed technical application, pay a fee, and wait for a hearing date before the local government's variance review board.[227] No building permit or certificate of occupancy will be issued if, without a variance, the structure exceeds the local government height or set-back requirements.[228] At best, the process takes weeks. At worst, it extends for months, particularly following a disaster when the hearing docket is long.[229]

Variances from height and set-back requirements generally allow individual homeowners a reprieve from otherwise rigid zoning code provisions that are somehow uniquely burdensome to a specific property owner. For instance, odd-shaped lots, uniquely steep terrain, and other physical characteristics are typically grounds for a variance request. But should the requirement for seeking a variance be imposed when the applicant's request for relief is in response to an external agency's requirement or when it stems from a desire to make a potentially vulnerable structure less vulnerable to a future hazard event? Not all communities agree.

Following Sandy, some communities waived the requirement for seeking a variance to exceed height limitations when elevating homes as long as they were located in a floodplain.[230] Other communities still required property owners to navigate the normal local government variance review process.[231] In the small city of Long Beach on Long Island's southern shore, for instance, elevations of homes necessitated a local Board of Zoning Appeals hearing to secure permission to add the stairs and porches necessary to access elevated homes if those features encroached into required front and side yard set-backs.[232] In February 2016, after approving more than 90 applications through this time-consuming public hearing process, the city amended its zoning ordinance to allow elevation and associated necessary encroachments in some city neighborhoods with only planning staff approval.[233]

Height and set-back requirements were also potential impediments to recovery in New York City. The city's planners quickly recognized the challenges that would be created by trying to shoehorn NFIP-compliant rehabilitation and rebuilding into the city's existing zoning code and building code restrictions. Three months after Sandy, FEMA issued new advisory BFE maps for New York City that differed significantly from the maps in place at the time of the storm.[234] On January 31, 2013, three days after the release of the new FEMA maps, Mayor Bloomberg issued Executive Order No. 230, Emergency Order to Suspend Zoning Provisions to Facilitate Reconstruction in Accordance With Enhanced Flood Resistant Construction Standards.[235] The order suspended height restrictions and various other aspects of the zoning code to facilitate rapidly rebuilding damaged structures in compliance with NFIP requirements. The Department of City Planning also drafted a 51-page set of zoning code modifications, the Flood Resilience Text Amendment, which was eventually approved by the New York City Council on October 9, 2013.[236] The Amendment facilitates flood-resistant construction and rebuilding in the 100-year floodplain, addressing issues such as building height, ingress and egress, locating of mechanical systems and parking, as well as other planning- and building-related issues.[237]

2. Properties Not Conforming to Zoning Codes Pre-Disaster

Not all lots and structures comply with the letter of local zoning codes. This is a common phenomenon. The nonconformity may reflect that a structure predates the origi-

224. *See* Julian Conrad Juergensmeyer et al., Land Use Planning and Development Regulation Law §4:12 (3d ed. 2013).
225. *See* 36 N.J. Prac., Land Use Law §3.29 (3d ed.).
226. *See* 2 N.Y. Zoning Law & Prac. §§29:1, 29:5.
227. *See* Dwight H. Merriam & Sara C. Bronin, Rathkopf's The Law of Zoning and Planning §58:1 (4th ed. 2016).
228. *See* Amanda Devecka-Rinear et al., The Long Road Home: Understanding Sandy Recovery and Lessons for Future Storms Five Years Later 46 (2017) (explaining that while some New Jersey local governments waived permitting requirements and permitting fees, others did not, thus delaying homeowner recovery in certain situations).
229. *See*, *e.g.*, *Santino & D'Esposito Make It Easier to Elevate Sandy-Slammed Houses—Proposal Exempts More Flood-Prone Homes From Building Variance Requirements*, Town Hempstead, Aug. 1, 2016 ("[t]he time required to secure a variance could add as much as two months to the building process"), https://www.toh.li/news/1523-santino-d-esposito-make-it-easier-to-elevate-sandy-slammed-houses-proposal-exempts-more-flood-prone-homes-from-building-variance-requirements.
230. *See*, *e.g.*, *id.*
231. *See e.g.*, John Asbury, *Home-Raising Red Tape Cut in Long Beach*, Newsday, Feb. 23, 2016, https://www.newsday.com/long-island/nassau/red-tape-cut-in-long-beach-to-assist-homes-being-raised-1.11497881 (describing the city of Long Beach's permitting procedures).
232. John Asbury, *Home-Raising Red Tape Cut in Long Beach*, Newsday, Feb. 23, 2016, https://www.newsday.com/long-island/nassau/red-tape-cut-in-long-beach-to-assist-homes-being-raised-1.11497881.
233. *See id.*
234. *See* Christina Boyle & Erin Durkin, *FEMA Releases New Flood Maps Showing 35,000 More New York City, Westchester Buildings at Risk*, N.Y. Daily News, Jan. 29, 2013, http://www.nydailynews.com/new-york/new-fema-flood-map-doubles-at-risk-buildings-city-article-1.1249555.
235. *See* N.Y. Exec. Order No. 230 (Jan. 31, 2013), http://www.nyc.gov/html/om/pdf/eo/eo_230.pdf.
236. New York City Department of City Planning, Flood Resilience Text Amendment (Oct. 9, 2013), http://www1.nyc.gov/assets/planning/download/pdf/plans/flood-resiliency/final_text.pdf.
237. *See id.*

nal or current code's adoption.[238] For instance, in a zoning district that allows only one residential structure on each lot, a lot predating the city's original code may have been developed with two discrete structures.[239] The nonconformity could also have arisen when a local government made a recent amendment to its existing code, such as an amendment establishing a new, larger minimum lot size, making the lot on which an existing home sits too small for the structure that currently improves it.

Major disasters, such as Sandy, frequently raise questions about the fate of properties that were considered nonconforming prior to the disaster. If the local zoning code, as originally adopted or later amended, renders a property nonconforming, then the zoning code usually allows the owner and subsequent owners to continue using the property, subject to certain strict limitations.[240] In these circumstances, the property is deemed legal, but nonconforming. Over the long term, the local government's goal is to phase out such nonconforming properties and, generally speaking, to prevent the owner from increasing the extent of the nonconformity.[241] But the local government must do so in a manner that respects an owner's property rights.

Local zoning codes also ordinarily contain a provision calling for elimination of a nonconforming structure should the structure suffer substantial damage. Substantial damage often means a loss estimated at between 25% and 75% of the structure's value.[242] Further, changes to nonconforming properties are subject to tight restriction. For instance, any expansion of existing nonconforming structures or uses is usually forbidden. Some local governments require owners to navigate the time-consuming and potentially expensive public hearing process if the owner seeks to make any type of alteration to a nonconforming structure.[243]

On the one hand, eliminating nonconformities to the local zoning code is a good goal, and even has a hazard mitigation component. Local governments rely on zoning code requirements to help ensure the health and safety of their community.[244] This goal is achieved when the local government succeeds in eliminating nonconforming conditions that might make a property unusually susceptible to loss or damage during a hazard event.[245] In this respect, a disaster could be a boon to a local government's efforts to eliminate nonconforming uses, lot sizes, and structures. If a disaster displaces a family that occupies a nonconforming property, then the long-term recovery period from a disaster would seem to be an appropriate time to require the family to build a new structure that conforms to existing zoning rules (if that is a possible option).

On the other hand, restrictions on post-storm repairs to, and modifications of, nonconforming properties may undermine a community's post-storm recovery, particularly in low- and moderate-income communities where property owners may lack access to resources to rebuild in full compliance with existing zoning. It is important to consider whether the nonconformity at issue should prevent a family or business from repairing a structure and, as a result, potentially slow a neighborhood's recovery. If the nonconformity does not directly impair resilience to known hazards, then a community's recovery may be best served by allowing these nonconforming properties to be modified or rebuilt without imposing additional legal obligations, such as additional public hearing requirements.

Properties whose lots do not meet threshold requirements for lot size are, for example, considered nonconforming. In some jurisdictions, such as Hoboken, New Jersey, a majority of the city's lots likely do not conform to zoning code requirements.[246] A property lacking the minimum square footage for a lot in a particular zoning district must seek a variance for any modification of the nonconforming property, even if that modification is intended to help mitigate the impacts of future hazard events.[247]

But experiences from the Sandy long-term recovery suggest that not all nonconformities should be treated the same. If the proposed repair to, or modification of, a nonconforming property makes that property more resilient to future hazards, even if it remains nonconforming in some other way, there is a strong argument that the repair or modification should be encouraged to help facilitate community recovery and motivate owners to take steps to mitigate future loss. Local governments like Hoboken, faced with a long list of urgent post-disaster tasks, may take months or years to clarify whether and how homeowners seeking to repair or modify nonconforming properties may do so, thereby hampering both individual and community recovery.

In the wake of a disaster, local government development offices are swamped with requests for review.[248] If, before the hazard occurs, local governments can take steps to thin the ranks of potential applicants for zoning approvals by eliminating the requirement that nonconforming lot sizes obtain variances for any type of modifications, then the local government will have succeeded in streamlining the path to recovery for a family or business. Importantly, this efficiency can be achieved without ceding any important community goals for safety and disaster resilience.

238. *See* Juergensmeyer et al., *supra* note 224, §4:31.
239. *See* 2 N.Y. Zoning Law & Prac. §10:02.
240. *See* 36 N.J. Prac., Land Use Law §22.2 (3d ed.).
241. *See* Juergensmeyer et al., *supra* note 224, §§4:33, 4:35.
242. *See* Pace University Elizabeth Haub School of Law, *Non-Conforming Users*, https://law.pace.edu/non-conforming-users (last visited Apr. 19, 2018); Juergensmeyer et al., *supra* note 224, §4:38.
243. *See* Carlo Davis, *Rewriting the Zoning Book*, Hudson Rep., June 14, 2015 (explaining that the city of Hoboken requires owners seek a variance for any alternation of a nonconforming structure).
244. *See* Juergensmeyer et al., *supra* note 224, §3:13.
245. *See* Patricia E. Salkin, *Effective Disaster Mitigation Depends Upon Well-Coordinated Land Use Planning and Zoning*, 34 Real Est. L.J. 108 (2005) (explaining that nonconformities to the local zoning code represent a significant exposure to casualty as a result of hazard events).
246. *See* Davis, *supra* note 243 (reporting that as many as 55% of the city's lots may not conform to Hoboken's existing zoning code requirements).
247. *See id.*
248. *See id.*

3. Use Restrictions

Local zoning codes, together with the local government's map of its various zoning districts, give a zoning designation to every property within a particular jurisdiction.[249] Some properties are designated commercial, others residential, and still others mixed use—just to name a few common designations. A zoning designation is critical because that designation dictates a parcel's allowable uses.[250] A property zoned "residential" must, for example, be used only for residential activities and generally cannot support any commercial uses as a principal use. A zoning district's use designation also limits ancillary activities in which an owner can engage.[251] It is common, for instance, that residential zoning districts establish strict requirements for parking vehicles.

Major disaster events can trigger exacting requirements for repairing and rebuilding structures. These requirements sometimes force individuals to rethink the fundamental design or layout of their homes or businesses. A critical consideration that homeowners and business owners face following flood- or storm surge-related disaster events is ensuring that the new or rehabilitated structure complies with FEMA requirements and thus can be insured at reasonable rates under the NFIP.[252] Compliance with the NFIP may, however, create a hardship for building owners when federal regulations conflict with local zoning codes. For instance, in a neighborhood of attached row house buildings where elevation is difficult or impossible, owners may be forced to eliminate residential use below the DFE to make the building NFIP-compliant.[253] This leaves owners with three ways to recoup that lost floor area.

The first option is to convert the area below the DFE to parking, which is allowed under NFIP regulations. However, in municipalities such as Hoboken, New Jersey, many zoning districts restrict ground-floor parking in order to create pedestrian-friendly active streetscapes, thus requiring a difficult-to-attain variance for parking uses.[254] The second option is to convert the space to commercial use such as office or retail, which, unlike residential space, can be dry floodproofed. Again, though, many zoning codes strictly limit or completely bar retail or office use in residential neighborhoods.[255] A final solution is to build an additional story on the top of the existing structure or to construct a rear yard addition. But, as discussed earlier in this section, such changes are only possible if the existing building has not already maximized the height limit or building envelope allowable under existing zoning. If none of these three options is possible, owners may be forced to choose between giving up a percentage of useable living space in order to comply with the NFIP or, if the building is not mortgaged, opting out of the NFIP and exposing themselves to future uninsured risks.

VI. Conclusion

Developing effective disaster recovery programs—particularly federal programs with nationwide reach—will always be difficult in a large country like the United States, which presents a wide array of local contexts in which recovery policies must be applied.[256] Consider that strong home-rule power granted local governments could serve to frustrate the implementation of some state and federal policies. Consider also how jurisdictional borders that slice through metropolitan areas blunt effectual regional planning and coordination[257] and allow state and local officials from neighboring jurisdictions to chart sometimes divergent courses to recovery.[258] Meaningful recovery from catastrophic disasters occurs only if it unfolds on the local level. Federal, state, and local governments must partner to ensure that disaster planning includes identifying potential local impediments to recovery and creating reasonable approaches to overcoming those barriers.

More than five years removed from Superstorm Sandy, the affected region's recovery continues to yield valuable lessons that can help officials in other places prepare for future catastrophic events. The Sandy recovery process has illustrated that, despite the many lessons learned since Hurricane Katrina and even as far back as the Portsmouth fire in 1802, recovery policy remains a challenge because no two disasters, even in the same location, will have the same impacts. As a result, whatever laws, regulations, and policies that exist at the time of one disaster will never fully address the exigencies associated with a subsequent event. But the Sandy long-term recovery also highlights that there are many recovery challenges that, even if flagged as problematic at one point in time, remain unresolved from

249. *See* 2 N.Y. Zoning Law & Prac. §7:03.
250. *See* Juergensmeyer et al., *supra* note 224, §4:2.
251. *See id*. §§4:2, 4:4.
252. *See* FEMA, Home Builders Guide to Coastal Construction: Repairs, Remodeling, Additions and Retrofitting—Flood, *available at* https://www.fema.gov/media-library-data/20130726-1537-20490-6166/fema499_9_1.pdf.
253. *Id.* It is also possible that local governments may impose more exacting requirements than FEMA through their local codes.
254. The city of Hoboken restricts off-street parking in its R-1 residential zoning district. *See* Hoboken, N.J., Municipal Code, Zoning §196-14(A)(1) (2018). However, the city amended the code to allow for "enclosed spaces below design flood elevation for a new or substantially improved building . . . only for vehicle parking. . . ." *See id*. §196-14(E)(6)(a)[4].
255. *See* U.S. EPA, Essential Smart Growth Fixes for Urban and Suburban Zoning Codes 4 (Nov. 2009), https://www.epa.gov/sites/production/files/2014-01/documents/2009_essential_fixes_0.pdf. *See generally* Shelby D. Green, *Zoning Neighborhoods for Resilience: Drivers, Tools and Impacts*, 28 Fordham Envtl. L. Rev. 41, 78-79 (2016) (explaining that Euclidean zoning has promoted strict segregation of uses and these divisions can run counter to neighborhood resilience interests).
256. *See* Frug, *supra* note 147 ("[L]ike environmental systems, law is site-specific, so regional strategies can't be addressed in sweepingly generalized legal principles. Instead, considerations must be tailored to the particularities of locations and conditions."); Andrea McArdle, *Lessons for New York: Comparative Urban Governance and the Challenge of Climate Change*, 42 Fordham Urb. L.J. 91, 101-02 (2016).
257. Frug, *supra* note 147 ("Storms don't respect jurisdictional boundaries, after all, and they likewise challenge us to coordinate disaster response on a regional scale.").
258. *See* Donovan Finn et al., *Planning for Resilience in the New York Metro Region After Superstorm Sandy*, *in* Spatial Planning and Resilience Following Disasters: International and Comparative Perspectives 117-35 (Stefan Greiving et al. eds., Policy Press 2016).

disaster to disaster due to their political, legal, or logistical complexity. Therefore, it is instructive to analyze the Sandy region's journey through long-term recovery to isolate valuable lessons that can help other communities affected by future disasters avoid some of the challenges that have slowed or stymied recovery efforts after Sandy.

This Article highlights several of the legal levers that the region's affected communities used to promote a quicker, more-efficient, and more-equitable long-term recovery by working within existing legal and policy constraints. It also underscores the legal obstacles that may have contributed to the New Jersey and New York region's uneven recovery. We examine these failures because they may aid other disaster-impacted regions to make better decisions about long-term recovery, including communities dealing with more recent disasters in Florida, Puerto Rico, and Texas. We are mindful that these pitfalls can become levers for positive change only if local governments address legal problems and deficiencies well in advance of potential hazard events. And we note that this Article inevitably leaves some challenges unexamined, such as the lack of federal recovery support for undocumented families or the sometimes onerous complexity of paperwork that creates hardships for residents who do not speak English or have limited time to deal with complex and time-consuming application processes.

There are many lessons to be learned from Sandy and many legal and policy implications of these lessons. This concluding part provides six brief practical recommendations designed to help local officials think about how they can prepare to address long-term recovery challenges in their own jurisdictions well before the need arises.

Lesson 1: Advocate for amending existing federal disaster recovery policies to provide for greater flexibility in state and local implementation. At the federal level, perhaps the most important lesson from Sandy is that recovery programs need to be more flexible, especially FEMA programs including the NFIP, which have not always translated well to the Sandy region's specific physical landscape and the economic challenges faced by many residents. In parts of the country where mismatch between federal policy and local realities may be anticipated, state and local governments can work through their congressional representatives to address these kinds of issues. New York City officials, in particular, have been vocal advocates for modifying federal recovery rules to be more flexible regarding contextual issues like those outlined here. However, it is important to understand that flexibility comes at a price. Given the federal government's fear of graft and misuse of recovery funds, as well as the political and philosophical skirmishes over the appropriate federal role in disaster recovery, these challenges are likely to persist.

Lesson 2: Spend the time and resources to develop internal recovery capacity. While the federal government is the primary funder of disaster recovery aid, it only administers some of the many recovery programs that communities and constituents will need to access after a devastating disaster. State governments must shoulder a significant burden designing programs and administering CDBG-DR funds while local governments will likely need to provide technical assistance to affected residents attempting to navigate the complexities of FEMA, SBA programs, and the way those programs interface with local ordinances. Further, local governments will need to work with other federal agencies that may have purview over various aspects of the overall recovery process, such as the U.S. Department of Transportation, the Corps, the U.S. Environmental Protection Agency, and many others.

While many communities have designated and standing emergency management staff, their responsibilities and energies typically focus on short-term emergency response, and their expertise in long-term recovery may be more limited. State and local officials including elected representatives, city planners, legal departments, and those with responsibilities for community development, economic development, housing, education, public works, transportation, and other sectors should also develop familiarity with federal recovery programs pertinent to their area of expertise. Having a working knowledge of federal recovery programs, and having that expertise spread across multiple agencies, will help state and local governments move more rapidly and effectively into recovery mode should the need arise.

Lesson 3: Identify potential vulnerabilities or unique attributes of the local landscape. As important as it is for state and local governments to develop their own internal recovery capacity by educating themselves about federal recovery programs, states and municipalities should also think carefully about how well these existing programs will work in their own specific local contexts. Many of the lessons learned from Sandy about the implications of local conditions are enumerated above, such as the significant percentage of New York City residents living in cooperatives and condominiums who were not served well by NFIP restrictions, or the challenges of elevating attached buildings to conform with NFIP requirements.

But other localities have their own potential challenges that can be identified through careful pre-event analysis. New Orleans had a pre-Katrina poverty rate of 26%, and a high number of homeowners who could not establish legal title to their residence. In Puerto Rico, similar issues are now emerging in the recovery from Hurricane Maria. Other potential issues may be pertinent in other places. Whether it is the percentage of elderly or undocumented residents or unique land development patterns, each of these facts creates obstacles to recovery that can, at least to some degree, be anticipated in advance and addressed.

Lesson 4: Evaluate local code requirements to flag potential legal obstacles to recovery. As its name suggests, long-term recovery unfolds over an extended time horizon. But once the decision to rebuild is made, local governments can, at a minimum, take steps to ensure that processes and procedures are in place to facilitate recovery. A local government, for instance, cannot necessarily expect to commit resources

to evaluating and revising its local zoning code in the wake of a disaster. New York City did so after Sandy, but it required a significant expenditure of resources and took almost one year to put permanent changes in place. Hoboken and Long Beach also eventually modified their zoning codes to facilitate more-resilient rebuilding and conformity with NFIP requirements, but it took time. Immediately following a disaster, however, it would be more desirable if local governments and elected officials could focus on the actual rebuilding process as opposed to removing internal legal barriers.

For communities that would hope to avoid the kinds of self-imposed legal barriers to effective recovery outlined here, such flawed legal infrastructure can be hard to detect. Existing laws that seem beneficial in "blue sky" situations may only emerge as barriers to effective recovery when issues like speed, flexibility, and efficiency become critically important, such as when dozens or hundreds of desperate property owners hoping to start rebuilding after a disaster overwhelm local site plan review or variance processes. The time to identify and remove these types of local law-related impediments to recovery and community resilience is before disaster strikes. Local governments should begin work as soon as feasible to upgrade local laws and regulations to make it easier, or mandatory, or even just possible, for residents to build more-resilient buildings today as well as rebuild more resiliently after a disaster.

Lesson 5: Be prepared to develop state and local programs to fill gaps: States and local governments should also understand that, no matter how much they lobby for federal programmatic changes, there will inevitably be issues that federal programs are unable to address. Developing local knowledge about the structure and limitations of federal programs and understanding local barriers to recovery can help communities quickly pivot to a recovery stance. But local officials are also advised to expend efforts now to, at minimum, think about how they might address some of the known challenges from other disasters through their own state or local programs.

For instance, New Jersey, New York City, and New York State developed housing programs specifically to assist residents of cooperatives, mobile homes, and other types of housing poorly served by federal programs. While some of these approaches might be funded by CDBG-DR, allocations may not be sufficient to address all needs. Federal regulations may also limit how funds can be spent. Local governments may also need to provide cash grants or other publicly funded solutions such as permit waivers, tax abatements, or free technical assistance if they wish to ensure effective resident and business recovery.

Lesson 6: Advocate for coordinated action among local governments. If a code deficiency is limited to a single jurisdiction, the local government can, of course, act on its own. But what if the code problem is more widespread? The post-Sandy recovery period shows how multiple jurisdictions in the region encountered similar kinds of code-related problems that caused unnecessary post-disaster redevelopment delays. The reality of shared zoning code deficiencies suggests the value of considering potential strategies to help groups of local governments amend their zoning codes in a fair and efficient manner—and to do so before disaster strikes. Disasters such as Sandy affect multiple cities and towns across one or more states.

Thus, it is important to consider how local governments can act in concert so that a metropolitan region's recovery is not uneven. A metropolitan region has a better chance to recover if its member communities share a commitment to setting long-term recovery strategies and goals. Without such cooperation, it is possible that recovery will lag in communities that lacked the resources or initiative to improve their zoning laws. Federal, state, nonprofit, and for-profit stakeholders should be invited to participate and provide technical assistance.

Long-term recovery is uneven and unfolds slowly, or, as global disaster recovery scholars Laurie A. Johnson and Robert B. Olshansky bluntly state in their most recent book, "It is never easy, and it is never fast enough for affected residents."[259] Local and state governments play an essential role in facilitating recovery or at least a sense of a sustainable "new normal." By working with federal and nongovernmental partners to anticipate and remove legal barriers to homeowner and business recovery, local and state governments can help to ensure that disaster recovery does not become a "two-tier" process where some members of a community rebound quickly while others struggle to return or rebuild. Cities, counties, towns, and states must come together prior to a disaster to study, identify, and address community vulnerabilities of all kinds, including legal barriers and vulnerabilities. In so doing, they are taking essential steps toward ensuring that no individual, family, or business becomes mired in regulatory footfalls and, as a consequence, is left worse off than before the disaster.

259. Laurie A. Johnson & Robert B. Olshansky, After Great Disasters: An In-Depth Analysis of How Six Countries Managed Community Recovery 309 (2017).