### BUYOUTS AND BEYOND: Politics, Planning, and the Future of Staten Island's East Shore After Superstorm Sandy

By Alexander F. Brady B.A. Comparative Literature Princeton University, 2010

# SUBMITTED TO THE DEPARTMENT OF URBAN STUDIES AND PLANNING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER IN CITY PLANNING AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

### JUNE 2015

©2015 Alexander F. Brady. All Rights Reserved.

The author hereby grants to MIT permission to reproduce and to distribute publicly paper and electronic copies of this thesis document in whole or in part in any medium now known or hereafter created.

Signature of Author \_\_\_\_\_

Department of Urban Studies and Planning May 18, 2015

Certified by \_\_\_\_\_

Professor Lawrence J. Vale Department of Urban Studies and Planning Thesis Supervisor

Accepted by \_\_\_\_\_

Professor Dennis Frenchman Chair, MCP Committee Department of Urban Studies and Planning

### BUYOUTS AND BEYOND: Politics, Planning, and the Future of Staten Island's East Shore After Superstorm Sandy

By Alexander F. Brady B.A. Comparative Literature Princeton University, 2010

Submitted to the Department of Urban Studies and Planning on May 18th, 2015 in Partial Fulfillment of the Requirements for the Degree of Master in City Planning

#### ABSTRACT

In the aftermath of Superstorm Sandy, two separate, federally funded programs began purchasing storm-damaged homes from voluntary sellers in the low-lying, workingclass communities of Staten Island's East Shore. New York State's, offered in three specific, geographically bounded neighborhoods, requires that the land procured be preserved as open space. The City's acquires any substantially damaged properties, with the goal of redeveloping them as more resilient housing. I began my research by asking why these parallel and sometimes competing programs had been established for the East Shore. What I uncovered was a deeply political, ad-hoc process resulting from a complex series of interactions between and among residents and their elected officials, each lobbying for their own priorities.

While I explore this process in depth, I also pursue additional questions suggested by my findings. I was consistently told that each program's primary goal was to meet residents' immediate needs; thus, each was designed to respond to individuals or groups of homeowners, rather address the community as a whole. Yet when they were announced, each was also framed in terms of future land use: with the State's to create "buffer" areas protecting inland neighborhoods, and the City's providing an opportunity to rethink the East Shore's small lots, narrow streets, and insufficient infrastructure, a legacy of its history as a community of summer bungalows. Now that the government has begun to acquire land, however, these future-oriented goals have encountered numerous challenges—from disagreements over the appropriate agency to own and maintain the open space, to a potential loss of one of the few areas of the city providing an affordable homeownership option.

In this context, I examine the post-Sandy planning processes that did take place in New York and their relationship to the acquisition programs, in comparison to similar planning and acquisition processes in New Orleans, LA and Cedar Rapids, IA. Ultimately, and particularly in light of the slow process of disbursing federal aid, I ask whether an engaged, participatory planning process is really a barrier to meeting immediate needs, or whether a properly designed process can yield better outcomes for both the victims of disaster and the neighborhoods they leave behind.

Thesis Advisor: Lawrence J. Vale Title: Ford Professor of Urban Design and Planning

## **BUYOUTS AND BEYOND:** Politics, Planning, and the Future of Staten Island's East Shore After Superstorm Sandy

by Alexander Brady



### ACKNOWLEDGEMENTS

First and foremost, I'd like to thank all those who gave generously of their time to share their thoughts and experiences with me in my interviews; without them, this thesis would not exist. Thanks to my advisor, Larry Vale, for the care and insight he brought to his feedback, for helping to keep me on track, and for holding me to his high standards in both puns and alliteration. To my reader, Michael Marrella, for carving out the time for a 100-page thesis in the midst of a very busy schedule, his critical eye, the access he provided to me, and for hiring me last summer, which set me on this long and winding path. Thanks to my thesis group for letting me know when I had to stop sharing interesting facts and start telling them what I was going to write about, and to all the friends and family without the support of whom this effort surely would not have been possible.

## TABLE OF CONTENTS

Methods and Sources13Chapter Two: A Hostile History14A Beach Within Reach14A Hostile History19Barriers to Barriers24Marshalling the Marshes26A Future Shaped by the Past27Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84Whyt Neln?84Whyt Neln?89Postscript98Notes100Works Cited112	Chapter One: Introduction	8
A Beach Within Reach       14         A Hostile History       19         Barriers to Barriers       24         Marshalling the Marshes       26         A Future Shaped by the Past       27         Chapter Three: The Superstorm       30         Sandy's Surging Seas       30         Dealing with Disaster       33         Chapter Four: Parcels that Mother Nature Owns       38         Gaining the Governor       41         Reviewing Retreat       43         Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place       48         Beginning to Build it Back       48         Blaming Bloomberg       52         Adjusting Acquisition       53         Questing for Clusters       58         The Affordable East Shore       61         Moving Forward       62         Chapter Six: Planning After Disaster       64         Learning from Others       70         Bringing New Orleans Back       72         Room for the Cedar River       78         Chapter Seven: Conclusion       84         What Now?       84         Why Plan?       89         Postscript       98         Notes       100 <td>Methods and Sources</td> <td>13</td>	Methods and Sources	13
A Hostile History19Barriers to Barriers24Marshalling the Marshes26A Future Shaped by the Past27Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Chapter Two: A Hostile History	14
Barriers to Barriers24Marshalling the Marshes26A Future Shaped by the Past27Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	A Beach Within Reach	14
Marshalling the Marshes26A Future Shaped by the Past27Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?98Notes100	A Hostile History	19
A Future Shaped by the Past27Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?98Notes100	Barriers to Barriers	24
Chapter Three: The Superstorm30Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Marshalling the Marshes	26
Sandy's Surging Seas30Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blarning Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?89Postscript98Notes100	A Future Shaped by the Past	27
Dealing with Disaster33Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blarning Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?98Notes100	Chapter Three: The Superstorm	30
Chapter Four: Parcels that Mother Nature Owns38Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?89Postscript98Notes100	Sandy's Surging Seas	30
Gaining the Governor41Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?98Notes100	Dealing with Disaster	33
Reviewing Retreat43Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Chapter Four: Parcels that Mother Nature Owns	38
Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place48Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Gaining the Governor	41
Beginning to Build it Back48Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Reviewing Retreat	43
Blaming Bloomberg52Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84What Now?89Postscript98Notes100	Chapter Five: A Safer, More Resilient, and Overall More Vibrant Place	48
Adjusting Acquisition53Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Beginning to Build it Back	48
Questing for Clusters58The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Blaming Bloomberg	<i>52</i>
The Affordable East Shore61Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Adjusting Acquisition	53
Moving Forward62Chapter Six: Planning After Disaster64Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Questing for Clusters	58
Chapter Six: Planning After Disaster	The Affordable East Shore	61
Planning New York64Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Moving Forward	62
Learning from Others70Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84What Now?84Why Plan?89Postscript98Notes100	Chapter Six: Planning After Disaster	64
Bringing New Orleans Back72Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Planning New York	64
Room for the Cedar River78Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Learning from Others	70
Chapter Seven: Conclusion84What Now?84Why Plan?89Postscript98Notes100	Bringing New Orleans Back	72
What Now?84Why Plan?89Postscript98Notes100		78
Why Plan?89Postscript98Notes100	Chapter Seven: Conclusion	84
Postscript98Notes100	What Now?	84
Postscript98Notes100	Why Plan?	89
Notes 100		98
		100
	Works Cited	113

## FIGURE LIST

Figure 1.1: The East Shore of Staten Island	9
Figure 1.2: Post-Sandy Planning and Acquisition Processes	10
Figure 2.1: Staten Island Topography, East Shore Highlighted	15
Figure 2.2: Dutch Settlements	15
Figure 2.3: Bath House at South Beach	16
Figure 2.4: South Beach, 1917	16
Figure 2.5: Midland Beach Bungalows	17
Figure 2.6: Urbanization in Hurricane SLOSH Zones	17
Figure 2.7: Oakwood in a 1950 Storm	20
Figure 2.8: Rescues During 1992 Nor'easter	20
Figure 2.9: Oakwood After a 1930 Fire	21
Figure 2.10: East Shore Wildfire Incidence	21
Figure 2.11: Below-Grade Ocean Breeze Bungalows	22
Figure 2.12: Proposed Levee and Subsequent Townhouse Development	23
Figure 2.13: Staten Island Bluebelt Watersheds	26
Figure 3.1: Historic Surge Graph	31
Figure 3.2: Sandy Surge Map	31
Figure 3.3: New York Bight	31
Figure 3.4: Destroyed Bungalow	32
Figure 3.5: Sandy Inundation	32
Figure 3.6: Building Damage	32
Figure 4.1: New York State Coastal Risk Map	42
Figure 5.1: South Beach Levee Proposal	50
Figure 5.2: Bluestone Group Model Home Floorplan	50
Figure 5.3: Mayor Bloomberg and Patricia Dresch	51
Figure 5.4: Bungalow Elevation	54
Figure 5.5: Cedar Grove Study Area	55
Figure 5.6: Narrow, Ponded Streets in Cedar Grove	55
Figure 6.1: Map of SIRR initiatives for East and South Shores	65
Figure 6.2: Map of NYRCR initiatives for East and South Shores	67
Figure 6.3: Councilmen Oddo and Ignizio Visit New Orleans	70
Figure 6.4: New Orleans "Green Dot" Map	71
Figure 6.5: New Orleans Recovery Planning Timeline	72
Figure 6.6: NORA Dispositions	76
Figure 6.7: Cedar Rapids Inundation Map	78
Figure 6.8: Cedar Rapids Public Process	79
Figure 6.9: Cedar Rapids Recovery Alteratives	80
Figure 7.1: Coastal Home Values	92
Figure 7.2. South Beach Home Values	92
Figure 8.1: South Beach Redevelopment Rendering	99

## **CHAPTER ONE:** Introduction

"Once this area was a popular summer vacation spot... Today it is a stark landscape that looks as if the sea had risen up and swept most of it away."<sup>1</sup>

These words were penned by Steven Weisman, a journalist for *The New York Times*, in April of 1971. He was writing of the Arverne neighborhood, a 50-block stretch of New York City on the ocean side of the Rockaway peninsula in Queens, previously home to 800 or 900 "old wooden bungalows." Despite Arverne's beachfront location, however, it wasn't the Atlantic but the government that had cleared the homes, as part of an urban renewal plan designed to address the area's substandard housing and infrastructure. In the days, months, and years that followed Superstorm Sandy's arrival in New York City on October 29, 2012, much the same words could have been written about another corner of New York harbor, some fifteen miles away: the East Shore of Staten Island. The East Shore, an extremely low-lying portion of the Island bounded by Fort Wadsworth to the northeast and Great Kills to the southwest, also first came to prominence in the early twentieth century as a beach resort for vacationing New Yorkers. Thousands of summer bungalows were built in the area; later, many were converted to year-round homes. When the storm came, a devastating combination of the area's topography, geography, and housing typology made its four neighborhoods—South Beach, Midland Beach, New Dorp Beach, and Oakwood Beach—the locus of some of the most extreme loss of life and property in the City.

Though in this case it actually was the sea that started the job, however, the government would once again play a role in finishing it. In the aftermath of the storm, two parallel, federally funded programs began purchasing homes from East Shore residents who voluntarily chose to move on from the area. One, offered by Governor Andrew Cuomo and the State of New York—the New York Rising Buyout Program—began acquiring properties within three specific, geographically bounded areas, with the proviso that the newly public land be forever preserved as open space. The other, offered by the City of New York under first the Bloomberg and then the de Blasio administration—the Acquisition for Redevelopment pathway of the Build it Back program—acquired properties with the intention to redevelop the acquired parcels as new, safer housing. I began my research by asking the question of why these two separate processes, working toward

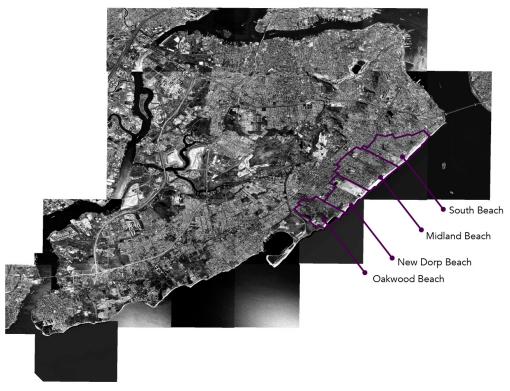


Fig 1.1: The East Shore of Staten Island. Map by Author.

divergent ends, had been established for the East Shore. In doing so, I hoped to better understand the decision to retreat from some areas while reinvesting in others.

The answer I uncovered was deeply political, resulting from a complex series of interactions between residents and their elected officials. While the City, State, and outside groups all launched a number of formal planning processes, each of these unfolded largely independently of one another, and the acquisition programs themselves were only loosely affiliated with any of them. Still, their simultaneous progression created a number of key points of conflict and harmony; while for the sake of clarity I will examine each in turn, it is important to remember that in actuality much of this work was developed in response to or competition with alternative programs (see Figure 1.2, following page).

The East Shore is somewhat of an unusual case study in acquisition. The literature on disaster recovery and climate adaptation is replete with studies examining how policymakers might go about convincing or incentivizing residents to consider relocation. Unlike virtually everywhere else in the City, however, many residents of the East Shore needed no convincing, quickly coming themselves to the conclusion that their best option was to leave their homes behind and make a new life for themselves on higher and drier ground. As I chronicle in the second chapter, this decision was due in no small part to a long history of environmental struggles in the area—from wildfires and freshwater flooding to previous hurricanes and the repeated failure of coastal protections to guard against them.

In some cases, these residents banded together to mount a campaign pressuring their officials to provide them with the option of decamping from their former neighborhoods en masse.

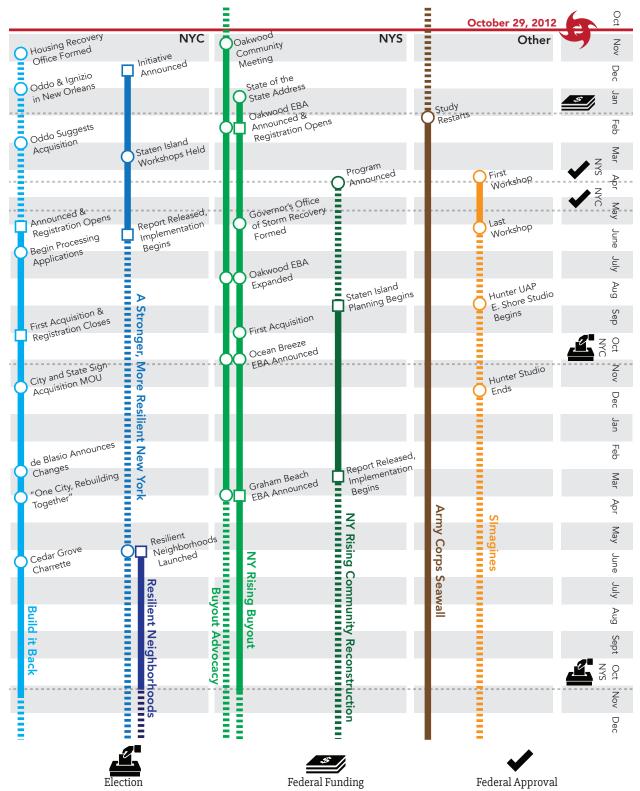


Fig 1.2: Post-Sandy Planning and Acquisition Processes. Build it Back, far left, is New York City's acquisition program. New York Rising Buyout, center left, is the State's. Neither was ostensibly a "planning" process, and each unfolded in parallel to the City's and State's processes (as well as federal and community or non-profit sponsored processes). Graphic by author.

Finding an initially unsympathetic response from the City, these residents deliberately worked around local officials to have their case heard at the State level. Ultimately, their efforts—combined with the Governor's conviction that the increasingly visible realities of climate change demanded a rethinking of coastal land use—led to the New York Rising Buyout Program. In other areas interest was more scattershot but local officials, particularly at the borough level, saw in acquisition an opportunity both to meet their constituents' needs and potentially to achieve significant land use changes of their own, addressing long-standing deficiencies in neighborhood infrastructure and advancing the goals of regularization and de-densification that had been embodied in the Island's Lower Density Growth Management Area zoning regime prior to the storm.

I begin to delve into this process in the third chapter, covering it in further detail in the third and fourth. In the course of answering my initial question, however, I surfaced others. At least when they were first announced, both of the City's and the State's programs made some claim to be working toward an alternative future for the East Shore. The New York Rising Buyout plan was focused on ceding the acquired parcels "back to Mother Nature," not only to remove residents from harm's way but to use these re-naturalized areas as a coastal buffer, protecting neighborhoods farther inland or absorbing the stormwater that presents a significant additional challenge to the area.<sup>2</sup> According to Staten Island Borough President James Oddo, meanwhile, the Acquisition for Redevelopment Program was meant not only to provide an opportunity for "folks impacted by Sandy to begin to take back control of their lives," but also for these residents "to see their home community transformed into a safer, more resilient, and overall more vibrant place."<sup>3</sup> Yet throughout my research, I was consistently told that the programs were, first and foremost, conduits of financial relief for distressed and displaced homeowners. In this context, land use issues were specifically identified as a secondary goal, if at all. While the rationale for this approach is understandable—with the program's designers focused on meeting the immediate needs of a disaster-ravaged population—it also has situated both the City and the State in sometimes difficult positions.

As I detail in the fourth chapter, outside of Oakwood Beach, the first neighborhood to be included in the State's program and the site of the highest rates of participation, working around those who have chosen not to sell may significantly constrain the State's ability to meaningfully repurpose the area beyond simply allowing natural communities to opportunistically recolonize the land. Further, even if all of the area's residents were eventually interested in moving, problems would remain: despite launching the buyout at the State level over City opposition, the State has attached no funding for remediation, construction, operation, or maintenance to the parcels, and has no interest in being the long-term steward of the land. Challenges loom in the nearer term, as well. Until the moment if and when all homeowners in a given buyout area agree to sell, servicing these neighborhoods will also represent a significant burden on city resources, as maintaining roads and providing a safe water supply for a limited number of homeowners will become more difficult and expensive. Significantly depopulating the area, meanwhile, removes housing stock from a city in the grips of an acute housing crisis, and may negatively impact remaining businesses and community institutions that depend on a robust local population for support.

Meanwhile, the City's Acquisition for Redevelopment program has encountered hurdles of its own, which I explore in the fifth chapter. While the has City considered using the tool to enact the kind of community-scale transformation alluded to by Borough President Oddo, a number of issues have stymied this ambition. These range from the necessity for a level of community participation even less present in the City's program than the State's, to the high financial cost and low projected return of demolishing and reconstructing a low-density residential neighborhood in need of major infrastructure investments. Working with individual parcels, however, may be no easier of a proposition. The same historical development pattern that made the East Shore uniquely vulnerable to Superstorm Sandy has left a legacy of small lots and narrow streets that make it difficult to even maneuver construction equipment in the area, let alone fit a legally sized, up-to-code, resilient structure on one of the parcels on which a bungalow once sat. Finally, if these problems were to be successfully addressed, the question of what population this new housing would serve is an open one (one that, incidentally, helped to define the multi-decade struggle to redevelop in Arverne, where "disagreement… focused on the kind of occupants for whom the new housing should be built: families with moderate incomes or those that are more affluent.")<sup>4</sup> The neighborhood bungalows, despite and in fact at least in part due to their myriad problems, were an affordable typology that defined the area as one of the City's working class waterfronts. Where lots may be combined or new building and neighborhood typologies devised, it is unclear exactly who will have the means to occupy the resultant development.

In light of all of these challenges, I came to ask two questions in my conclusion. First, looking forward, I ask how some of the negative impacts associated with these programs can be mitigated. Second, looking backward, I ask what role planning can and should play in addressing the intricacies of post-disaster retreat and redevelopment at all. Understanding that these programs have a dual purpose in furthering both individual and family recovery and broader-scale land use change, I ask: what were the obstacles to giving these longer-term implications their due; how might planning process have played a role in achieving better outcomes, potentially toward both goals; and how can these processes and outcomes be better fostered in the future?

In answering this last question, it is useful to adopt the terminology of the "design moment," explicated by Jacob Wagner and Michael Frisch in their examination of the physical planning response to Hurricane Katrina in New Orleans. Writing on the many plans that proposed to reshape the city after the storm, the authors describe the design moment as "a period of time in which particular events occur that result in a process of urban restructuring that is physical, social and conceptual... a *critical juncture* in the history of a city in which the most basic components of a city's character—its social fabric and urban form—are fundamentally altered [emphasis original]."<sup>5</sup> In trying to understand the quality of this moment, the authors explain, "the language... is revealing: organic growth versus planned districts; piecemeal versus comprehensive reconstruction; the ad hoc versus the orderly; top-down versus local control—the list of descriptors, while numerous, are often mere synonyms for a binary juxtaposition of the planned versus the unplanned response to urban design and rebuilding in the wake of a disaster." In reality, however, "the process is often far more nuanced than these 'either/or' constructions of the design problem suggest."<sup>6</sup>

As I explain in the sixth chapter, which seeks to draw lessons about New York by comparing the City's experience with that of others that have undergone significant flood events, the most dramatic initial proposals advocating for retreat from heavily damaged New Orleans neighborhoods failed at least in part because they were top-down, orderly, and comprehensive, deaf to the concerns of marginalized neighborhoods and developed in the absence of their meaningful input. Yet the ad hoc, local process in New York was, as Wagner and Frisch suggest, both not entirely so—as it relied no only citizen activism but competition between different levels

of government and a pre-existing agenda pitting residents in denser, low-lying areas against those in the wealthier uplands—and, though relatively "successful" in terms of program uptake, has generated problems of its own for the residents left behind. Ultimately, drawing in part from the experience of post-flood planning in Cedar Rapids, Iowa, I ask whether a more engaged, participatory process might have helped all parties involved better achieve their goals, and echo Wagner and Frisch's question of whether "adequate and transparent planning processes [are] 'too slow' or just... inconvenient in the context of disaster recovery?"

It is, I believe, a question worth asking. While immediate needs inarguably take primacy in the wake of a disaster, a hurricane's imprint on the landscape can reverberate for many generations past the lives of its immediate victims. "Whether by accident or intention," as Wagner and Frisch warn, "the decisions made during a design moment can shape the physical form of a city for decades, or even centuries, to come."<sup>8</sup>

### Methods and Sources

To answer these questions, I relied primarily upon conversations with those involved. I conducted formal interviews with 25 individuals, including: residents of the affected areas; project managers and policy makers for the buyouts and acquisitions and other related projects on the East Shore, such as the Army Corps seawall, Mid-Island Bluebelt, and the SImagines planning process; experts on issues of coastal land use and managed retreat; researchers who have studied the communities of the East Shore after Sandy; and individuals who have overseen similar processes in New Orleans and Cedar Rapids, Iowa. In addition, I had informal or off the record conversations with a number of other colleagues, academics, and professionals in order to further inform my work.

To supplement this information, I familiarized myself with case studies and literature on acquisition and buyout programs, climate adaptation, and disaster recovery; examined the official Action Plans, reports, and speeches associated with the City's and State's programs; and combed through dozens of local news articles that provided both factual details and insight into the statements and motivations of policymakers, such as the Mayor and the Governor, with whom I was not able to speak directly. What follows is a synthesis of the facts, opinions, concerns, and aspirations that I gathered from these sources.

## **CHAPTER TWO:** A Hostile History

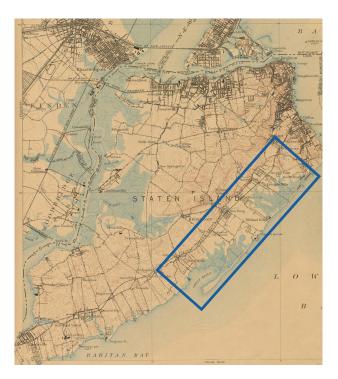
A Beach Within Reach: "A railroad... will develop an enormous Summer-resort travel"<sup>1</sup>

To understand the present situation of the East Shore, it is instructive to look first to the area's history. The story properly begins many, many years ago—indeed, millennia ago—in approximately 18,500 BCE. It was at this time that the Laurentide Ice Sheet, a massive glacier that spanned a significant portion of the present-day northern United States and Canada, arrived in what is now New York City. As the Laurentide advanced across the continent, it accumulated soil, rocks, boulders, and other geological debris, transporting this material along with it before depositing it in a heap at the ultimate extent of its leading edge, where its advance was halted. The area of higher elevation that this deposit created—with hills on Staten Island marking some of the highest elevations on the East Coast—is known as a terminal moraine, and it runs through New York in an undulating line stretching roughly from Tottenville in Staten Island to the southern end of Alley Pond Park in northeastern Queens. The glacier sat in this spot, moving neither forward nor back, for approximately 2,500 years. When it ultimately began to retreat, its meltwaters carried material down off the southern slope of the moraine, creating a flat expanse of new land in what had previously been the ocean. This area, known as a glacial outwash plain, underlies much of what today constitutes the neighborhoods of the East Shore. Closer to the coast, some portions of the region lie at even lower elevations—on land that was made not by glaciers, but humans, as builders filled in wetlands during New York's continual quest to open up new land for development.<sup>2</sup>

The development of this area can be understood to have occurred in four distinct phases. The first begins with the first European settlement on the Island, which was on the East Shore. In 1661, the Dutch constructed the village of Oude Dorp (Old Town) at present day South Beach.<sup>3</sup> For hundreds of years, settlement in the area remained mainly on higher ground or at the edge of the wetlands, and consisted primarily of villages—each their own independent municipality oriented around fishing, shell fishing, and farming. Toward the end of the nineteenth century, however, as New York City grew, the East Shore, with its unspoiled beaches and woodlands just a short ferry ride away, entered the second stage of its development: as a summer getaway.

While Staten Island featured hotels and resorts for vacationing New Yorkers as early as the mid-1800s, it was not until the arrival of improved transportation, in the form of the Staten Island Rapid Transit Railroad Company, that they were spurred to the great heights that they would achieve by the early years of the following century. In 1880, the newly formed Railroad Company published a column in *The New York Times* arguing that a lack of efficient overland transit had hampered the Island's development. While the ferry provided a decent connection to New York at St. George, they contended, "the difficulty has been to provide communication along the east and north shores of the island to save the boats from the expense of doing the omnibus work of delivering the people at the foot of the several avenues." By following their plan to construct a rapid transit line around the Island's northeastern tip, along the edge of Fort Wadsworth and down to South Beach, this problem could be circumvented, thereby allowing South Beach to "develop an enormous summer-resort travel, as this beach possesses far greater natural advantages than Coney Island, can be made more accessible, and for still salt-water bathing especially will be much preferred by the thousands who shrink from the rough buffeting of the surf."4

Bids to build the system were tendered in 1883, and construction began shortly thereafter.<sup>5</sup> The South Beach section of the line began operation in 1886 and, within a short time, the predictions of the boosters largely came true.<sup>6</sup> In 1890, a reporter for *The New York Times* remarked that "South Beach, on Staten Island, has grown wonderfully in popularity in the last few years. It is about forty minutes ride... by the Staten Island Ferry boats and rapid transit trains."<sup>7</sup> In the same year, an outfit organized under the name



*Fig 2.1: Staten Island Topography, East Shore Highlighted. Lionel Pincus and Princess Firyal Map Division, The New York Public Library.* 



*Fig 2.2: Dutch Settlements. Lionel Pincus and Princess Firyal Division, The New York Public Library. Note location of Old and New Towns on high ground outside of flatlands labelled "Banc de L'Ouest."* 



*Fig 2.3: Bath House at South Beach. Irma and Paul Milstein Division, The New York Public Library.* 

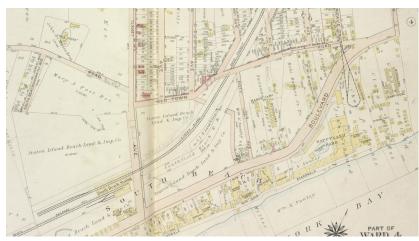


Fig 2.4: South Beach, 1917. Lionel Pincus and Princess Firyal Map Division, New York Public Library. Note South Beach Station, lower left; bungalows camps, far right; and land owned by "Staten Island Beach Land & Improvement Co."

of the South Beach Land Company, Limited, embodied the spirit of the times when they incorporated with the objective to "buy, improve, and sell land in Richmond County, erect docks, wharves, piers, slips, basins, elevators, houses, warehouses, stores, bowling alleys, hotels, a theatre, a clubhouse, a casino, boathouses, a skating rink, grounds for baseball, cricket, lawn tennis, lacrosse, and other outdoor sports."8 With these and other development schemes underway, South Beach soon became a major regional attraction.

In 1899, one year after the five boroughs were unified as New York City, the Southfield Beach Railroad Company was incorporated, with the goal of extending the reach of the rail service and accompanying development from South Beach two miles further south to Midland Beach.<sup>9</sup> In 1901, meanwhile, the Midland Railroad Terminal Company received a grant from the State Land

Board for "about seventy-six acres of land under water at Midland Beach… on condition that people shall have free use of the beach. The company," read the notice, "is to erect piers, wharves, and buildings"—an early instance of landfill operations in the area.<sup>10</sup> By the following year, *The New York Times* was reporting that more than 7,000 people had visited Midland Beach and 6,000 South Beach on a single Sunday in May.<sup>11</sup>

As the resorts became more popular, developers also began to buy land for the construction of summer bungalows, where families could spend the night for the season. In 1908, the Reilly Realty Company purchased twenty-two acres in Oakwood with 300 feet of frontage on the ocean to "make a bungalow and tent colony."<sup>12</sup> Nearby, Emiel Fox—for whom present-day Fox Beach, a section of Oakwood, is named—constructed 12 summer bungalows in 1912. By the 1930s, Fox's bungalows numbered in the hundreds, and were accompanied by a swimming beach, a pier, a

hotel, and a dancing pavilion.<sup>13</sup> Similar development was happening up and down the East Shore. In 1930, between Midland Beach, Graham Beach, and Woodland Beach—all owned by one James G. Graham approximately 10,000 people rented bungalows, and the bungalows at the South Beach colony alone numbered in the thousands.<sup>14</sup>

Indeed, the period between 1920 and 1930 represents the first major peak of development in the area. In 2010, Professor Alan Benimoff of the College of Staten Island conducted a study of urbanization in Staten Island's "SLOSH zones"—areas designated by a model of the National Weather Service to be in danger of inundation by sea, lake and overland surges from hurricanes (SLOSH)—a significant proportion of which are located on the East Shore. After construction rates of less than one hundred homes annually in the years 1900 to 1920, Benimoff's data displays a steep jump to more than a thousand homes built in the



*Fig 2.5: Midland Beach Bungalows. Irma and Paul Milstein Division, The New York Public Library.* 

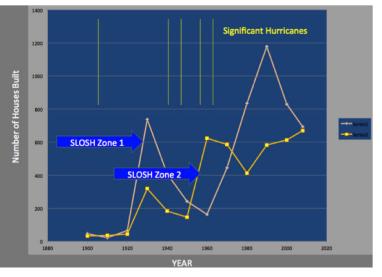


Fig 2.6: Urbanization in Hurricane SLOSH Zones. Benimoff, 2010.

two highest-risk zones of the Island from 1920 through 1929.15

By the following decade this fervor had died off somewhat. Beginning in the 1950s, however, though new construction was still relatively quiet—indeed, perhaps partly due to this fact—a third important phase in the area's development began. With nationwide housing shortages spurred in part by returning soldiers from the Second World War, families began to winterize the East Shore's bungalows for year-round use. Many of these homes, never intended to be anything more than seasonal residences, were still housing families up until the time that Sandy struck, passed down from generation to generation and grandfathered into compliance despite their failure to meet modern building and zoning codes.<sup>16</sup>

The fourth and final phase of development in the area begins in the lead up to, and aftermath of, the opening of the Verrazano Narrows Bridge—the first to connect Staten Island to another borough—in 1964. The Island had previously been linked to New Jersey with the

opening of the Goethals Bridge and Outerbridge Crossing across the Arthur Kill in 1928, and the Bayonne Bridge across the Kill Van Kull in 1931. Each new opening brought with it speculative purchases and promises of a development boom. In 1928, a typical commentator remarked that "it is almost impossible to predict the scope of Richmond's future growth. Public officials, business men and realtors," he continued, "state that the island will have within a few years a population of 1,000,000."<sup>17</sup> When this growth did not materialize, others found the Bayonne connection likelier "to do more for the real estate market generally than have [the previous two]... because the new bridge is nearer Manhattan and also because it provides the first direct highway between Richmond and Manhattan."<sup>18</sup> As of a 1959 article anticipating the Verrazano, however, the population of the "semi-isolated" borough still lay out only 191,555. Experts at that time predicted that the forthcoming connection—the Island's first "quick, convenient interchange with its four sister boroughs"—might induce a tripling of population by 1980.<sup>19</sup>

While this astronomic level of growth never quite materialized, new development and population gain after the opening of the Verrazano was substantial. Indeed, the population of the Island had nearly doubled by 1980, is now 250 percent larger than the 1959 figure, and increased by twenty-four percent between 1990 and 2010 alone—making it the fastest growing county in the state during this period.<sup>20</sup> The scope of the changes brewing were recognized as early as 1966, when the City Planning Commission released a special report outlining a development policy for the borough. "The need for urgency," the Commission began in its report, "is apparent. The completion of the Verrazano Bridge, the growth of the Metropolitan Region, the virtual disappearance of vacant land in the rest of the City have all placed great development pressures on Staten Island. These are pressures that will not be stayed. They call for prompt and effective policy measures by the City to insure some rational control over the destiny of our 'last frontier."<sup>21</sup>

Unfortunately, by all accounts, these policies never arrived. The following 30 years saw a steady climb in urbanization in Staten Island's SLOSH zones, escalating to a dramatic second peak in the decade between 1980 and 1990, when 1,800 new homes were built in these areas, with 1,200 in the most vulnerable zone alone.<sup>22</sup> Between the years of 1953 to 1973, meanwhile, it is estimated that more than one-fifth of the total wetlands present in the five boroughs in the mid-1800s was lost—an area of 17,000 acres, or approximately one and a half times the size of Manhattan.<sup>23</sup> Much of this activity played out in the marshes of Staten Island, with both greenfield development and bungalow tear-downs occurring at a rapid pace. A feel for the changes taking place, and a testament to the growing interest in the area, can be derived from reading a trio of *New York Times* articles from the 2000's, following a decade where the number of housing units on the Island increased by 17 percent.

Profiling Midland Beach in 2011—"Low Prices, Slow Traffic, Copious Sand"—correspondent Joseph Plambeck discusses how renovations to the beach and a new boardwalk helped to spur a development boom in the 1990s, when "developers tore down many of the area's characteristic bungalows." This push, according to Plambeck, led to two types of housing stock interspersed throughout the neighborhood, side by side: "small one-story bungalows, often with just one bedroom and built decades ago, and two-story brick semidetached homes or town houses built much more recently, many in the last 10 years."<sup>24</sup> Meanwhile, at South Beach in 2009—"Why Ask for the Moon? They've Got the Beach"—Plambeck reiterated that "it was about 10 years ago that developers stepped in, replacing much of the housing stock of small bungalows with two-family colonials or town houses" and that "the changes in the later '90s caused home prices to jump."<sup>25</sup> Further down the beach in Oakwood in 2002—"Oakwood, Staten Island: City Streets, Country Feel, and a Beach"—another reporter describes how "old summer bungalows winterized for year-round living are being torn down for town houses," 250 homes had been built in the low-lying areas over the previous 5 years, and the price for a three-bedroom house in the neighborhood had nearly doubled over the same period.<sup>26</sup>

Around the same time—in the face of the rapid redevelopment described above— Mayor Bloomberg convened a task force to study overdevelopment in Staten Island, concerned not primarily with flooding or the low-lying areas in particular but with the preservation of neighborhood character throughout the island, as well as the new development's impact on infrastructure and quality of life. In 2004, the team's recommendations were adopted as the Lower Density Growth Management Area (LDGMA), a zoning overlay covering the entire island that attempts to reduce density and control growth primarily through higher site design and setback standards.<sup>27</sup> By this time, the real estate market had also already cooled somewhat, at least on the East Shore. While the changes wrought in the prior decades were widespread, by the time Superstorm Sandy arrived 62 percent of the housing stock in the area had still been constructed before the opening of the Verrazano in 1964.<sup>28</sup>

Moreover, despite the increased interest, the underlying problems of the East Shore hadn't changed. Before going on to detail the local schools and transportation options, the 2002 *Times* article on Oakwood Beach takes the time to note that "throughout the years, the beach area has often been plagued by flooding, but in the past two years the problem has been addressed. The Army Corps of Engineers replaced a berm that was eroding and planted trees and bushes, and it repaired floodgates near the sewage treatment plant."<sup>29</sup> Of course, the area's coastal protections would prove inadequate to guard against the unprecedented levels of storm surge that came with Superstorm Sandy—even a smaller storm in 2010 brought up to two feet of flooding above grade (and reports of six feet of flooding in basements) to Oakwood—and the majority of the other East Shore neighborhoods had barely any protection at all.<sup>30</sup> Indeed, even at the time of their construction the repairs of the early 2000s were viewed as a temporary fix, and even this limited measure took years of chronic flooding and advocacy to attain.

A Hostile History:

"When it was wet, they would flood, when it was dry they would burn."<sup>31</sup>

The environmental drawbacks of habitation on the East Shore have been known for some time. As early as 1871, a special commission decrying the slow growth of Staten Island compared to other New York suburbs released a "Report of a Preliminary Scheme of Improvements," suggesting an elaborate but never realized plan for the drainage of the low-lying marshlands in an effort to eradicate malaria.<sup>32</sup> The first, and most obvious, challenge was acute flooding. Among the earlier instances in the bungalow colony era, a major storm struck the area in November 1932. An article in *The New York Times* detailing the damage sustained in the borough prefigures the tribulations the Island would experience during some 80 years later, stating that "Staten Island, parts of which were more exposed to the battering of the heavy surf than was Manhattan, suffered more than the other boroughs."Focusing specifically on the East Shore, the article relates that "thousands of Summer bungalows at South, Midland, New Dorp, Oakwood and Great Kills were flooded and badly damaged... and at Midland Beach, the lowest shore-front section on the island, twenty-eight



*Fig 2.7: Oakwood in a 1950 storm. "Scenes from the Metropolitan Area," 1950.* 



Fig 2.8: Rescues During 1992 Nor'easter. Paulsen, 2012.

families, including many women and children, were rescued in rowboats and by mules and trucks early yesterday morning."<sup>33</sup> Three years later, another November storm flooded hundreds of bungalows at Midland Beach, with "half a dozen of them... in danger of being washed away" and the police once again rescuing families from their homes.<sup>34</sup>

In 1950, again in November, fifteen hundred East Shore families were rescued from flooded homes, after a storm surge left water standing between two and six feet deep in the colonies. This time, as a *New York Times* article surveying the damage explains, "the center of the trouble appeared to be at Ocean Breeze where 300 families were occupying small dwellings." The report goes on to call attention to the winterization phenomenon, as well, noting that "many of the thousands of cottages along the shore were unoccupied. but others had been insulated and equipped with furnaces for winter living because of the housing shortage."35 Similar events requiring evacuations of 700 people or more occurred in 1953 and 1955.36 In a more contemporary example, the rowboats were brought out once

again to rescue desperate families in Oakwood Beach after a Nor'easter in 1992, and, particularly given damage to coastal defenses sustained during that storm, significant flooding came to Oakwood again in 1994 and 1996.<sup>37</sup>

As if this were not enough, the area is also prone to devastating wildfires. As human development has moved into wetland areas of the Island, so has the *Phragmites australis*, an invasive Eurasian reed species that was brought from Europe to New York in the late 19th century.<sup>38</sup> Over time, the plant has steadily been crowding native wetland vegetation out of its former habitat, with the help of the degradation and fragmentation associated with increased development. Once established, the reed can grow up to 20 feet tall; during dry periods, *Phragmites* stands provide an

extraordinary quantity of fuel just waiting for a spark.

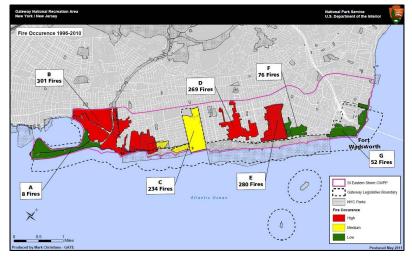
Major fires were reported on the East Shore as early as 1930, when a May blaze burned 82 summer houses in the area and scorched another 200, with "only a shift of the wind in the late afternoon sav[ing] 3,500 bungalows at South Beach and Oakwood Beach."<sup>39</sup> In the wake of a three alarm fire in the area in 1931, meanwhile, firemen reported that "boys caused such outbreaks every Saturday during the dry weather."40 Thousands of smaller or larger outbreaks of fire have been documented over the intervening years—including 103 serious, multiple-alarm brushfires between 1996 and 2010—and the entirety of the East Shore has been designated a high risk area subject to a coordinated City, State, and Federal Community Wildfire Protection Plan.<sup>41</sup> In the space of three months in 2010 alone. a six-alarm fire burned for eight hours in Great Kills park; a

five alarm fire burned 100 acres of



Times Wide World Photo. Part of the Ruined Bungalow Colony at Oakwood Beach, S. I., After a Brush Fire Had Started a General Conflagration.

Fig 2.9: Oakwood after a 1930 fire. "Scenes in the Areas," 1930.



*Fig 2.10: East Shore Wildfire Incidence. Community Wildfire Protection Plan.* 

Oakwood; and smaller fires broke out in Midland and New Dorp Beaches. In each of the first two instances, nearly 250 firefighters responded before the blaze was brought under control.<sup>42</sup>

At the same time, many areas of the East Shore struggle on a continual basis not from these acute and extreme events but from chronic flooding due to moderate rainfall and tidal action, without storm surge playing a significant role. While this issue was being discussed publicly as soon as significant development existed in the area—in 1937 a group of residents around New Creek, in Midland Beach, complained that neighborhoods were being "inundated when strong easterly or southeasterly winds blow"—it is widely held that the scale of the problem was intensified with the explosion of development in wetland areas around the time of the construction of the Verrazano Bridge.<sup>43</sup> This is due not only to the fact that new construction has placed more people in low-lying areas, but that it has often actually exacerbated the risk for pre-existing homes

in

as well, pushing water off of new, raised roads and home sites onto these parcels.

This problem was recognized in the City Planning Commission's Staten Island Development report of 1966, in which the commissioners remarked that "flood plain and drainage problems are particularly apparent in the Graham Beach, Midland Beach, and Oakwood Beach areas. These difficulties are exacerbated when homes which are built below the finally approved grades are threatened by run-off from legally conforming streets."<sup>44</sup> The City was itself facilitating the development boom that spurred this problem, however, having sold 37 acres of "swampy land" that had been acquired in rem in Oakwood Beach at auction in 1959 and another parcel of similar size again in 1965—with a more than fourteen-fold increase in price per square foot that the land commanded between the two sales.<sup>45</sup>

While the Commission did recommend and end to City "sales of land which is substandard (marshy, etc.) and which would incur high public costs to service," and took the position that "every effort must be made to develop a drainage system on the marshy east shore that will protect existing development which was built below grade," they also recognized a perception that would haunt the City's dealings with the Island through to the present day, and would become particularly palpable in the wake of Superstorm Sandy.<sup>46</sup> "In the scale of things," the report's authors wrote, "the Staten Island development problem is not the single most important issue confronting the City of New York at this time. It cannot be assigned unlimited fiscal and manpower resources, nor should it. If it is to be dealt with along with the City's other massive problems, it would have to be assigned a priority too low to be of any effective use." They recommended, instead, that a local body be appointed to oversee the development problem, headed by the new office of Staten Island Development Coordinator.<sup>47</sup> It does not appear that this position was ever created.

Of course, since the sixties, the issues in the area have only been magnified. In some areas, the problem described by the Commission—with streets actually above the grade of the homes that front them—is quite a visible demonstration of the impact of continued development. In others, new construction has affected existing properties in a less immediately noticeable way, by creating higher burdens on existing stormwater drainage systems and decreasing the



*Fig 2.11: Below-Grade Ocean Breeze bungalows. Author's Photograph.* 

naturally absorptive power of wetlands. The New York Rising Community Reconstruction (NYRCR) Plan for the East and South Shores of Staten Island, a State-initiated resiliency planning effort inaugurated after Sandy, identified five key factors that made the area so particularly vulnerable during the storm, of which the aforementioned problems were two. The report cites the impact of "development in wetlands and areas that would have served as natural drainage reduced the ability for the landscape to absorb storm and flood waters." In addition, the authors explain that "storm drain systems are inadequate or non-existent in many areas." This is due at least in part to the fact that "rapid development and lack of planning during a period of extreme growth led to overdevelopment across Staten Island," meaning that "while new homes were constructed infrastructure did not—and in most cases has not—kept up with pace of new development."<sup>48</sup>

Some, like planner and economist Professor Jonathan Peters of the College of Staten Island, a blame the City for a lax regime of oversight in allowing vulnerable parcels to be developed, contending that "smaller development on parcels [in sensitive areas] often slipped under the radar," "developers were often granted variances to facilitate construction," and "the tangle of federal and state law, and city code was difficult to interpret and enforce."<sup>49</sup> In 2005, when a City official with the mayor's office visited Oakwood, he found issues at least with this enforcement component, discovering "obvious" evidence of wetlands being filled in contravention of State law.<sup>50</sup> Former Department of Environmental Protection Commissioner Albert Appleton has remarked on this phenomon, as well, contending that the marshy areas of the East Shore were "aggressively targeted by home developers in the seventies and eighties," who built septic tanks for areas that were not served by sanitary sewers despite the high water table and adopted a policy of "build first and pay a fine later" in response to ineffectual enforcement of freshwater wetland regulations from the New York State Department of Environmental Conservation.<sup>51</sup>

Whether or not the regulations were properly calibrated and enforced, however, for many years the City was not even following the recommendation in its own report of 1966 suggesting that it cease making flood-prone, city-owned land available for development; in 1997, the City sold off a wetland parcel in Oakwood Beach to a developer of townhouses. As Appleton recounts, this was common practice—the city "routinely sold land to developers without environmental restrictions, anxious for the revenue from such sales and also believing that promoting residential development on Staten Island was a way to keep middle class families in the City." <sup>52</sup> This parcel was not only just another piece of marshland reclaimed for development, however, but lay in the path of a



*Fig 2.12: Proposed Levee (left, Schuerman, 2013) and Subsequent Townhouse Development (right, Google Maps), with Parcel Outlined.* 

proposed U.S. Army Corps of Engineers levee to protect the neighborhood, which was scrapped after the development was approved.<sup>53</sup> This brings us to the third vulnerability identified by the NYRCR report, beyond the unique circumstances of the storm's path, timing, and intensity and the approximately one and a half feet of sea level rise that had occurred over the past 200 years: "inadequate... [and] discontinuous natural and manmade coastal protection systems along the shoreline."<sup>54</sup>

Barriers to Barriers: "A report would be published soon."<sup>55</sup>

The issue of structural flood protections for East Shore communities has been one of continuing debate and scattershot implementation—starting studies, stopping studies, building temporary protections, enacting temporary repairs to temporary protections—for the better part of a century. Locals were petitioning the Army Corps for flood protection around New Creek in Midland Beach as early as 1937. "Houses have been built in the territory between South and Midland Beaches and inland from Garretson to Grant City in terrain which the engineers consider a tidal flat," a report on the hearing explained. "Some of the flat has been filled in, but most of it is lowland and is inundated when strong easterly or southeasterly winds blow." In a response that would become all-too-familiar to residents of the area in the ensuring decades, the article summarizes the Army Corps' response in one sentence: "Major Hyde said that a report would be published soon."<sup>56</sup>

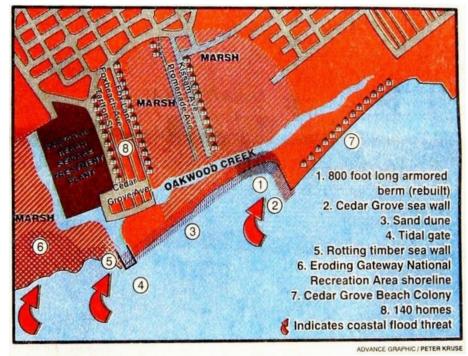
Comprehensive planning began in earnest in 1954, when, after a series of damaging storms, the Army Corps began studying coastal protections for several areas of the New York City shoreline. After a reinvigoration following 1960's Hurricane Donna, the Army Corps released its first comprehensive report on the East Shore in 1964, recommending a 15-foot levee for Oakwood Beach and Midland Beach, as well as a less intensive set of dunes, levees, and jetties for the entire thirteen-mile stretch of the East and South Shores fronting the Atlantic, between Fort Wadsworth and Tottenville. With no action taken, however, the Corps revisited the issue in 1976, this time recommending that the full levee be extended north from Midland to Fort Wadsworth, encompassing the entirety of the East Shore.<sup>57</sup> In the depths of the financial crisis that gripped New York through much of the 1970s, however, the City was not interested in providing the 10 percent contribution toward the cost of the project that the federal government would have required, at a cost of \$2 to \$3 million.<sup>58</sup> Renewed funding did not arrive until 1995, and the process to update the study did not begin before 2000. The new study's target completion date was initially set for 2004, but later pushed back to 2006. According to Corps spokesperson Chris Gardner, however, that year funding came to "a complete grinding halt," before the study could be completed. The study received new funding in 2008 and further funding from the federal stimulus in 2009, with a target release date of 2013.59 Finally, with the infusion of federal funds disbursed in the wake of Superstorm Sandy, it seems the study has received enough support and attention to be completed. A draft version of Phase I, covering the East Shore, is due in the spring of 2015, with a final version slated for release a year later. What's more, the necessary funds to construct the project have already been allocated at both the national and local levels (an estimated cost of \$500 million, with 65 percent funded by the federal government and 35 percent split between the City and the State).<sup>60</sup> In the interim, the Army Corps has used disaster recovery funding to build a temporary

berm along the entire beachfront of the East Shore, completed in 2013.

With the promised comprehensive solution proceding in fits and starts at best prior to Sandy, communities have attempted to receive more localized protection. Thanks in part to vocal local advocates, Oakwood has constructed more than most; still, however, its residents' struggles are illustrative. In August 1955, with Hurricane Connie looming and concerns about erosion that had already occurred at the beach, Staten Island Borough President Albert Moniscalco ordered the construction of a ten-foot-high, mile-long "sand dike" at the end of Kissam Avenue. While the barrier survived that storm, however, it failed two months later, sending flood waters surging into 200 homes. In a press conference following the breach, the Mayor said that the city "would seek to solve the Oakwood Beach problem both on a temporary and a permanent basis... [and confer] on the possibility of getting state or Federal funds, or both, for the permanent job."<sup>61</sup>

By 1992 the neighborhood had received a timber seawall, but the structure was destroyed in that year's nor'easter. In the wake of the storm, the neighborhood officially organized its first flood advocacy group, the Flood Victims Committee, actively lobbying to receive better protections. Though a plan to replace the damaged seawall in response to this pressure was in the works as early as 1995, however, the original scope of the project, after many delays, had to be revised after the City's aforementioned sale and the subsequent development of the parcel.<sup>62</sup> Meanwhile, the same nor'easter damaged the modern descendant of the Kissam Avenue sand dike and another nearby sea wall at operated by the Parks Department, and they were degraded further by a storm in 1996. These latter facilities were rebuilt, and the dike raised, in the late 1990s; around the same time, the Army Corps began construction on the nearby 780 foot long, 10-foot high levee to serve as a temporary solution to the breach of the other sea wall, which was completed in 2000. In 2009, however, one of the area's brushfires, burning 40 acres, set the Parks Department's wall ablaze.<sup>63</sup>

In 2010, before the Department was able to repair the structure, a March storm sent waves both through the holes that had been seared through the structure and over the sand dike, causing up to two feet of flooding in Oakwood. Finally, on October 26, 2012, the *Staten Island Advance* Editorial Board published an article applauding two local councilmen's recent success in including funding for a revetment and beach grass plantings to replace the damaged bulkhead



*Fig 2.13: Oakwood Beach Coastal Protections and Hazards. Gottlieb, 2014.* 

in the 2013 municipal budget for the Parks Department. With \$500,000 allocated, the project was scheduled to be completed in the spring of 2014. Superstorm Sandy arrived three days later.<sup>64</sup>

Marshalling the Marshes: "The only viable solution to Staten Island's chronic flooding problems."<sup>65</sup>

In this history of overdevelopment, environmental challenges, and struggles to obtain adequate infrastructure, however, at least one program does stand out—an award winning and oft-cited model for sustainable development known as the Staten Island Bluebelt. The Bluebelt's fundamental premise is simple. As Albert Appleton, the DEP Commissioner who inaugurated the program, put it: "nature has been managing floodwater successfully for a long time."<sup>66</sup> Under this premise, the Bluebelt program identifies wetland parcels critical to a given watershed, purchases them if they are not already under city ownership, preserves or restores them, and directs stormwater runoff into them—after routing it through "best management practices," or BMPs, that reduce the velocity of the incoming flow and help to remove contaminants before they enter the natural system.

Appleton was appointed Commissioner of the New York City Department of Environmental Protection in 1990, a time when "Staten Island was in an uproar over residential flooding in newly developed neighborhoods, but the cost and time required to provide all of those neighborhoods with traditional storm sewers would have been prohibitive," partly because the Island's lowdensity development pattern produced much less water and sewer tariff revenue than it cost to service the borough. Fresh off his experience assisting with the development Staten Island Greenbelt, a popular program that had preserved sensitive areas in the Island's heights, and influenced by work that both Ian McHarg and Frederick Law Olmsted had done examining



*Fig 2.13: Staten Island Bluebelt Watersheds. New York City Department of Environmental Protection, n.d.* 

ways that the Island's many ecological assets could be integrated with human development, Appleton proposed the Bluebelt program soon after being appointed.<sup>67</sup> Appleton may or may not have been aware that his idea was not entirely new. The Planning Commission's "Policies, Programs, Priorities" report seems to have alluded to a similar concept 24 years earlier, when a special study was undertaken by the Borough President to determine if "other means to handle the natural run-off can be substituted for conventional storm sewers in these [East Shore] areas... [in which] it may prove possible to create natural drainage ponds which might have recreational features as well."68

In this case, things moved remarkably quickly. Starting on the South Shore, a quite favorable cost-benefit analysis was completed on a test watershed, and approvals were granted on the first pilot project that same year. Within three years, DEP had purchased many acres of privately held, vacant wetland parcels, and the system covered the watersheds of three different stream corridors. Today, the vision for the natural drainage network of the South Shore is completely built out.<sup>69</sup> Compared to the coastal protections, there are a number of reasons why this a solution to chronic, stormwater flooding may have been achieved more quickly. Chief among these are likely the much smaller scope and cost, more amenable to an incremental approach; and the ability to proceed with local jurisdiction and funding, without relying on the federal government. Important, too, however, are the environmental preservation achieved as a side benefit of the project and, as per Appleton, the widespread support of local residents. According to Professor Peters' report, both of these last two factors had played a role in slowing the progress of coastal protections—as environmental groups and residents alike had registered objections to elements of the 1976 Army Corps plan.<sup>70</sup>

Work to expand the system to the East Shore, however, has progressed more slowly. Planning for this section of the network—dubbed the Mid-Island Bluebelt—began approximately 10 years ago and, once complete, would encompass three discrete projects in the Oakwood Beach, New Creek, and South Beach watersheds. As Dana Gumb, who was recruited from the Department of City Planning to implement the Blubelt program in its inaugural year and remains its director to this day, explains it, while eminent domain was used to acquire the properties on the South Shore, that has become much more difficult for the Mid-Island project. "It was so much easier to buy property down here [on the South Shore]," he related. "We condemned it, we took it by eminent domain, there was a reasonable settlement, and people got their money and everybody was happy. Here [on the East Shore]—I don't know what happened, whether attorneys... got involved. It's become very difficult, the prices are going through the roof... So we're trying very hard to do as many negotiated sales as we possibly can."<sup>71</sup> Like the Army Corps study, the Bluebelt expansion has been reinvigorated in the wake of Sandy. Though it serves primarily to protect from freshwater flooding, which was not a significant issue during the storm, it has been tied into both the renewed levee proposal and, as I will explain in the next chapter, the acquisitions and buyout programs rolled out to East Shore homeowners.

#### A Future Shaped by the Past

The East Shore's history has loomed large in the wake of Superstorm Sandy—determinitive, in many ways, of both the path that recovery in the area has taken thus far and the options available to residents of the region moving forward. Perhaps the most oft-cited of these influences is the area's prior experience with both daily environmental struggles and periodic disaster. Both in the literature on retreat generally and in observations about the situation on the East Shore in particular, many contend that a prior history of repetitive loss is and was instrumental in shaping residents' willingness to consider and even advocate for acquisition. The past plays an important role in the story in others ways, too, however.

The area's history as a summer bungalow colony not only contributed in large part to its vulnerability to the storm—as older, wooden structures were especially at risk citywide—but continues to shape the landscape of potential interventions in the region, as the small lots, poor infrastructure, and narrow roads that are a legacy of the resort era have in many cases placed severe limits on the redevelopment options available. One route to surmounting these constraints,

currently being considered by the City, is to attempt to combine lots to build larger, more resilient housing typologies. Here again, the past is a reminder: as much the same time of typological change, and associated demographic change, was being driven by the private market in the area throughout the 1990s. Some at the City have accordingly expressed the belief that, years from now, Sandy may not ultimately be seen as a major inflection point for the fabric of the East Shore, as any lot combination and typological change undertaken by the City as part of the recovery process will simply be an extension of the market-driven processes that had already begun decades prior. Moving forward, however, it will be important to consider whether the government should be actively contributing to this process, and whether there is any way to achieve a balance between resiliency, affordability, and neighbrhood stability.

In looking to the past, it is also worth noting that despite the myriad environmental challenges described in this chapter, it would be unfair to characterize the East Shore's residents as foolish for having put themselves in harm's way—a narrative that can often be promulgated in conversations about post-disaster redevelopment. Many of the area's families have been in their homes for generations, and as many came to the area out of a desire to live by the sea as were driven there by a quest for the cheapest housing available. What's more, over the years residents have been proferred plan after plan promising to address the situation.

As a final point, that these plans and others never materialized is important to remember in the post-Sandy context, too. One of Staten Island's nicknames is the "forgotten borough," and its residents have long felt aggrieved by their relationship to the rest of the City and its government. As explored earlier in the chapter, the 1966 Planning Commission report referred to the Island as the "frontier" and, despite the special attention being paid to the borough for the duration of the study, the Commission clearly stated that "if it [Staten Island's development problem] is to be dealt with along with the City's other massive problems, it would have to be assigned a priority too low to be of any effective use." One of the borough's representatives in the State Senate, Andrew Lanza, has summarized the feelings of many in describing Staten Island as "get[ting] the short end of the stick, year after year, decade after decade." This is because, he contends, "being the smallest part of a large city, we always have to settle for crumbs. The focus is always on the other four boroughs. We have to fight twice as hard to get half as much."<sup>71</sup>

Such sentiment drove Islanders so far as to hold a referendum on secession from the City, in 1993—which passed by a 2-to-1 margin. This adversarial relationship played and continues to play a role in residents' perceptions of the recovery options available to them and their neighborhoods after the storm. According to some I interviewed, a lack of faith in ongoing support from City government was a motivating factor in some residents' decisions to consider acquisition. Mistrust of the City has also played a role in how the City's recovery program, Build it Back, has been received, and helped to exacerbate intergovernmental tensions between the City and the State. All of these issues, and others, will come to light in the chapters to come, as I begin to examine the damage wrought by Superstorm Sandy and the government's response.

# **CHAPTER THREE:** The Superstorm

Sandy's Surging Seas:

"The biggest wave I've ever seen starts coming, I started screaming, and water started coming into the house."<sup>1</sup>

Superstorm Sandy struck New York City on October 29, 2012. While the hurricane crippled much of the region, some areas were impacted much more heavily than others—with the East Shore among the most thoroughly devastated. The historical development patterns and environmental factors outlined in the previous chapter, including these neighborhoods' older buildings, low-lying topography, and general lack of adequate coastal protections, all contributed to the storm's destructive impacts. So, too, did a combination of Staten Island's geographical position within the New York Bight and Sandy's particular timing and path as it made its way ashore. Though previous hurricanes had brought more rain and stronger winds to the City and the Island, Sandy's storm surge—an elevated water level created by high winds piling water on top of a "bulge" in the ocean created by the low atmospheric pressure under the storm's eye—was unprecedented, and catastrophic.

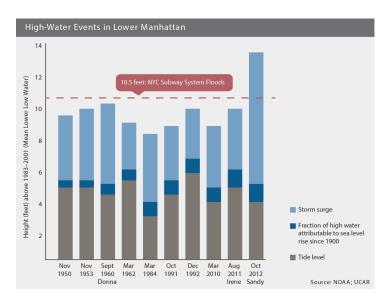
While most Atlantic hurricanes travel along the Eastern Seaboard parallel to the coastline, Sandy blew into New York Harbor almost entirely perpendicularly, an extremely rare trajectory calculated in one study as likely to recur only once every 714 years. Several factors combined to shape this unusual path, including an adjacent weather pattern preventing the storm from dissipating out to sea and a shift in the usual course of the jet stream that drove the system inland. The resulting angle of approach put the New York area in line with the massive storm's northeast quadrant, where forward movement and internal wind speed combined to create the greatest amount of surge.<sup>2</sup>

Like many of the City's hardest-hit areas, the East Shore is directly exposed to the Atlantic Ocean, and thus was bared to the brunt of the storm as it travelled directly inland. In addition, Sandy arrived at the peak of both the daily and the monthly tidal cycles of the Atlantic in New York Harbor, with water levels up to five and a half feet higher than the average low tide on top of background sea levels that have already risen a foot since the early 1900s due to climate change.<sup>3</sup>

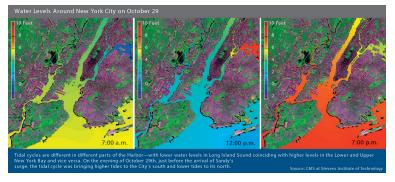
As a point of comparison, high tide in the Atlantic corresponds with low tide in Long Island Sound—a fact that helps to account for the lesser level of devastation seen in vulnerable neighborhoods of the Bronx, northern Manhattan, and northern Queens relative to Staten Island, southern Brooklyn and Queens, and lower Manhattan.

What's more, the peninsulas of Sandy Hook, New Jersey and Breezy Point, Queens create a funnel in the Bight that directs waters from the open ocean directly to the East Shore, increasing the height and intensity of the surge as it moves through the narrowing and increasingly shallow Lower Bay.<sup>4</sup> All of these factors combined to make the East Shore—an already geologically and socially vulnerable area—the site of some of the greatest levels of storm surge in the City. While Sandy's historic levels are usually reported at 14 feet, this is the reading taken from the gauge at the Battery, in lower Manhattan. In the waterways off of Staten Island, surge levels were reportedly up to five feet higher.⁵

This massive surge brought intense waves and coastal flooding to the East Shore, resulting in extensive loss of life and property. Overall, Staten Island saw the greatest proportion of its residents impacted of any of the five boroughs, with 16 percent of the population residing in the inundated area.<sup>6</sup> Twenty-three of the fatalities attributed to the storm occurred on the Island and seventeen of these, representing nearly 40 percent of the City's total,



*Fig 3.1: Historic Surge Graph. Special Initiative for Rebuilding and Resiliency, 2013.* 



*Fig 3.2: Sandy Surge Map. Special Initiative for Rebuilding and Resiliency, 2013.* 

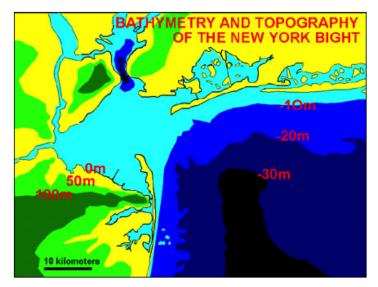


Fig 3.3: New York Bight. U.S. Geological Survey, 2015.



Fig 3.4: Destroyed Bungalow. Kashi, 2012.

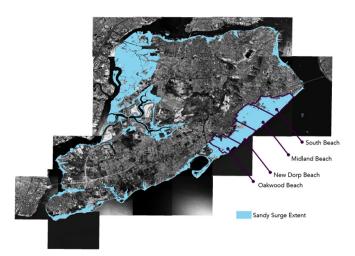


Fig 3.5: Sandy Inundation. Map by author, data from NOAA.

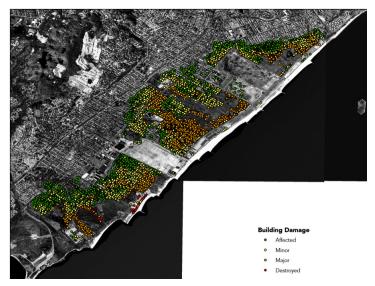


Fig 3.5: Building Damage. Map by author, data from FEMA.

occurred in Oakwood Beach, New Dorp Beach, Midland Beach, and South Beach.<sup>7</sup> A number of older residents were drowned in their homes and, in Midland Beach, two young children were washed out of their mother's arms as the family tried to flee. Meanwhile, more than 8,500 buildings on the East Shore were declared damaged by FEMA, with 2,787 classified as sustaining major damage and 71 classified as destroyed.<sup>8</sup> Flooding was reported in some areas to within a foot of the ceiling on the first floor, and a number of residents had to be rescued from their rooftops. In Oakwood Beach, some bungalows were ripped clear off of their foundations, deposited in adjacent marshlands.9

In reviewing the destruction, the City's analysts would find that areas of the city like the East Shore that were directly exposed to wave action, rather than still-water flooding alone, had sustained by far the greatest damage. In addition, of all building typologies in the city, the bungalow was found to be the most heavily impacted. As explained in the Special Initiative for Rebuilding and Resiliency report, "the building type most vulnerable to Sandy's effects turned out to be 1-story combustible buildings constructed before 1961—including bungalows found in many coastal areas of the city... structures of this type were approximately four times more likely to sustain severe damage than their share in the inundation area would suggest."<sup>10</sup> One local architect related that, driving around the area

after the storm, he could identify which East Shore homes were built in which era—with pockets of homes developed after the 1983 building code, which first incorporated FEMA flood maps and explicit flood resiliency standards, in relatively good shape; pockets built after the 1968 building code, which contained increased general safety standards, sustaining moderate damage; and those built prior often totally destroyed."

Dealing with Disaster: "Building back better and smarter."<sup>12</sup>

As in much of the city, immediate assistance to East Shore residents in the wake of the storm was often provided by the volunteer efforts of neighbors and local community and faith organizations. Indeed, in the early days, many felt that this was not only a moral obligation, but a necessity—as they felt a lack of visible presence from FEMA and the Red Cross and a paucity of attention from City Hall. Rightly or no, there was a perception on Staten Island that once again, the "forgotten borough" was being passed over in order to focus on more central, richer, and higher-profile areas of the City.<sup>13</sup> "The city of New York right now is talking about getting water out of the Battery Tunnel and preparing for a marathon," bemoaned U.S. Representative Michael Grimm at a November 1 press conference on the Island. "We're pulling bodies out of the water. You see the disconnect here?"<sup>14</sup> In terms of the ongoing process of recovery and redevelopment, whether or not the City and relief organizations responded to all neighborhoods equally rapidly in some ways matters less than residents' reading of the situation and its politics, which would continue to color their stance toward the City's future efforts.

Regardless of exactly when it arrived on the East Shore, a far-ranging package of relief programs for impacted residents and businesses did ultimately roll out in relatively short order. On October 28, the day before Sandy's landfall, President Obama signed an emergency declaration that authorized funding to Connecticut, Washington DC, Maryland, Massachusetts, New Jersey, and New York for the provision of immediate life-saving and sustaining activities, and representatives from myriad federal agencies from the National Guard to the Department of Energy were deployed across the affected region to provide direct assistance and high-level coordination. On October 30, the President followed up his initial action by declaring a "major disaster" in New York, Connecticut, and New Jersey, authorizing individuals to apply directly for federal assistance from FEMA.

Meanwhile, both in the lead up to and aftermath of the storm, the City initiated efforts to provide a broad range of services, including emergency shelter, neighborhood clean-up and debris removal, assessments of building damage, mobile health care units, business recovery programs, loans for building repair, rental assistance, and more. Through this process, it quickly became clear that the scope of the residential damage and displacement brought on by the storm was one of the City's most pressing challenges. Recognizing this, Mayor Michael Bloomberg signed an executive order establishing the Office of Housing Recovery Operations (HRO) on November 13, with a mandate to "coordinate City operations related to housing issues for residents of New York City who were displaced by the recent severe storm and... develop and implement a comprehensive plan to provide housing solutions for them."<sup>15</sup> According to an interviewee subsequently involved in administering some of the city's housing recovery programs, the Office was founded primarily in order that a single agency could be responsible for representing the City's housing recovery efforts

to the federal government—as federal rules are most stringent in the area of housing, and ensuring compliance is time-consuming. Approximately one week later, the City launched the Rapid Repairs program, a local adaptation of the federal Sheltering and Temporary Power (STEP) initiative which provided free emergency repairs for impacted residential properties—enough to allow people to safely stay in their units while awaiting more major rehabilitation. Over the course of the following four months, approximately 2,300 properties on Staten Island participated in the program.<sup>16</sup>

At the same time, the City was also beginning to develop plans for longer-term recovery and future protection. In December, Mayor Bloomberg convened the Special Initiative for Rebuilding and Resiliency, tasked with producing a plan to help guard New York City against future storms and the continuing impacts of climate change. Meanwhile, the administration began to move forward with efforts aimed specifically at repairing the city's housing stock and providing relief to displaced residents, hiring the Boston Consulting Group in early 2013 to help design such a program. For one-to-four family buildings, this initiative would eventually be dubbed Build it Back.

Meanwhile, gridlock in Washington was delaying the availability of federal funding for the recovery effort, with the Disaster Relief Appropriations Act not ultimately signed into law until January 29, 2013. When it was finally authorized, the Act released more than \$60 billion in aid to affected communities, including \$16 billion in funding for the Department of Housing and Urban Development's (HUD) Community Development Block Grant—Disaster Recovery (CDBG-DR) program, which provided grants in excess of \$3 billion for both the City and the State of New York.<sup>17</sup> Both the City and the State would go on to use these funds to support their housing recovery operations. In accordance with CDBG-DR rules, however, before funding can be disbursed HUD must produce a document outlining the rules governing its use, published as a notice in the Federal Register. Grantees then have to submit and receive approval on an "Action Plan," detailing their proposed uses of the grant and these activities' compliance with the aforementioned rules. HUD published its notice in the register in March of 2013, the State released its Action Plan the following month, and the City released its plan the month after.

Along with its many other existing and proposed recovery programs seeking federal funding, the City uses its Action Plan to describe the developing design of Build it Back, then going by the name of NYC Houses Rehabilitation and Reconstruction. The plan defines the three "Core Paths" to be offered to participating owners of one-to-four family properties: reconstruction, for cases in which the structure has been completely destroyed or would be more expensive to repair than rebuild; rehabilitation, for cases in which the property has not been destroyed but has been "substantially damaged" (a technical definition, meaning that the structure has lost more than 50 percent of its value); and rehabilitation, for cases in which the property was impacted by the storm but not substantially damaged. Under the program, substantially damaged homes qualify for mitigation against future risks—the most common of which is elevation. The Plan goes on to outline the City's intention to participants with restricted grants that would allow them to pay City-selected private contractors to pursue the necessary work under one of these three paths.<sup>18</sup>

The City also details several "additional paths," described as "second priority options." One of these is Acquisition for Redevelopment, described as "a program path to acquire properties for the rehabilitation or reconstruction of a home or cluster of homes in ways that mitigate future risks in limited and targeted cases... [where] such potential 'smart' redevelopment would likely be limited to areas specifically targeted for this purpose by the City and community." The Plan goes on to describe that the program will offer fair-market, post-storm value for property owners (in accordance with HUD regulations) and that participation is entirely voluntary, urging the reader to "please note that the City will not use eminent domain for this activity."<sup>9</sup>

The plan also describes another additional pathway: Buyouts. Under the HUD definition and regulations, a property acquired through a buyout, unlike an acquisition, can never be redeveloped, and must remain as open space in perpetuity. As for these buyouts, the Plan describes that:

The city believes that buyouts can be an important component of an overall housing mitigation and resilience strategy in selected areas, alongside the resilience measures outlined elsewhere in this proposed Action Plan. The City has developed a set of risk-based criteria that would make areas eligible for buyouts in New York City, and will work closely with New York State on advancing the program included in their Action Plan in targeted areas that meet these criteria.<sup>20</sup>

The State's Action Plan describes the State's primary goal as "building back better and smarter... us[ing] the opportunity not to replace damaged buildings with the same structures, but to invest in additional mitigation to prevent similar damage from recurring."<sup>21</sup>Like the City, the State outlines a broad variety of programs it intends to operate with HUD funding, both within the realm of housing assistance and more broadly in areas such as economic development and infrastructure. In each of these areas outside of the buyouts for homes damaged by Hurricane Sandy (the Plan also covers damage from Hurricane Irene and Tropical Storm Lee), the State presents its programs and analysis for impacted counties and municipalities outside of New York City. In the buyouts section, however, the Plan asks the reader to "note that analysis... *includes* New York City, since New York City homeowners in certain areas who meet the applicable criteria are eligible for the State-run Buyout program" [emphasis original].<sup>22</sup>

The program proposed in the plan, labeled the Recreate NY Home Buyout Program and later renamed the New York Rising Buyout and Acquisition Programs, includes both "standard buyouts"—similar to the Acquisition for Redevelopment program, and considered an "acquisition" for HUD's purposes in that it allows for property to be "redeveloped in a resilient manner rather than remain undeveloped in perpetuity"—and "enhanced buyouts." This latter offering is that referred to in the City's plan, in which homes "in select, pre-defined targeted buyout areas, which will be determined in consultation with county and local governments" are eligible to be purchased at pre-storm fair market value in order to remove development from the area permanently. In these zones, property owners are also eligible to receive an additional 15 percent of the pre-storm value of their home in further incentives, including a 10 percent "enhanced buyout incentive" automatically calculated into the State's offer in order to encourage "the maximum level of homeowner participation... so that as much land as possible within these areas can be returned to and reclaimed by nature... as the number of properties involved will need to be significant in these areas to produce the intended outcome" and a 5 percent incentive for those who relocate to a new permanent residence within the five boroughs (or, elsewhere in the State, within the same county).<sup>23</sup> Though this language and much of the rhetoric that would come to surround the program was focused on the idea of areas being "returned to and reclaimed by nature," the program does also allow for some recreational uses on the acquired land.

The State began "pre-registration" for its programs in February of 2013, the City opened

Build it Back registration in June, and both the City and the State would announce their first home acquisitions on Staten Island in October. In the months between the programs' launches and the acquisitions and the years since these acquisitions began, however, this bifurcation between the City and State governments has created confusion among Staten Island homeowners about their options, contributed to considerable antagonism between the two levels of government and between each and residents, and has created a muddled vision for the future of the communities of the East Shore. While it may be true that the State Buyout areas were "determined in consultation with county and local governments" in that the City "developed a set of risk-based criteria that would make areas eligible... [and planned to] work closely with New York State on advancing the program," any collaboration along these lines occurred after the Governor had already announced his plans to offer such a program to the East Shore—indeed, as I will explain in the next chapter, community members specifically worked around City opposition in order to gain approval for the program with the State.

## **CHAPTER FOUR:** Parcels That Mother Nature Owns

#### Buy-in for Buyouts:

"We've got a really small window to make a decision as a community what we want."1

The story of how the State came to view its federally funded recovery mandate as applicable only to localities outside of New York City in every area *except* for the buyouts is rooted in a history of concentrated lobbying and advocacy at the neighborhood level, particularly in Oakwood Beach—advocacy that stretches back nearly two decades before Sandy's arrival, to the nor'easter of 1992. During that storm, floodwaters destroyed coastal protections, damaged homes, and washed away cars, and residents in Oakwood had to be evacuated in rowboats. In its wake, a group of neighbors came together as the Oakwood Beach Flood Victims Committee to try to address the situation. Even at this stage, there was some discussion of buyouts among the remedies considered for the neighborhood. As one community member involved in the discussions described it, the question was raised, but dropped due to a perceived lack of interest: "We did a little bit of research and we did find out about buyouts at the time. But we kind of said 'Nobody's going to go for this,' people weren't really open to different things."<sup>2</sup> According to Alex Zablocki of the Governor's Office of Storm Recovery, the discussion went further—far enough to come to the attention of then-Governor Mario Cuomo, Andrew Cuomo's father, at which point it was dropped due to a lack of funding.<sup>3</sup>

Whatever the reason, the Committee turned its attention to coastal protections in relatively short order. Reflecting on the dynamics of the nor'easter, as well as accounts of the previous major flood events of the fifties tendered by long-time residents, the Committee drew up a list of interventions they believed would protect the neighborhood during future severe weather: dredging of the local creek and repairs to its tide gate; an improved berm, reinforced with a stone revetment and beach grass plantings; and beach nourishment. The group attempted to bring together City, State, and federal agencies that might be able to help, but, according to the community member I interviewed, the initial response was not positive: "There's nothing we can do for you," they were told. "You live where you live and you have to deal with it."<sup>4</sup> The Committee was able to soften this position with persistent pressure, but progress came slowly. Funding was

eventually appropriated at the federal level to investigate the problem, but it took several years for the study to officially get underway, and several more years passed before construction began. All told, eight years elapsed between the nor'easter of 1992 and the construction of the Army Corps' "emergency" levee project, designed as temporary measure of protection, in 2000.

During this period, the Department of Environmental Protection was also working to expand the Bluebelt from its successful debut in the South Shore to the East Shore, and had been holding public meetings and sharing plans for a set of interventions planned in Oakwood Beach. Rather than welcome the drainage improvements, however, at least some portion of the residents of the area were concerned about the impact the network would have on their neighborhood. Again, as the community member I interviewed explains it:

We were against the Bluebelt, the community... we kept saying 'You're not making any provisions for the people that live here. You're bringing more water in from higher elevations, runoff water, when we've got the shoreline water that we've got a problem with... It's going to make it worse for us!<sup>5</sup>

Thus, by the time Superstorm Sandy rolled in, the activists engaging the government about the neighborhood's coastal vulnerability were considering three factors that would shape their response to the storm: the history of flooding; the considerable amount of time it took for the community to receive even the emergency, temporary flood protections that were ultimately no match for a storm of Sandy's size and ferocity; and the plans to bring the Bluebelt to Oakwood. Given these factors, the path forward seemed obvious. "Knowing that they [the City] were intent on bringing water in anyway, knowing what the history was," explained the community member, "we said, 'You know what, now's the time to start talking about that buyout we talked about back in '92!"<sup>6</sup>

Accordingly, a group of property owners including five members of the original Flood Victims Committee came together to study the buyout option and advocate for it amongst their neighbors, ultimately rechristening themselves the Oakwood Beach Buyout Committee. Two of the Committee members had lost relatives to Sandy. Within the first few weeks after the storm, in November, the Committee made a pitch for the idea at a community meeting at the nearby St. Charles Church. As the community member I spoke with explains it, they went in to the meeting with the understanding that they had a narrow window of opportunity in which the neighborhood could come together and develop a shared vision of the relief they sought, before various branches of government developed their own approaches that would be difficult to counter. Accordingly, they made the case in front of their neighbors. "Either we stay and... it's going to be a long time before we know what's going to happen, because the scope and the magnitude of this is so big we cannot rely on the current administration or any administration to really guide us, because they've never dealt with this before," Committee members explained, "or, we can go this route, and pursue a buyout."<sup>7</sup> According to several sources, when the assembled crowd was asked whether they were interested in learning more about this possibility, a sea of approximately 400 residents—including some from neighboring communities—raised their hands nearly unanimously.8

Such a high level of interest in post-Sandy buyouts amongst the community at large was quite unique in the City of New York. As Cecilia Kushner, the Department of City Planning's Deputy Director for Flood Resilience, explains, "the vast, vast majority of people who are interested in

acquisition [including buyouts] are on Staten Island. There's a psychology to the East Shore that you don't see in South Brooklyn or in the Rockaways, for example... Staten Island is responding differently than other areas which at face value have the same types of issues in terms of vulnerability and the housing stock and things like that."<sup>9</sup> Sherri Brokopp-Binder, a community psychologist, studied the differing responses in Oakwood and Breezy Point, in the Rockaways, a community that was adamantly opposed to relocation. In her mind, though the neighborhood was home to many long-term, working class residents who were very attached to their neighborhood and homes, this attachment was overcome by a sense of safety had simply been completely destroyed. This feeling was due not only to the immediate devastation wrought by Sandy, but the sense that nothing could be done to prevent future damage: with not only the previous nor'easter, but the inadequacy of the response, the feeling that new development in the area was exacerbating the chronic flooding and wildfire problems, and concerns about potential contamination that may have emanated from the nearby wastewater treatment plant during the storm.<sup>10</sup> As Len Garcia-Duran, planning director for Staten Island explained it, these feelings were also tied to the consistent perception that the neighborhood's problems were not taken seriously:

By the time Sandy hits and it floods these areas, I think people just sort of said—despite all of the benefits of living near the water, and on their own little piece of land, and not having people bother them, they realized that the benefits of not having people or the City bother them was also at the cost of not having people or the City assist them."

The Committee began meeting weekly, undertaking a concerted effort to convince both the government and their neighbors that the buyout was the right course of action. Early on, Committee members encouraged residents not to return to their homes, as FEMA was providing temporary housing assistance at that time, and members were concerned that "if Mrs. O'Grady who is not really motivated to leave the only home she's lived in for 50 years, if you stick her back in her home and put heat and hot water back on, she's not going to leave again."<sup>12</sup> At the same time, Committee members were researching recent buyout initiatives in other communities—communicating extensively with the Randy Douglas, the town supervisor of Jay, New York, which had offered a State-sponsored buyout in the wake of Hurricane Irene—and reaching out to their elected officials. Early on, it became clear to members of the committee that the City was not interested in supporting their proposal. Members took the plan first to the office of the Borough President on Staten Island. According to different Committee members I spoke with, the President Molinaro's administration was either outright opposed or believed that it lacked the political clout to be an effect champion for the project. After meetings with several other officials including the City Council Speaker Christine Quinn, the Committee concluded that the Mayor's office would not be supportive, either—an impression backed up by Bloomberg's later statements during the unveiling of the Special Initiative for Rebuilding and Resiliency report, A Stronger More Resilient New York. "As New Yorkers, we cannot and will not abandon our waterfront," the Mayor stated unequivocally. "It's one of our greatest assets. We must protect it, not retreat from it."

Accordingly, Committee members decided to bypass the City entirely, taking their case to the Governor. As the Oakwood resident I spoke with relates it:

We were told 'If you go to the City, the Mayor is going to shoot you down, he's going to say

no.' So we said: 'We're going to go over the City's head'... we were a little apprehensive at first, because it's almost like kids getting punished for overstepping Mom to get to Dad, but we said: 'Look, we have nothing to lose, so let's just go for it.' And that's what we did.<sup>14</sup>

At least two of the Committee members had personal connections with their local State senators. The Committee received guidance from these officials, and put pressure on the Governor through their representatives, phone calls placed directly to the executive office, and a deliberate media campaign. As a number of parties involved tell it, community members supported their argument by framing the Oakwood buyout as a pilot project. The community was near unanimous in their interest, they contended, and would be an ideal area to test such a program with a view to potential expansion. Residents made reference, as well, to the fact that the area was already a target for the Bluebelt expansion. One Committee member, Joe Tirone, explains that in his mind, this made the buyout a win-win proposition for residents and the State: residents get their buyout, and the government has more land available for the drainage network. Another explained the reference in more combative terms, using the neighborhood's previous opposition to the system as leverage:

We know this Bluebelt is not going to work, wink wink. We told you the Bluebelt project wasn't going to work for the people that live here. So if we're going to be told that we have to stay, we're going to make sure that everybody knows this project is not going to work it's going to cause more flooding for the people that live here!<sup>15</sup>

Though it is not entirely clear that the State would be overly concerned about the fate of the Bluebelt, a City-run program, representatives from the Governor's Office have indeed repeatedly cited Bluebelt expansion plans as a significant component of the justification for the program—not just in Oakwood but in communities that were subsequently designated Enhanced Buyout Areas as well.

Gaining the Governor: "There are some parcels that Mother Nature owns."<sup>16</sup>

In the weeks and months after the storm, Governor Cuomo repeatedly made reference to the need to rethink coastal land use in New York: framing the issue in terms of climate change, and calling attention to the fact that he had had to respond to more extreme weather events in his first term than his father had in twelve years in Albany.<sup>17</sup> Oakwood residents got their first indication that this talk was translating into specific action on their proposal when Cuomo announced his intention to launch a home buyout program during his State of the State address in January 2013, a little bit more than two months after the storm. "We propose a Recreate NY-Home Buyout program," the Governor explained, because:

There are some places where people may choose not to build back. I've talked to home owners who have dealt with serious floods three, four, five times over the past few years. Many of them are saying I don't want to have to do it again. I'd rather buy out the parcel and move on. There are some parcels that Mother Nature owns. She may only visit once every few years, but she owns the parcel and when she comes to visit, she visits. We want to run a program that will provide the funds to buy out those homeowners who don't want to rebuild.<sup>18</sup>

Several weeks later, the Disaster Relief Appropriations Act was finally signed into law. About a month after that, during a February 26, 2013 speech at the College of Staten Island, Governor Cuomo announced that he would be piloting the home buyout program in Oakwood Beach. He was joined onstage by residents of Oakwood Beach, Councilmen Michael Cusick and James Oddo, Borough President Molinaro, and State Senator Savino. The announcement reflected the Cuomo administration's belief—and the Oakwood residents' argument—that Oakwood could serve as a pilot for potential buyouts elsewhere on the Island. The Governor's office began signing up interested residents on the spot that evening, and opened an official online "pre-registration" process for interested residents across the State two days later. Perhaps as an implicit dig at the Bloomberg administration, the Governor reiterated his stance that the goal of the program was to respond to community desires. "I want to be there," he said, "for people and communities who want to say, 'I'm going to give this parcel back to Mother Nature."<sup>19</sup>

In June, the Cuomo administration created the Governor's Office of Storm Recovery (GOSR), designed to centralize and streamline the State's response to Hurricanes Sandy and Irene and Tropical Storm Lee, as well as to manage CDBG-DR-funded activities. In August 2013 the GOSR expanded the Oakwood Beach Enhanced Buyout Area to capture additional homeowners who had been vigorously protesting their exclusion, and the Office closed on its first home on October 7. During this time, the Governor's team had also developed a set of criteria with which to weigh additional resident-led buyout proposals. First and foremost, the Governor's office was interested only in neighborhoods that were able to demonstrate a high level of consensus about their interest in this option. Additionally, eligible properties had to be located in State-designated extreme coastal hazard risk zones within the 100-year floodplain, and had to have a history of chronic flooding, have sustained substantial damage from Superstorm Sandy, have an ability to connect

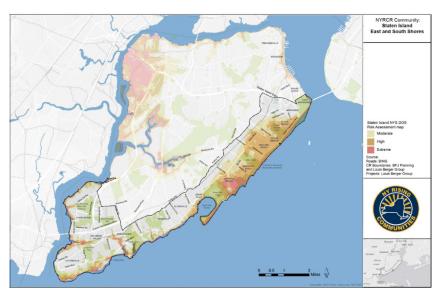


Fig 4.1: New York State Coastal Risk Map. Perkins Eastman, 2014.

to existing wetland systems and the Bluebelt, and had to have little likelihood of being successfully protected through other mitigation measures that would leave the community's fabric and character more intact.<sup>20</sup>

Six other Staten Island communities would go on to assemble petitions requesting their inclusion in the program, including Graham Beach, Ocean Breeze, South Beach, New Dorp Beach, Crescent Beach, and Tottenville Beach. Crescent and South Beach's petitions were ultimately not accepted due to a lack of consensus; New Dorp and Tottenville Beaches, meanwhile, did not demonstrate enough damage, a high enough risk level, or a severe enough history of flooding. Ultimately, then, the State declared just two more enhanced buy-out areas, both on the East Shore: Graham Beach and Ocean Breeze. In Ocean Breeze, community leader Frank Moszcynski worked directly with Oakwood Beach Buyout Committee member Joe Tirone to craft his lobbying strategy for the Governor, including mention of nearby Bluebelt plans. It worth noting, however, that the programs did not reach these second two neighborhoods until significantly later. An official declaration came in November 2013 for Ocean Breeze and not until April 2014 for Graham Beach—14 months after the Oakwood buyout was announced and a fully year and a half after the storm.

> Reviewing Retreat: "Land use planning really took a back seat."<sup>21</sup>

Though participating homeowners and the State have generally been quite positive about the outcomes of the buyout program, some at the City feel differently. A fair amount of this concern is, of course, based on the fact that the State acted unilaterally within the City's boundaries to offer a program that was explicitly counter to the Bloomberg administration's stated goals. While the Mayor's stance no doubt included some degree of political theater—a demonstration of resilience in the sense that the City would not cede territory in the face of the storm—during interviews several officials also couched their doubts about the program in terms of the tremendous housing pressure the city is currently experiencing. Why, they asked, should we be destroying housing in the city when affordability and low vacancy rates are one of the city's primary challenges? As Dana Gumb, chief of the Staten Island Bluebelt Unit at the Department of Environmental Protection put it:

You know, as a planner I'm thinking that you could have some limited development in one part of this that's all elevated and up to flood standards, and then that could generate money to restore the rest of it... you know, we have this terrible housing crisis and people don't have any place to live, and we need affordable housing. So as a planner I like to think about: it's not just open space, what are the other needs, and is it possible that something could be addressed.<sup>22</sup>

Cecilia Kushner, too, used this frame, citing it as the primary reason that the City was opposed to the concept of retreat:

The city is highly focused on the housing pressure that it's under and the very low rate of vacancy and the fact that really often in waterfront neighborhoods this housing is providing market-rate affordable housing for working class families, and so depopulating these neighborhoods was never something that the city was contemplating.<sup>23</sup>

It will be important to return this argument later, as the City's acquisition program, too, has implications for the continued viability of the working class waterfront in Staten Island. Still, it is hard to imagine a more a glaring disconnect, even at the symbolic level, than demolishing homes

at the same time as the new mayoral administration has made the construction or preservation of hundreds of thousands of units of affordable housing its primary policy goal.

Putting aside the question of whether the program should have been offered at all, some also object to the way it was offered: with the Enhanced Buyout Areas declared on a case-by-case basis in response to resident lobbying, rather than as part of a more comprehensive planning process. Some I spoke with suggested that the storm's arrival at very different moments in the mayor's and governor's tenures contributed at least in part to their administration's varying degrees of responsiveness to resident lobbying. While Mayor Bloomberg was in his third and final term and thus free of any election pressure, this argument goes, Governor Cuomo was in his first term and needed to make a strong statement that he stood with his constituents. As a result, then, the buyout areas were not necessarily thought of in the broader context of the East Shore or adjacent neighborhoods, but as an ad-hoc response to political pressure. One official I spoke with, while not expressing an official position, expressed concerns about what impact this approach would have on the area—with schools and small businesses suddenly missing their public, and no concrete vision of a future use for the acquired land. Dana Gumb had expressed similar concerns at the time the State was planning its acquisitions, but they went unheard. "All these programs got started and the focus was on getting people out," he explained:

I would ask ... "Are you going to be acquiring that vacant property?" "Well, not sure, don't know," [they replied]. Well, if you don't acquire that vacant property, there's going to be all these private in-holdings in an otherwise public area. So there wasn't much thought about land-use planning—you know, what's the ultimate assemblage going to be here? And how manageable is it? And what kind of open space network are we creating? Is it a defensible space, is it a space that is usable in some way or another, whether it's natural area restoration or recreation or whatever... the emphasis was on social work, and land use planning really took a back seat.<sup>24</sup>

Two things are important to note about this contention. First, while it is likely true, whether or not it is a condemnation of the program hinges to some degree on the perceived goals of the buyout, and it is not clear that the State would rebut this characterization. Though the messaging of the program is certainly focused on the concept of natural restoration, buyout programs funded by CDBG-DR are first and foremost geared toward providing relief to property owners, and not toward achieving land use planning goals. Indeed, this is true, as we will see later, of the City's program as well. As Garcia-Duran explains it:

The first and primary goal was to respond to the short-term needs of property owners impacted by damage that occurred during Sandy. So it wasn't so much a long-term planning perspective prior to Sandy that these areas would ever thought to have gone either in a natural state as has been posited by the State or the thought that we'd be buying out people through Acquisition for Redevelopment with the City. They were developed as tools to respond to property owners' needs.<sup>25</sup>

Second, at least in Oakwood Beach, where the rate of participation in the program is very high, representatives of the State would argue that they have begun to develop a plan for the use of the

property—using the land to provide drainage functions that support the Army Corps' seawall, which, as mentioned in the previous chapter, has finally begun to move forward.

As Gumb aptly puts it, a question immediately comes to mind upon hearing about this use. "Of course the first contradiction is, well, aren't we trying to get people out of here? You know, why are we building a seawall to protect neighborhoods that we're trying to depopulate?"<sup>26</sup> For Cecilia Kushner, that contradiction simply represents another demonstration of the lack of adequate planning and coordination in the area. "Federal, state, and city [governments] are just really not aligning a planning vision," she explained, "and fundamentally not having a planning vision before the event." Moreover, "afterwards it's too late, there's too many political pressures... it's just really hard to do genuine planning."<sup>27</sup>

As Army Corps spokesperson Chris Gardner was quick to point out, however, the buyouts have a negligible effect on the cost-benefit calculation that the Corps uses to evaluate projects meaning that even factoring in the buyouts, the benefits of the project, or value of assets protected, is greater than the cost of construction. (All Army Corps projects must have a benefit-to-cost ratio greater than or equal to 1.0 in order to proceed).<sup>28</sup> In fact, as mentioned earlier, both the Corps and the State see the buyouts in Oakwood as complementary to the seawall, in that the newly open area can provide room for an interior drainage and detention network. In a storm event, when tide gates allowing for drainage through a seawall or levee to the water body on the other side must be closed (in this case, creeks draining into the Atlantic), water can back up into the protected area behind the wall, as it has no outlet. This problem can be addressed either by building pump stations that forcibly move water from the dry side over the wall to the wet, or by providing an area on the dry side of the wall into which the water can safely flow. According to Gardner, this latter option is significantly cheaper, and provides less need for ongoing maintenance from the locality. Accordingly, Rebecca Sinclair, who is leading the buyout effort at the Governor's Office of Storm Recovery (GOSR), explains that her team is currently in discussion with the Army Corps, the State Department of Environmental Conservation, and the City Department of Environmental Protection to pursue these ends in Oakwood.<sup>29</sup>

Michael Marrella, the Director of the Waterfront and Open Space Division of the Department of City Planning, has a more balanced view of the issue. Recognizing the validity of the arguments of the State and the Army Corps, he does not believe that it is necessarily contradictory to be building the floodwall through the same area that is being bought out. Still, he does have some reservations. "It's just a question," he posed, "of if that line of protection would have been guaranteed the day after the storm, would people have still been wanting the buy-out. I think that's a good question."<sup>30</sup> Whether or not this proposal makes sense in Oakwood, however, the situation is considerably more complex in the other two Enhanced Buyout Areas (EBAs), where the rate of participation in the program is significantly lower.

Two factors have contributed to the lower levels of participation to date in Ocean Breeze and Graham Beach. First, while there was a high enough degree of consensus in these communities for the State to proceed with the EBA designation, the level of consensus in Oakwood to start with was, according to Sinclair, "astonishing," and was not matched in the other two communities.<sup>31</sup> Second, the already somewhat lower level of interest in the program in these communities declined in the time that elapsed between the storm and the EBA designation. As Sinclair explains it: "When we were taking time to look through [petitions], they made other choices... The other communities had some more time to sort of stew together. They sort of stuck together, some of them started rebuilding and they helped their neighbor[s]."<sup>32</sup> One Ocean Breeze resident I spoke with who had decided not to accept the buyout offer bore this perception out. Had the buyout been offered immediately after the storm, she said, she likely would have taken it. As it was, however, she and her husband, with their help of their sons, had already put their insurance money, a considerable portion of their retirement savings, and their "heart and soul" into repairing their home—a bungalow that they had lived in for 30 years, after buying it from her mother-in-law—while they waited for a better option. The couple had attended an early meeting about the buyout with Tirone and Moszcynski, but thought it unlikely that the program would ever materialize.<sup>33</sup> (It is worth noting that this interviewee also believes that if the buyout had been offered earlier, it would have spared considerable suffering for a number of her neighbors—who ultimately fell behind on their mortgage payments while carrying their damaged homes and entered into foreclosure.)

"Hold-outs" like the Ocean Breeze resident I spoke with are problematic for the City. First, city agencies have a legal obligation to continue to pave roads and provide services to these largely deserted areas, which often drives up costs and has created some political controversy. After the City provided improvements to a street in the Ocean Breeze buyout area in April 2014, for example, a *Staten Island Advance* article guoted Borough President Oddo denouncing the project as "ridiculous," and and profiled residents bemoaning the project as a waste of taxpayer money.<sup>34</sup> In addition, the ability to work only in the gaps between homes that continue to be occupied creates significant challenges for the meaningful reuse of the land, whether as wetlands or active recreation. This is compounded by the fact that, despite being the ones to spearhead the program and purchase the land, the State is not interested in being the long-term stewards of these parcels or, for that matter, providing funding for their maintenance. This potentially casts the State's consistent mention of the importance of the Bluebelt network in a somewhat different light. As Rebecca Sinclair expressed, "from [the State's] perspective the flooding that stems there from the freshwater is really a City issue and we're hoping that they'll take some ownership of those properties, and use those properties to help mitigate other neighborhoods from flooding."35 Unfortunately, the Department of Environmental Protection (DEP), which runs the Bluebelt program, does not seem to see it the same way. As Gumb explains:

Our upper-level management [at DEP] is focused on acquiring... the vacant properties we need, and is not particularly predisposed to taking on any additional land management responsibilities. They're [the parcels in question are] not immediately connected to our fundamental drainage mission... Maybe there is a parent for this orphan. But it's not looking that way right now... so, what happens to this property? Who's going to restore it, number one. Who's going to remove the streets and all the utilities where that's possible. Who's going to excavate it if it's necessary?<sup>36</sup>

According to multiple sources, that is still an open question. Other City agencies that might be likely candidates, such as the Parks Department, are equally loath to add new projects to their budgets because of an extra-municipal mandate. In fact, according to some, agencies are reluctant to even contribute to a planning process for the land—as this might place them in a position of ownership over the project.

Still, some are hopeful. To Garcia-Duran, the buyout areas "represent opportunities for long-term planning for the East Shore." This reflects the fact that how one views the problem depends,

in part, on the time horizon over which they are considering it. Garcia-Duran believes that in the future the newly open land could potentially include hiking and biking routes from the upland areas to the beaches, creating a space that not only provides an interior drainage network for the Army Corps but educates visitors about how that drainage process occurs, making the area "part of the neighborhood rather than just leftover wetlands." His estimation is that this process might be able to move forward in twenty years.<sup>37</sup>

This is not necessarily unreasonable. Land use and development changes on this scale take time, and there is precedent for voluntary buyout programs that unfold over decades and still ultimately result in a favorable outcome. A project in the floodplain of the Johnson Creek in the East Lents neighborhood of Portland, Oregon offered a "Willing Seller Acquisition" program to 60 homeowners in a 63-acre area subject to chronic flooding through a FEMA Pre-disaster Mitigation Grant beginning in 1996. After more than decade, and with the grant expiring, the City considerably increased the value of its offer to the two remaining hold-outs, who both eventually chose to participate. Work began on the park shortly after, in 2010; in a 2012 storm, the recently excavated floodplain performed its function after a rise in the water level that previously would have sent water surging into the adjacent commercial area was detained on site. Today, the park not only protects the surrounding area but provides habitat for native flora and fauna and, much like Garcia-Duran's suggestion, includes interpretive paths that provide information about the floodplain and natural wetlands.<sup>38</sup>

The State intends to allow homeowners within the EBAs to continue to register for the buyout in perpetuity, or at least the foreseeable future. As Sinclair explains, "our intent was to clear them completely, so we're going to leave it open."<sup>39</sup> There many reasons, too, why homeowners who are currently uninterested may yet choose to participate: some have financial and mortgage issues that may yet be resolved; others may change their minds after a future flood events; and others, like the Ocean Breeze resident I interviewed, whose husband no longer allows her to walk the dog alone at night and who worries about massive snow drifts accumulating over the broad open expanse of what used to be her neighborhood, may simply eventually decide that the area is unlivable in its semi-abandoned state. Sinclair, for her part, posits yet another reason why she expects to see more registrants in the not-so-distant future—the failures of the City-led repair program. As she has seen in a similar program on Long Island, she explains:

In any locally administered federal program for recovery, homeowners will get to a point where they hit sort of an exhaustion about going through the process... It's just a fact that this happens. And so people turn to acquisition as a form of relief because they can't wade through the remainder of the repairs.<sup>40</sup>

Her point is an apt one. While this thesis is not primarily concerned with the well-documented and sometimes maddening challenges that homeowners experienced in Build-it-Back, I will explore them briefly in the next chapter, in the context of the City's acquisition program.

# **CHAPTER FIVE:** A Safer, More Resilient, and Overall More Vibrant Place

Beginning to Build it Back: "You'll start to see this ramp up very quickly."<sup>1</sup>

As described in Chapter 3, while the State was developing and implementing its buyout program, the City was working in parallel to design and roll out the program that would eventually become known as Build it Back. The program first appeared publicly in the original CDBG-DR Action Plan that the City prepared for HUD in May 2013, under the working title of "NYC Houses Rehabilitation and Reconstruction." At this stage, the City outlined three "core paths" through which affected homeowners could seek assistance, depending on the level of damage they had sustained: reconstruction, major rehabilitation, and rehabilitation. The possibility of acquisition— through which the City would "acquire properties for the rehabilitation or reconstruction of a home or cluster of homes" from willing sellers who had suffered substantial damage "in limited and targeted cases"—was also discussed, but designated explicitly as a "second priority" for the city. As Michael Marrella, director of the Waterfront and Open Space Division of the Department of City Planning, explains, "in terms of the numbers, that probably makes sense." As the program was being designed, "the numbers were suggesting that the vast majority of the homes were going to get repaired or rebuilt… And so the program was built around that premise."<sup>2</sup>

After the City's Action Plan was approved, Build it Back was officially unveiled at a press conference on June 3, 2013.<sup>3</sup> Designed and managed by the Office of Housing Recovery Operations (HRO) and a number of private-sector consultants, the program as initially offered incorporated a number of key elements. First, the City hoped to avoid the many issues that had plagued home rebuilding and recovery efforts in New Orleans after Hurricane Katrina—including contractor fraud, substandard construction, and the intentional and unintentional use of grants for federally ineligible purposes, which in some cases led to federal relief agencies demanding that grants be repaid. To do so, the Bloomberg administration took a cue from Rapid Repairs, which the Mayor had deemed a great success. Like Rapid Repairs, Build it Back was developed around the idea that the City could deal directly with contractors who would then perform the necessary work for impacted families, rather than allowing homeowners to undertake and manage the construction

on their own. It was hoped that in this way, the City could ensure that any work completed would be up to standard, above board, and in compliance with all of the relevant regulations. Second, the administration's consultants furnished research that suggested that after a disaster higher-income households were typically better able to assemble the documentation necessary to receive relief, and thus often received a disproportionate share of the benefits distributed. In order to counteract this trend, and recognizing that the first round of HUD funding would only be enough to assist approximately 1,000 applicants, the administration gave initial priority to households earning less than 80 percent of the Area Median Income. Finally, by the time of the June press conference, the three "core paths" outlined in the City's CDBG-DR Action Plan the previous month had also been slightly adjusted, recodified into the four options as they stand today—repair, rebuild, reimbursement, and acquisition—and HRO had delegated some responsibility for managing the program to the Department of Housing Preservation and Development (HPD).

Under this arrangement, HRO and its consultants are responsible for providing "customer service" functions for Build it Back, including face-to-face interactions, technical support, and phone calls with applicants, as well as managing repairs for one-to-four family buildings. HPD is responsible for managing the Temporary Disaster Assistance Program (TDAP) providing rental assistance to displaced low-income tenants, because of the program's similarity to the agency's existing Section 8 programs, as well as the multifamily building repairs program, which is also similar to an existing body of work at HPD. In addition, HPD is responsible for managing the Acquisition for Redevelopment program—the rationale being, according to an HPD staff person, that the agency has experience in running new housing construction activities for the City, and, as a permanent agency, is better suited for managing a body of work with such a long time frame than HRO, which exists primarily to coordinate the City's CDBG-DR funded activities.<sup>4</sup>

The press release issued from the Mayor's office after the announcement contained laudatory statements from the many assembled city council members, state senators, congressional representatives, borough presidents, and other elected officials. Many of these focused on the continuing plight of their constituents, still displaced and looking to return home some seven months after the storm. For his part, James Oddo—then a Staten Island council member and, since January 2014, the Island's borough president—praised the opportunity for "folks impacted by Sandy to begin to take back control of their lives," but also put a special emphasis on the acquisition pathway. "I am particularly pleased that this initiative will include a robust strategic acquisition for redevelopment component," he remarked:

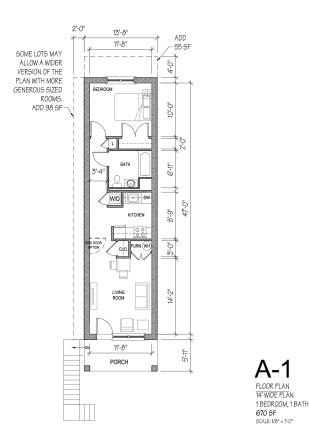
One that I am particularly proud of, which had its roots in the trip Councilman Ignizio and I took to New Orleans in late January with representatives from the Bloomberg Administration. This acquisition plan provides my constituents with another option and a chance to see their home community transformed into a safer, more resilient, and overall more vibrant place.<sup>5</sup>

According to statements Borough President Oddo made in an April 2015 *Staten Island Advance* article, it was he and Councilman Ignizio that first suggested the idea of acquisition for redevelopment to the Bloomberg administration, in March 2013; as I will return to later in this chapter, Oddo has remained a driving force behind the acquisitions to this day.<sup>6</sup>

About a week later, on the eleventh, Mayor Bloomberg held a second press conference to



*Fig 5.1: South Beach Levee Proposal. Special Initiative for Rebuilding and Resiliency, 2013.* 



*Fig 5.2: Model Home Floorplan. The Bluestone Organization, n.d.* 

unveil the *Stronger More Resilient New* York report that his Special Initiative for Rebuilding and Resiliency had been working on since the previous December. The event was held at the Duggal Greenhouse of the Brooklyn Navy Yard, which had taken on four and a half feet of water during the storm; Mayor Bloomberg opened the event by commending Baldev Duggal, the facility's owner, for "his determination to turn disaster into opportunity."<sup>7</sup> In his speech, the Mayor went on to reiterate his stance that the waterfront could not be abandoned, discussing the "futility" of retreat when an area of New York the size of the entirety of Minneapolis lay within the hundred year floodplain. Instead, he began by focusing on coastal protection, specifically touting a number of East Shore projects: including the Army Corps floodwall, which he noted would be integrated into the community as part of an elevated park or boardwalk, and a plan to "expand and accelerate the bluebelts that have been incredibly successful at absorbing floodwaters on Staten Island."<sup>8</sup> The section of the report itself that deals with the East and South Shores, meanwhile, mentions both the Acquisition for Redevelopment and State buyout programs, among many other resiliency initiatives spanning from flood insurance, to telecommunications networks, to the food supply.

Meanwhile, registration for Build it Back had opened, and HRO began processing inquiries on July 8, 2013. The next month, in August, the City selected a team composed of the Bluestone Group, Banta Homes, and Curtis + Ginsburg LLP to lead activities under the rebuild pathway on Staten Island, with the trio developing a range of model floor plans for resilient homes that could be selected based on specific site conditions and customized to a family's needs.<sup>9</sup> Build it Back registration closed on October 31, 2013, approximately one year after Sandy struck New York. By that time, the program had received approximately 26,000 registrations, twenty-three percent of which had come from Staten Island. Meanwhile, just before registration closed, on October 10, 2013, the city announced its first acquisition—



Fig 5.3: Mayor Bloomberg and Patricia Dresch. Anuta, 2013.

the home of Tottenville resident Patricia Dresch, whose husband and thirteen-year-old daughter had lost their lives during Sandy, and who had been living in the rectory of her church since the storm. At a press conference announcing the acquisition, Mayor Bloomberg remarked that he was "happy to be helping Pat today," and that the City would "continue to help everyone else who's eligible just as quickly as we can. You'll start to see this ramp up very quickly."<sup>10</sup> Bloomberg was implicitly replying to concerns about the pace of the program: as coverage of the acquisition in *Crain's New York* noted, Dresch was not only the first acquisition, but one of the first to receive any assistance through Build it Back at all.<sup>11</sup>

Indeed, as of a few months earlier, in August 2013, more eligible Staten Island households had declined to register for the program than to move forward with it—as Frank Moszcynski of the Ocean Breeze Civic Association put it, "at 280-something days [since Hurricane Sandy], there's always skepticism."<sup>12</sup> Meanwhile, by the October press conference, HRO's then-director Brad Gair noted that nearly 80 percent of those who had decided to register had already made their own repairs while waiting for official assistance, and 50 percent had completed "half of the work or more." (Recall the Ocean Breeze resident referenced in the previous chapter who, faced with uncertainty and in need of a safe place to live in the months after the storm, invested her retirement savings in making repairs that her husband and sons undertook on their own). Coverage at the time largely focused on hang ups at the federal level, considering the delay in the passage of the appropriations bill and, as described by Bloomberg, the "burdensome processes that the federal processes and laws require."<sup>13</sup>

In December, some changes in the program's administration were made, specifically concerning the acquisition pathway. With the State's buyout program already closing on homes in Oakwood, the City and the State signed a Memorandum of Understanding that outlined a partnership in which City is responsible for performing registration, intake, and appraisal through Build it Back, then referring applicants to the State if they are eligible for acquisition. The State then performs the actual acquisition and conveys properties back to the City, which is responsible for demolition, maintenance, and carrying costs. By the summer of 2014, however, nearly two years had passed since the storm and not a single Build it Back registrant had seen work begin on their homes. By that point, blame for the program's delays had begun to shift onto the shoulders of the City.

#### Blaming Bloomberg: "Overdesigned and Undermanaged."<sup>14</sup>

In September 2014, New York Times journalists Russ Buettner and David W. Chen published an investigative piece delivering a withering assessment of Build it Back's progress—or lack thereof. While acknowledging that "some early delays were the inevitable outgrowth of federal rules and a slow-moving Congress," the article contended that "the standstill into this year [2014] was largely attributable to the design and execution of the program by the administration of Mayor Michael R. Bloomberg," citing an "overdesigned and undermanaged" application process "so rigidly linear that it became nearly unworkable." The report placed blame for the delays on the untrained, temporary workers that had been selected by the city's contractors to staff the program's intake centers; frequent changes in the leadership of HRO; a poorly designed computer system that seemed to frequently lose documents; and the prioritization of low-income families. This latter problem has been faulted with adding the additional and time-consuming layer of income verification to the already extensive documentation requirements imposed by federal regulations, as Build it Back staff must verify applicants' self-reported financial information, run a number of tests to identify any unreported sources of income, and coordinate with banks and credit card agencies in order to obtain further information. Meanwhile, Buettner and Chen noted, "the administration locked in money for initiatives it saw as central to Mr. Bloomberg's legacy, such as long-term planning to minimize damage in future disasters, rather than putting that money toward urgent housing needs."15

In March 2014, several months after Mayor de Blasio had assumed office, his administration announced a number of changes to Build it Back designed to address these issues, including a commitment to direct more of the City's CDBG-DR allocation into the program and the elimination of the income-based prioritization system. In April, the new administration followed up with a report—"One City, Rebuilding Together"—that documented the design and implementation history of Build it Back and the challenges that it faced. Alongside the faults cited by the *Times*, the "One City" report noted that "a city-managed construction process takes significantly longer to set up on the front end and provides no immediate financial relief to homeowners," causing many to undertake out-of-pocket repairs in order to make their homes livable. It also faulted issues in the environmental review process, complexity in administering the federal "duplication of benefits" rule, and uncertainties in flood insurance policy that made it difficult for homeowners to make informed decisions, among other factors, in causing the delay.<sup>16</sup>

Beyond simply diagnosing the problems, the report went on to outline a number of more detailed plans to improve the program, including better coordination, community engagement, and communication, and the establishment of a number of programs and policies that forge an explicit link between workforce development and the rebuilding efforts.

As noted before, the vast majority of Build it Back's work was in rebuilding and reconstruction, and this was thus the primary focus of the critique and response. The *Times* article, for its part, was grounded in the story of a family in Broad Channel, Queens that had been waiting years for construction to begin on their home. The de Blasio report did detail a number of steps the administration would take to modify the Acquisition for Redevelopment pathway in particular, however, both to improve the option and to encourage homeowners to consider it. These include "facilitating participant selection of the Acquisition Pathway by preparing outreach materials,"

"collaborating with community organizations, neighborhood groups, and elected officials to publicize this opportunity, focusing on neighborhoods with high interest and complicated planning and infrastructure issues," and "supporting a strategic application of this pathway by showing the areas in which homeowners have selected this pathway to help other homeowners make decisions accordingly."<sup>17</sup> Even still, Borough President Oddo believes that Acquisition for Redevelopment has never received more than the tepid support offered by the Bloomberg Administration. "It's hard not to be frustrated and angry," Oddo reflected in an April 2015 *Gotham Gazette* article. "No mayor of New York City has stood up and told the people of Staten Island, 'We fully believe in acquisition for redevelopment and are committed to it."<sup>18</sup>

Moreover, by the time these changes were being made, the homeowners the City was reaching out to about acquisition were only those who had already registered for Build it Back before the October 2013 deadline. In addition, of those 26,000 initial registrants, a full 30 percent had never advanced to a formal application as of the writing of the report. Some of these stalled registrations were deemed ineligible because they had been duplicates.<sup>19</sup> As the *Times* report noted, however, more than two-thirds of that 30 percent represented "homeowners [who] had already given up. Nearly 900 formally withdrew their applications, and another 5,130 stopped responding to calls from the housing recovery office."<sup>20</sup>

Just as the length of time it took for the State to offer the buyout program to Ocean Breeze and

Graham Beach has decreased participation rates and, at least in the short term, eroded the options available for the reuse of the land acquired there, so the extensive delays in the Build it Back program have made for considerable challenges in the meaningful implementation of the Acquisition for Redevelopment pathway. Michael Marrella reflected on this question at length. "One thing that I think is worth exploring is the timing of planning after the event," he commented. "If the Acquisition for Redevelopment program existed the day after the storm and the City could come with checks immediately," he continued:

and perhaps a realistic timeframe for things to work otherwise, [I wonder] how quickly that work could have been handled, or how quickly any of this would have been able to roll out. The fact that it took three and a half months to get the federal bill passed, and then another three months to actually get the City that money, and then the program folks struggled because it's very hard to set up something so big so quickly, for many different reasons, that people were left in limbo. And I think that that was one of the hardest things, is that if a program could be designed with that in mind—if you could do some of this work upfront and have money rolling faster—if that wouldn't change people's minds. It's an open question.<sup>21</sup>

That question is particularly relevant to the issue of the scope of the redevelopment planning that would ultimately be possible through Acquisition for Redevelopment, as there was a brief period where officials considered using the tool on a neighborhood scale. That approach, however, quickly ran into challenges.

### Adjusting Acquisition:

"You really quickly run into the many limitations of kind of that grand-scale planning."22

Build it Back was not initially designed around or focused on neighborhood-scale issues. As Len Garcia-Duran explained in the last chapter, "the first and primary goal [of the buyout and acquisition programs] was to respond to the short-term needs of property owners impacted by damage that occurred during Sandy... They were developed as tools to respond to property owners' needs."<sup>23</sup> At a certain point, however—as HRO began to face the prospect of a single block containing homes elevated as high as ten feet off the ground, next to a rebuild, next to an untouched home—administrators developed an understanding that larger-scale planning considerations might be necessary. This was even more true, of course, when the Office was beginning to consider what kind of development might be possible on acquired parcels, where narrow streets, narrow lots, and substandard infrastructure brought into question the City's ability to even stage construction in certain neighborhoods, let alone determine how the area should rebuild. There is some evidence that, in response to these concerns, HRO was considering large-scale deployment of Acquisition for Redevelopment as early as June 2013, when the program was first announced. A draft document describing the program from that time, provided to me by an HRO intern, set forth in an opening policy statement that the program was intended to further "comprehensive, largescale and coordinated redevelopment efforts."24

It was not until sometime later that planning for what such a comprehensive approach might look like began to take place in earnest, however, with HPD bringing in the Department of City Planning to help consider redevelopment options. Marrella dates this shift to the change in the mayoral administration, which brought with it a change in leadership at HRO and, as noted above, a policy of making the acquisition pathway more attractive and accessible. At that point, Marrella contends, "they [HRO and HPD] began to recognize... that there were these lingering planning-related issues... And that looking at one-off homes was not going to be a viable solution for a couple of neighborhoods. And so that's when we [the Department of City Planning] got more involved."<sup>25</sup> Of course, the planning department had already been engaged in a number of initiatives with direct bearing on reconstruction and redevelopment across the city. These included the "Designing for Flood Risk" report of June 2013, which provided urban design guidelines for maintaining an active streetscape and pedestrian environment while complying with elevated flood resilience standards,



Fig 5.4: Bungalow Elevation. Sherry, 2015.

and the Flood Resilience Zoning Text Amendment of October 2013, which codified these guidelines, set standards for the safe placement of building mechanical systems, relaxed height limits and other zoning restrictions that would have made it difficult or impossible for property owners in some areas to legally comply with resilience regulations, and more. Previously, however, the Department had not been directly involved with Build it Back efforts.

As part of this increased involvement, HPD requested that the planning department hold an internal

design charrette to consider how a comprehensive redevelopment process might unfold in Cedar Grove, a beachfront section of New Dorp Beach bounded by New Dorp Lane, Cedar Grove Avenue, Ebbits Street, and Roma Avenue. The area was home to a high density of Build it Back registrants that had expressed preliminary interest in the acquisition pathway, and suffered from significantly underperforming infrastructure. (Note that at this time, the majority of registrants had not vet advanced to a final determination of their pathway, and were able to express interest in multiple options). Department staff considered a number of possible options for the neighborhood based on varying assumptions about how much land the City might control and how contiguous these parcels would be, generating several alternate designs and associated estimates about the number of housing units, amount of open space, and community facilities that each could produce. The resultant information was then provided to other agencies, such as the Department of Transportation, to generate estimates about the cost of infrastructure upgrades. Ultimately, however, the exercise demonstrated that such a large-scale approach was not a feasible strategy for the city. As Cecilia Kushner explained it, "you really quickly run into the many limitations of kind of that grand-scale planning."26

These limitations were twofold. First, quite simply, was cost, which all city officials I interviewed on the subject identified as the primary obstacle



Fig 5.5: Cedar Grove Study Area. Map by Author.



*Fig 5.6: Narrow, Ponded Streets in Cedar Grove. Author's Photograph* 

to a comprehensive approach. As Garcia-Duran explained, "When you analyze the costs of infrastructure related to those alternatives and the benefit that it provided—the number of units, the number of potential community facilities—the costs associated with getting there didn't

really meet the potential benefit."<sup>27</sup> This was particularly true because of the projected density of the build out in the area. All together, officials I spoke with projected costs for building a single home associated with project at several million dollars, accounting for the costs of acquisition, demolition, infrastructure upgrades, and construction. Higher redevelopment densities would have created greater economies of scale, but there is both cultural resistance to increased density in Staten Island and concern that, even if local streets and sewers were upgraded, the area would still be poorly served by the mass transit needed to support a larger population.

Of course, that financial calculus assumes that a significant amount of the property in question could be purchased even if the City were interested in doing so. In actuality, however, the amount of land that the City could reasonably assume control over was limited, and this represented the second factor that the parties involved identified as an obstacle to the comprehensive approach. First of all, because the State program had selected neighborhoods as Enhanced Buyout Areas based to a significant degree on their level consensus about selling property to the government, the City was from the start working with neighborhoods that had a lesser degree of interest in this option. Further, there are a number of reasons why residents may have been less interested in the Build it Back program than the State buyout. As Marrella summarizes:

The fact that it [the State buyout] was done with the intent of having it be returned to nature was apparently important to some people who were accepting the buy-out for feeling that they were not getting a sucker deal. That if they had accepted money and then it was being developed—with the fear being luxury condos—that they were somehow missing out on it, or that they were getting less money than they should have, or that they were being told that the land was unsafe but that they're allowing others to move there and that there was this inherent contradiction there. Of course there's subtleties to all of this. You could certainly make the argument that it wasn't the land that was unsafe but it was the home that was unsafe. But nonetheless, it's still the psychology of the seller.<sup>28</sup>

Conversations with residents and researchers who have done work on the community response to the buyout and acquisition programs on Staten Island—including Liz Koslov, a sociologist, and Sherri Brokopp-Binder, a community psychologist—have borne these impressions out. Brokopp-Binder focused her work in Oakwood, where the State program had already been rolled out by the time that residents began getting fliers about the acquisition program in their mailboxes. Though she cautions that the future use of the land was not likely a deciding factor for many homeowners, who were more concerned with their immediate needs, she did find that the idea of selling land for redevelopment was "not well-received," often eliciting "colorful" language.<sup>29</sup> Koslov, who has done research up and down the East and South Shores in the wake of the storm, echoed Marrella's contention that residents were concerned that selling their land to the city would pave the way for their neighborhood to be converted into high-end condominiums.<sup>30</sup> The Ocean Breeze resident I spoke with, cited in the previous chapter, related that this was a pervasive rumor circulating in her neighborhood at the time, as well.<sup>31</sup>

Other anecdotes reflect a similar distaste for redevelopment on the part of community members. Joe Monte, an Oakwood Beach resident, was quoted in several news sources as underlining the importance of the open space component of the State's plan. "The heartache of

losing my home, the heartache of losing my memories, the blood and sweat and tears that I put into this home," he said, "is going to be healed by seeing trees and nature come back to that spot right there."32 Up the shore in Midland Beach, meanwhile, Interboro Partners' "Living With the Marsh: Options for Staten Island's Eastern Shore" design proposal quoted a resident as lamenting the fact that their neighborhood was not included in the buyouts, but only acquisition. "Oakwood Beach was fortunate to get a deal with the state," the quotation reads. "They made the Governor promise there would be no development if they left—that the land would become a park. Here in Midland Beach we had to deal with the Mayor, who wouldn't make that promise."33 The concern is common enough that the Frequently Asked Questions section of a FEMA website explaining the Hazard Mitigation Grant Program—which, like the State's HUD-funded program, acquires property and prevents any redevelopment—contains an entry entitled: "Will Someone Be Able to Rebuilt & Make a Profit On The Property I Sell in a Hazard Mitigation Grant Program Acquisition Project?"<sup>34</sup> Koslov identified additional concerns, as well, including the perception that the City had neglected much-needed infrastructure improvements in the area for current residents, but was considering them in service of the presumably wealthier residents that would move in to any new development; concerns dating back to the nineties housing boom that any redevelopment would actually exacerbate flooding problems for neighboring properties that did not participate; and, simply, a greater degree of mistrust of the City than the State generally on the Island.<sup>35</sup>

The financials, of course, also played a role, and perhaps the most important one. Indeed, in studies that have been done on what drives communities' acceptance of buyout programs, the price offered often tops the list.<sup>36</sup> The State's program offers residents pre-storm value for their homes, plus incentives; the City's offers post-storm value. Though various relocation incentives offered through the City program are designed to actually bring the two offers roughly in line with one another, the initial message of post-storm value can be difficult for some community members to swallow, and the incentives difficult to parse. Further, even with the State program's generous offers, some don't feel it is in their best financial interest to participate—particularly if they are underwater on their mortgages. Walter Meyer, principal of Local Office Landscape Architecture, a design firm that has engaged in numerous resiliency projects in the city and has deep roots in the Rockaways, gave voice to an additional concern: homeowners are determining not only whether they got a fair deal through the program, but what the assessed payment would allow them to purchase as replacement housing. "Whether it's pre- or post-[storm value], there's something that's overlooked which is: right now they own a house in New York City," he explained. "And if you buy them at whatever price, it doesn't matter, can they still buy another house in New York City? The answer is no... They own a house in New York City now, and buying them out at \$300,000 means they can't be in New York, even though it's a 'fair' price at the parcel scale, but at the regional scale, it's not."<sup>37</sup> In many instances, community members that are now single family home owners have found the housing typologies available to them in New York at their price point unattractive.

Finally, as discussed earlier, the design and delays of the program itself played a role as well. By the time Build it Back got into full swing, many of those who may have initially been interested the program had already had to invest their own money in their homes in order to have basic shelter, and a fair number of those that did register despite all of the procedural and psychological barriers ultimately withdrew from the program out of ongoing frustration. Because of all of these factors, when looking at the map of those who might have been interested in pursuing acquisition in Cedar Grove as it stood in the summer of 2014, it was difficult to develop a plan

for assembling parcels in such a way that meaningful redevelopment could occur—particularly considering that the City was interested not only in building a more resilient housing stock, but addressing underlying neighborhood issues. As Garcia-Duran put it, "many of these neighborhoods were challenged... with narrow streets, lack of infrastructure, they flooded all the time—why simply just build homes in these neighborhoods and put them in that? It might be a nicer home, but you're still stuck with all of those neighborhood challenges."<sup>38</sup>

This stance, while eminently reasonable, came with its own set of challenges. As Marrella explained, "the nature of infrastructure oftentimes requires a very large site. In order to rebuild the roads... especially if you're going to be increasing the grades of the roads, having a hold-out may mean that that's infeasible."<sup>39</sup> In an entirely voluntary program, in other words, it is very difficult to assemble parcels at the scale necessary to undertake the improvements that the city was contemplating, and attempting to undertake improvements without doing so is likely to cause the grade-change problems explored in Chapter 2. Though he stated firmly that he was not advocating that eminent domain should be used, Marrella shared his belief that, at the very least, it had to be discussed if comprehensive redevelopment was to be considered seriously as an option. "To some degree," he explained, "the question of eminent domain has to be raised if you're going to be looking at wholesale redevelopment. I don't think that you could get a very, very large tract of land for redevelopment absent that power—and that alone might mean that's the wrong answer." Still, he continued, "thinking strategically through that I think is very much needed... I think that if the end result is desired then that mechanism may be desired.<sup>40</sup> Of course, as stated earlier, eminent domain was categorically off the table—both from a political perspective and a legal one, as HUD-funded recovery programs prohibit the use of the tool. Planners were left, then, to determine on what scale the acquisition program could reasonably be deployed, and the opportunities and challenges that came with that scope.

#### Questing for Clusters:

"If they're simply one-off sites that are acquired, it makes it more difficult to think about long-term planning."<sup>41</sup>

While the Cedar Grove exercise had demonstrated the difficulty of utilizing the Acquisition for Redevelopment pathway as a large-scale redevelopment tool, it also demonstrated the problems that would be encountered at the opposite extreme. Even the construction process itself, it was feared, would create significant damage to surrounding infrastructure and housing if work proceeded on a lot-by-lot basis, with heavy machinery having a difficult time operating in the close quarters and small lots of the neighborhood. Beyond the impacts of construction, however, one must ask if any redevelopment can physically and legally be undertaken at all. According to a program manager for Build it Back at HPD, the agency is currently in the process of analyzing which parcels are even buildable according to modern codes and standards, considering the number of lots that are too small; located in the middle of wetlands; or in a flood zone that would require extremely high levels of elevation in order to be compliant with FEMA standards, particularly relative to their lot size. The agency is currently working to sort parcels into sites that can definitely be developed, sites that definitely cannot, and those that will need to be reviewed on a case-by-case basis. For those that can't be developed, it is hoped that there will be the option of creating meaningful open space. It is open question as to what might be possible on these sites, however, and there are concerns about the city's legal obligation to perform maintenance on any land it owns.<sup>42</sup> Of course, there is also still the challenge that led the City to consider the larger scale in the first place: "if they're simply one-off sites that are acquired," Garcia-Duran explains, "it makes it more difficult to think about long-term planning other than to rebuild housing."<sup>43</sup>

To a certain extent, in a purely voluntary program where any applicant who would like their property to be purchased will have that option, one-offs will be unavoidable. Still, the current hope at the City is that, as much as possible, the program can be undertaken at a middle scale—by looking, as Marrella describes it, "at clusters, of 2, 3, 4, 6 [homes]... at a reduced scale from an entire neighborhood but bigger than doing one-offs."<sup>44</sup> Under such an approach, HPD and the planning department would examine the parcels that ultimately become available, and search for clusters that naturally arise through a group of neighbors individually electing to pursue acquisition (or, perhaps, coming to that conclusion with some assistance from the de Blasio administration's increased outreach efforts). One reason the agencies have adopted this approach is that it has been championed by Borough President Oddo, at least in part because it dovetails with existing goals for Staten Island that were articulated through the Staten Island Growth Management Task Force and the Lower Density Growth Management Area (LDGMA) zoning that followed, which seek to move away from small lots and bungalow housing that is considered substandard toward more typical suburban development. Though this approach avoids some of the lot-by-lot problems, however, two considerable challenges remain.

The first is inherent to the effort at any scale, but is exacerbated with smaller sites—the City's poor record of successfully and speedily redeveloping land that it has acquired. The HPD staff person I spoke with was candid about this hurdle. At this stage, he explained, HPD has been focused primarily on closing on homes, rather than future planning, not only because the program's primary goal is to make homeowners whole but because managers are thinking of the program in the context of the many parcels of city-owned land that have remained undeveloped for more than four decades. If development through Build it Back is to occur on anything like this timeframe, there will likely be ample time to plan for how exactly it should look. And there is reason to believe it will: as Cecilia Kushner explains it, Staten Island is even less likely to see swift City action than other areas might. "The planning ambition has to be matched with the operational ability to pull it off," she said:

And right now there's urgency around Sandy but in a City of 8.5 million people, rebuilding 25 homes in the East Shore of Staten Island which may be a huge gaping hole and blight in the neighborhood but to the face of the housing crisis is just nothing at all, continuing to keep everyone focused on that might be hard. Might be really hard. And, again, the City doesn't have a good track record of that... there is something about the City not really having a great model for building low-density housing.<sup>45</sup>

Moreover, if and when development does move forward, the cluster approach presents an additional challenge. The LDGMA is by its very nature designed to change the fabric of the neighborhood, crafted in part to move away from smaller lots and bungalow housing. While this may make sense given the challenges the area faces and its history of shoddy development, however, the housing stock being targeted by the ordinance is a key component of what enabled the East Shore to develop as the "working class waterfront" area that it did. Indeed, while City officials I spoke with echoed that the push for larger lots and homes is driven by concern about "sub-standard" housing as well as the density level that it represented stressing local roads and infrastructure, one expressed their belief that the housing stock was being targeted precisely because it was working class housing. This staff person related that at post-Sandy meetings of Community Board 2, which includes New Dorp Beach, Midland Beach, and South Beach but also covers a much larger and wealthier area stretching across the middle of the island to the western shore, board members have displayed outright hostility to small homes and the people who live in them. In contrast to this person's experience of recovery in the Rockaways—where there seemed to be a spirit of banding together to help one's neighbors—they found the process of securing approval for zoning variances that would allow Sandy impacted homeowners to rebuild on non-conforming, undersized lots difficult and ugly, with displaced homeowners called upon to justify why they were not choosing to leave the area. In this person's opinion, the Community Board's primary desire is to see the area transformed into a wealthier suburban enclave, with richer residents in larger homes.

It is important not to romanticize the bungalows. As Garcia-Duran notes, "these homes were affordable by definition only because, to a large extent, of the challenges they faced such as small lots and lack of infrastructure... it was a lower-price option due to many of the challenges that people had to live here."<sup>46</sup> As the HPD program administrator noted, as well, the process of moving away from this typology had been set in motion by the private market even before the storm hit. As explained in Chapter Two, throughout the nineties in particular, bungalows were being torn down and lots combined in order to build larger new housing up and down the East Shore; given this trend, the HPD staff member wondered if, in thirty or forty years, people would even see the acquisition program as having played a particularly deterministic role in the neighborhood change the East Shore had experienced. Still, as Walter Meyer of Local Office Landscape Architecture explains, "there's a typology within the coastal outer borough which is the bungalow, or the cottage, which is native to the coastal areas all over the East Coast. Because it's small and currently illegal because it's too small to fit the code, it's the only starter homes in New York. You know, where two teachers can afford to have one or two kids and use the house for equity ten years later and buy a second home to build generational wealth." Without that housing stock, he continued, "we're a missing a rung in the ladder between subsidized and unsubsidized housing."47

What does it mean that official, City-led storm recovery efforts may be shifting the demographic profile of the area by facilitating this process, and is there a way to address these communities' underlying problems while preserving its affordability? Both Garcia-Duran and the staff person at HPD—which has a fundamental mission of providing affordable housing for New Yorkers—are certainly aware of the problem. "If you provide a nicer, bigger home, and you start addressing the infrastructure questions, what does it mean for the market rate?" Duran asked. "I don't know if there's an answer to that yet, but it's a question we're aware of. It's a conversation that we have to have."<sup>48</sup> One answer—and one that was suggested by Staten Island architects Tim Boyland and Pablo Vengoechea, who have been very involved in efforts to determine the future of the East Shore—is that the affordability question is not one of typology or physical design, but policy.<sup>49</sup> If the future market rate is unclear, the argument goes, to preserve affordability the housing should not be subsidized, not market-rate. This debate, too, is currently playing out on Staten Island; unfortunately, however, achieving affordability through this route may be just as difficult.

#### The Affordable East Shore: "Completely Asinine."50

Much as many envision the post-disaster "design moment" as an opportunity to undertake major physical design interventions, others see it as an opportunity for major social intervention. Susan Fainstein, Senior Research Fellow and former professor at Harvard's Graduate School of Design, outlined an agenda along these lines in a piece entitled "Resilience and Justice." Here, she argues that in defining resilience we should not start with attempting to rebuild the status quo, "assuming that there are not underlying conflicts of interest in terms of a desirable post-disaster situation" but instead ask the question "how best to make the lives better of the most vulnerable."<sup>51</sup>

In the wake of Superstorm Sandy, a group of labor unions and community organizations came together under the banner of the Alliance for a Just Rebuilding to advocate for the adoption of similar principles in the post-storm redevelopment of New York City, calling for, among other aims, "a just, equitable and sustainable recovery and rebuilding process that makes infrastructure and regulation more equitable, prioritizes transparency and community inclusion, [and] creates new economic opportunity for all New Yorkers."<sup>52</sup> While still the Democratic nominee, now-Mayor Bill de Blasio explicitly picked up many of these themes, announcing at a community meeting at a church in Far Rockaway, Queens in September 2013 that he hoped to use the recovery effort and the associated infusion of federal funds "not just to right the wrongs of Sandy but start righting some greater wrongs"—by creating affordable housing, living-wage jobs, and community health care centers as part of the redevelopment process in areas that were heavily impacted by the storm.<sup>53</sup>

The response from Staten Island was swift. The next day, Michael Grimm—then the congressman representing New York's 11th District, covering the entirety of Staten Island a small portion of southwest Brooklyn—released a statement tendering his opinion that "to talk of using Sandy funds to build low-income housing at a time when the people of Staten Island have yet to receive Build it Back funds or when our coastline is far from protected, is completely asinine!"<sup>54</sup> Once de Blasio had become mayor and unveiled his signature plan to build or preserve 200,000 units of affordable housing citywide, Congressman Grimm wrote him a letter reiterating his concerns and, this time, framing them particularly in terms of the Acquisition for Redevelopment program. As he writes:

An issue of growing interest and concern is what precisely the City and your administration will be doing with properties obtained through the program... [there are] serious concerns that the City will use property obtained in Staten Island through the Acquisition to... advance your housing agenda, spurring development and population density which communities in Staten Island simply cannot accommodate. The placement of new, belowmarket housing that does not fit with the character and infrastructure of these coastline neighborhoods could fundamentally change and overwhelm these areas that are still trying to recover from Sandy's devastating impact.<sup>55</sup>

Of course, one may probe the relationship that the letter implicitly draws between the price and of any proposed development and densities that would cause adverse infrastructural impacts on the neighborhood. Either way, however, the position is clear.

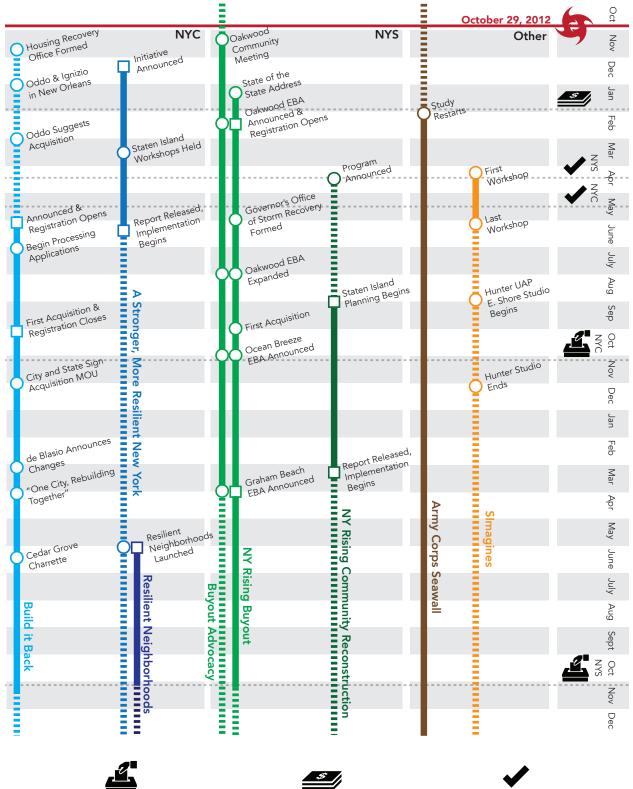
To be fair, Congressman Grimm—who has since resigned from his position, after

being convicted on charges of tax evasion—should not necessarily be assumed to be a reliable mouthpiece for all of his constituents. Other sources, however, have confirmed that these concerns are widespread. Len Garcia-Duran, who has been Borough Director of the Staten Island planning office for 12 years, elaborated on the challenges. "The word affordable on Staten Island is a loaded terminology," he explained. "There's been some elected officials that have used it to slam the city... it's code for others they don't want in their neighborhood." Still, he has hope that there are ways to frame the issue so as to generate community buy-in. "To the extent that we can demonstrate that there is a need for workforce housing, housing that's affordable to the cops and teachers that live in these neighborhoods today, the need for housing that seniors... or the new younger families who we want to encourage to stay on Staten Island rather than depart to live elsewhere," he contends, "those are all affordable needs that I think people can relate [to]."<sup>56</sup>

For his part, Mayor de Blasio announced in his 2015 State of the City address that he would be targeting the nearby North Shore of Staten Island as an area to study rezoning that would allow for the construction of more affordable housing.<sup>57</sup> As for the land acquired through the acquisition program in particular, however, it remains an open question whether and how affordability concerns will be considered.

#### Moving Forward

All of these challenges, across both the buyout and the acquisition programs, raise three questions that will be taken up in the next two chapters. First, what's done in New York is done, but what lessons can we take away from these experiences? Second, with the challenges being what they are, what strategies can New York employ in order to mitigate some of the drawbacks that have been identified in these programs as they stand? And, finally, what does all of this say about the role of planning as a discipline in aftermath of a disaster, and its relationship to relief, recovery, advocacy, and politics? To answer these questions, I will look to the experiences of other cities, the literature on the topic, and the planning efforts that have happened parallel to the buyout and acquisition programs in New York thus far.



Federal Funding

Election

Federal Approval

## **CHAPTER SIX:** Planning After Disaster

Planning New York:

"The realization was that it wasn't going to be FEMA, it wasn't going to be the City of New York... there was going to be no large-scale planning effort."<sup>1</sup>

While neighborhood planning concerns may have come late to the Acquisition for Redevelopment program, it is important to note that a number of planning processes did take place in New York after Sandy. The New York Rising Community Reconstruction (NYRCR) program, itself one such effort, identified four that had gone before it: the Department of City Planning's Urban Waterfront Adaptive Strategies (UWAS) and Designing for Flood Risk reports; A Stronger, *More Resilient New York*; and the SImagines: Planning for Recovery Program, launched by a group of local Staten Island architects.<sup>2</sup> The two City Planning reports provide useful information and analysis, with UWAS articulating a range of edge design strategies appropriate for a number of unique coastal typologies in the city and the Designing for Flood Risk report paving the way for the Flood Resilience Text Amendment to the city's zoning code. As this thesis is more concerned with planning processes at the neighborhood level in Staten Island, however, I will focus on the other three, as well as an additional process launched after NYRCR—the Department of City Planning's Resilient Neighborhoods planning initiative. HUD's Rebuild by Design competition also touched on Staten Island; ultimately, however, though a team lead by Interboro Partners initially looked at the East Shore, only a proposal for the South Shore's Tottenville neighborhood moved forward (and has since been funded).

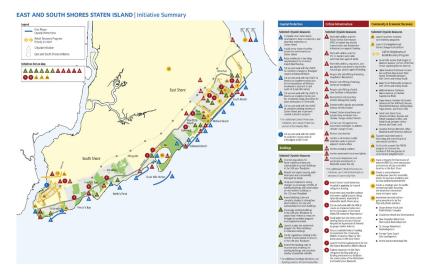
Chronologically, the Special Initiative for Rebuilding and Resiliency (SIRR) was the first of these initiatives to come to the East Shore. The process launched in December 2012 and A *Stronger, More Resilient New York*, the report enumerating its findings and recommendations, was published by the following June. SIRR focused on programs and projects that could protect the city from future disasters, drafting proposals in key areas including coastal protection, buildings, insurance, utilities, liquid fuels, healthcare, telecommunications, transportation, parks, water and wastewater, and other critical networks. While primarily focused on citywide recommendations, SIRR also laid out specific "community rebuilding and resiliency plans" for the hardest hit areas, including the Brooklyn-Queens Waterfront, South Queens, Southern Brooklyn, Southern Manhattan, and the East and South Shores of Staten Island. In introducing the section of *A Stronger More Resilient New York* covering these local plans, the authors once again sound the mayor's stance vis-à-vis the future of the waterfront, making clear that their goal is to reinforce, not back away from, these neighborhoods. "New York City will not retreat," the report reads, "and it will not abandon. New York City, instead, will stand with its waterfront neighborhoods. The City will fight for these neighborhoods and for all neighborhoods across the five boroughs."<sup>3</sup>

In Staten Island, SIRR team members worked throughout the process with two task forces. The first, consisting of 13 City, State, and Federal elected officials, met monthly. The second, consisting of members of the three Staten Island community boards and more than 20 faith-based, business, and community organizations, met every four to six weeks. Through these meetings, as well as two public workshops held in March 2013 (referred to in the plan as "briefings"), the City identified a number of priorities for the area. These included developing coastal protections that preserved public waterfront access, improving drainage, "developing programs to address the financial and physical challenges of rebuilding homes," revitalizing local business, and "preserving neighborhood character and affordability during neighborhood recovery and rebuilding."<sup>4</sup> The plan then used this information and a City-led analysis to develop a suite of 77 recommended initiatives, including both citywide projects discussed elsewhere in the plan and 12 additional initiatives specific to the East and South Shores.

In terms of buildings, proposed initiatives included rebuilding and repairing destroyed and damaged housing, which includes a mention of acquisition; incentive programs to encourage buildings that were not damaged by the storm to make resiliency improvements; working with the State to identify eligible communities to participate in its buyout program; and launching a competition to "develop new, high-quality housing types that offer owners of vulnerable building types (e.g., older, 1-story bungalows) a cost-effective path that is consistent with city building and zoning requirements and meets the highest resiliency standards," generating "prototypes [that] will have applicability throughout the five boroughs, including in sections of the East and

South Shores." The plan also mentions a number of initiatives begin to gesture toward broader neighborhood change. In discussing the need to draft improved resiliency regulations, the authors of the report state that such changes "will improve resiliency for the significant amount of mixed-used development likely to take place within the 100-year floodplain over time throughout the East and South Shores."<sup>5</sup>

For some, however, this process was unsatisfactory.



*Fig 6.1: Map of SIRR initiatives for East and South Shores. Special Initiative for Rebuilding and Resiliency, 2013.* 

Accordingly, Staten Island architects Tim Boyland, Pablo Vengoechea, and David Businelli proposed an alternative: the Staten Island Imagines (SImagines) project. According to Boyland, SImagines was the trio's response to the fact that they "did not see community voice in any kind of planning initiative," with "no one reaching out to get the community's involvement or vision for what they saw their neighborhoods being in the future."<sup>6</sup> Vengoechea described the project in even broader terms. For him, it was an opportunity to "rethink the way that we do planning in New York City, rethink the way that we do planning in Staten Island in particular, because I think [in] Staten Island, planning comes from the top down," while SImagines would provide "an opportunity for communities to get much more directly involved."<sup>7</sup> In order to achieve this vision, the architects gathered a group of local students and other professionals, including the city's local borough planners, and underwent facilitation training with the New York chapter of the American Planning Association. With funding from the Staten Island Foundation, the group then moved forward with a series of community workshops in hard-hit communities around the Island. Though local officials were interested in participating, the SImagines organizers actually requested that they refrain—as, according to Boyland and Vengoechea, they were concerned that politicians would co-opt the effort with pontificating about their own agendas. The group was also worried about timing: as Vengoechea and Boyland described it, they wanted to move quickly, but also asked themselves when would be too soon for traumatized community members to productively engage in the process. Ultimately, with funding from the Staten Island Foundation and Staten Island Arts and partners including Hunter College, the American Institute of Architects, the American Planning Association, and Sasaki Associates, the first workshop launched in April on the East Shore.<sup>8</sup>

According to Vengoechea and Boyland, that first meeting residents saw residents release a considerable amount of anger and distrust. At the same time, as community members moved through mental mapping, Strength, Weakness, Opportunity, and Threat (SWOT), and visioning exercises, Vengoechea believes that many began to feel more empowered. As he describes it, with many of those participating still displaced and looking for answers, the process gave people something to hold on to and allowed them to take some semblance of control over their future, even if in a small way. The recommendations the group generated out of this process were wide ranging. Summarized in a draft report as "affordability, stability, diversity, recreation, nature, and institutions," these included suggestions that ranged from protecting wetlands, to improved public transportation, to better evacuation plans. In terms of housing, residents expressed a desire to "preserve 1-2-family community character, identify suitable/unsuitable building areas, maintain pre-storm affordability, diversify low-rise housing types," and "continue existing density levels/ balance," among others. Under the heading of "assistance," meanwhile, residents also expressed an interest in "buyouts, repair, [and] property exchange," "rebuild[ing] trust with government," and "first right of refusal for adjacent lots."<sup>9</sup>

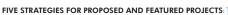
For Businelli, the main takeaways from the East Shore workshop were a concern about infrastructure and a desire to return to the neighborhood they had known. As he explained, "they're so low that they flood all the time—a good thunderstorm and there's standing water for days. So, they want to see the Bluebelt system completed. And they want the City to do what's right and upgrade its own infrastructure. Because it seems to have been neglected for so long." In addition, he continued, "they didn't want to lose what they had. If they had a little bungalow, they were completely against increased density, even though it's very dense—what they were thinking of, we don't want big apartment blocks... so many of these people, generations of the same family

have been living there in the same neighborhood. And others had moved in, it's what they can afford, but they loved it. They want to preserve their way of life."<sup>10</sup> Ultimately, as Vengoechea explained, housing and specifically questions of density and typology elicited the greatest disagreement among participants, leading to a "compromise" proposal—that overall density in the neighborhoods be maintained, but reconfigured such that individual projects might exceed historic densities while other areas were ceded to the ocean. Addressing questions of how exactly that would be designed, however, were not logistically possible during the workshop, but were grappled with in a planning studio Vengoechea ran at Hunter College the following fall."

Vengoechea, Boyland, and Businelli shared their findings with all who would listen, including members of the New York Rising Community Reconstruction (NYRCR) Staten Island East & South Shores Planning Committee, on which Boyland and Businelli also sat. NYRCR was a project of the Governor. As the published NYRCR plan trumpets, the program was made possible because "Governor Andrew M. Cuomo led the charge to develop an innovative, community-driven planning program on a scale unprecedented and with resources unparalled."<sup>12</sup> In April 2013, Governor Como announced that more than 100 communities across the State had been selected to participate in the program, which would appoint a local planning committee to undertake a community planning process and provide each with a grant of between \$3 and \$25 million to fund the projects that came out of it, with Staten Island receiving the maximum allotment. The Staten Island committee met for the first time in September; at the kick-off meeting, Cuomo explained the thought behind the program. "Maybe government doesn't always know what's best," he said. "The best way to do it is to let the people of Staten Island decide what they need and what they want done."<sup>13</sup>

The Committee consisted of "29 highly engaged, diverse local community leaders representing civic associations in the most affected areas, as well as higher education, the not-for-profit sector, business leaders, and community activists." The Committee met monthly with a

team of consultants selected by the State, and held four public meetings by the time their final report was published in March 2014. The process included assessing storm damage, inventorying critical asset and their level of risk exposure, and the identification of "shovel ready" projects, ranked into three tiers of priority for funding. Projects identified included coastal protection and stormwater management initiatives, improvements to transit infrastructure and the power grid, and strategies for building emergency response





*Fig 6.2: Map of NYRCR initiatives for East and South Shores. Perkins Eastman, 2014.* 

capacity. Under the category of neighborhood integrity, the plan outlined a goal to "rebuild residential communities in the East and south Shores in a way that increases resilience to future storms while maintaining neighborhood integrity." Projects under this umbrella included an "East Shore Waterfront Vision Plan" for the interface between the neighborhoods and the Army Corps seawall, grant assistance to homeowners for resiliency improvements, and a number of programs designed to shore up local businesses.<sup>14</sup> Elsewhere, the plan does also make note of housing affordability challenges, though it does not express specific programs to address them.<sup>15</sup> The plan also makes mention of the City and State's acquisition and buyout programs, but these had already been developed by the time the report was published and are thus not explicitly identified as proposed strategies for the area.

The final process, the Resilient Neighborhoods planning initiative, was originally laid out in *A Stronger More Resilient New York*, under the label of Buildings Initiative 3, to "study and implement zoning changes to encourage retrofits of existing buildings and construction of new resilient buildings in the 100-year floodplain." As the plan continues:

The City, through DCP, will undertake a series of citywide and neighborhood-specific land use studies to address key planning issues in severely affected and vulnerable communities... To be undertaken in close consultation with local residents, elected officials, and other community stakeholders, these land use studies will focus on the challenges posed by the combination of flood exposure of the applicable neighborhoods; the vulnerability of the building types that are found in these neighborhoods (e.g., older, 1-story bungalows); and site conditions in these areas (e.g., narrow lots) that can make elevation or retrofit of vulnerable buildings expensive or complicated... In neighborhoods like Midland Beach, zoning changes may include mechanisms to accommodate or even encourage retrofits of buildings on existing lots, and the voluntary construction of resilient housing through the combination of smaller lots. Any new development in these neighborhoods would be consistent with the area's low density character and would be required to include resiliency measures.<sup>16</sup>

A Stronger More Resilient New York articulated the hope that, subject to funding availability, this process would begin in 2013. Ultimately, the initiative launched in the summer of 2014, as the Department of City Planning's CDBG-DR-funded Resilient Neighborhoods program. I spoke with Staten Island Planning Director Len Garcia-Duran about this program at length.

Resilient Neighborhoods is looking at vulnerable communities across the five boroughs including West Chelsea and the East Village/Lower East Side/Two Bridges area in Manhattan; Gerritsen Beach, Sheepshead Bay, and Canarsie in Brooklyn; the Hamilton Beach/Old Howard Beach/Broad Channel area and Rockaway Park and Beach in Queens; Edgewater and Harding Parks in the Bronx; and the East Shore in Staten Island. As Garcia-Duran describes it, the question driving the Staten Island process is "what is th[e] particular neighborhood character, and how does redevelopment support future neighborhood character?" This question is paramount because of the many familiar challenges in the area. "Simply rebuilding these tiny, small buildings at very tall heights doesn't necessarily potentially make for the best solution, "he explained. "So it's really trying to identify what do we need to do with the bulk envelope, and yards, and parking to ensure that we're getting a building typology that at the end of the day we get it better even than what was there before... what gets rebuilt is really determined by what type of zoning we have in place." Further, he added, the broader land use changes that are happening in the area add an additional layer of complexity. "Part of the challenge on the East Shore is the fact that the State buyout areas also result in 500 lost units," he explained:

And what does that mean for the long term economic health, socio-cultural health, institutional buildings that are there if the community disappears? Should we be looking at opportunities, where we are going to build, to recapture those lost units? And in order to do that, what type of new building typology might be necessary to do that? And is it a building typology that's going to be within the context of Staten Island development history?<sup>17</sup>

In order to answer these questions, the planning department began conducting a typological analysis of the area. According to Garcia-Duran, staff have "looked at different geographies on the East Shore and identified where there are common challenges that those geographies are confronted with on future development." Like UWAS, the study is considering both environmental and land use factors, classifying zones such as: "areas that primarily consist of wetlands, areas that are adjacent to wetlands, areas fronting the ocean itself, the commercial corridors, [and] the upland residential areas." The department is "trying to look at those different geographies and determin[e] what are the common challenges related to them... so that we can start thinking about how do we need to respond both from a future land use and zoning [perspective] but also infrastructure needs to get to a better place."<sup>18</sup>

The Department presented the work that they had done to Staten Island's Community Board 2 in February 2015, and convened the East Shore Community Advisory Committee, which includes Boyland and a number of other local leaders who also served on the NYRCR committee, shortly thereafter. Ultimately, the goal is for the program to "create a community-supported vision for a more resilient East Shore and develop consensus" around any proposals.<sup>19</sup> Garcia-Duran projects, however, that this is still some distance away, and that the long road to this point has been far from ideal. "We should have [begun] outreach a long time ago," he acknowledged:

And there's obviously concern and questions about the lack of master plan so to speak for the East Shore. And giving homeowners, civic groups, and other agencies direction by having a public plan. So while we've been talking internally with other agencies about our thoughts about the future out here, and ideally they're taking that into account as they're thinking about their own future efforts, it still isn't necessarily public yet.

Moreover, initiating a public process would only be only be the first phase. "Even making it public does not necessarily mean that its going to be widely accepted," he continued. "You still have to go into outreach and determine that there's actually consensus behind it."<sup>20</sup>

As Garcia-Duran highlights and Vengoechea also noted, despite the several initiatives profiled above, there has been no community-generated, officially endorsed vision for the East Shore to date. While *A Stronger, More Resilient New York* and the NYRCR plans identified millions of dollars of improvements through varying degrees of public participation, these were based primarily on a needs assessment, designed to provide funding to critical repairs and necessary improvements. They were not, for these overwhelmingly residential areas, visions of what a future

neighborhood might look like in light of these needs, and community priorities like affordability have not been easily addressed through a project-based approach. Even the SImagines process itself, given its limited time frame, was unable to fully flesh out its recommendations in this area.

Further, even as these planning processes were taking place, the City's and State's major housing programs were unfurling in parallel to them, in their own silos. Particularly in the State buyout program, decisions were being made on an ad-hoc basis in response to citizen activism responding, in some ways, to community needs, but also prioritizing those most able to selforganize and maintaining a narrow focus on these individuals' goals through a program with wide-ranging and long-lasting implications for a much broader territory and the people who live within it. Today, HPD and the Department of City Planning are working closely together to align redevelopment and rezoning goals, but the scope of what can be accomplished through this afterthe-fact planning remains to be seen.

Of course, New York's challenges aren't unique. In many areas, redevelopment planning after major disasters has suffered extensive delays, been heavily influenced by politics both between residents and the government and within different branches of the government itself, and produced multiple overlapping planning processes. At the same time, others areas have made planning and engagement a primary focus of their recovery efforts—and have run into challenges of their own. In both struggles and successes, other cases offer valuable lessons. Both to better understand New York's recovery planning process and to shed light on the options available to East Shore residents and planners through the programs that process produced, I will examine two of these cases in the following section.

### Learning from Others:

"There was a lot of back-and-forth between New Orleans and New York when New York was setting up its programs."<sup>21</sup>

It will be useful at this point to take a step back and compare the New York experience with that of other cities that had undergone similar challenges in the years prior. For many, New Orleans



*Fig 6.3: Councilmen Oddo and Ignizio Visit New Orleans. Jorgensen, "Staten Island's Oddo, Ignizio," 2013.* 

is the first point of comparison. Not only are Katrina and Sandy frequently likened in terms of their physical and financial scale, but officials in New York and the programs they designed were deeply and directly influenced by New Orleans's experience, particularly in terms of housing recovery: be it Councilman Ignizio and now-Borough President Oddo pushing for the Acquisition for Redevelopment program after learning about the Louisiana Land Trust during a January 2013 visit to New Orleans, or the Bloomberg

administration and their consultants designing Build it Back with the express goal of avoiding the fraud, waste, and shoddy rebuilding that had been widely reported in the city's Road Home program.

And New Orleans does indeed provide a fruitful touchstone for understanding both the politics and practicalities of post-flood buyouts and acquisitions in New York and elsewhere. The discussion of buyouts in New Orleans after Katrina—where, much as in the State of New York's program, the property would be used as open space to improve drainage and water management for the city as a whole—is by now infamous. Though considered as a strategy by the city's first recovery planning body, the Bring New Orleans Back Commission, the *Times-Picavune*'s notorious "green dot" map representing the Commission's recommendations for new open space in existing neighborhoods provoked such furious backlash from residents that discussion of retreat was taken permanently off the table. At the same time, the city did move forward with the Road Home program, a housing recovery initiative structured much like Build it Back in providing the options of both repairs and acquisitions to impacted homeowners. Ultimately, the New Orleans Redevelopment Authority (NORA) ended up in control of approximately 5,000 properties acquired through Road Home, developing a wealth of experience in redevelopment and disposition strategies as it reduced that inventory to the approximately 2,000 lots that remained as of February 2015. Of course, there are many critical differences between Staten Island and New Orleans, as well—foremost among them, perhaps, the stark contrast between New Orleans's pre-Katrina population loss and sluggish real estate market and the East Shore's explosive pre-Sandy growth.

Another, perhaps lesser-known comparison case is that of Cedar Rapids, Iowa, a city of approximately 128,000 that saw nearly 15 percent of its entire land area inundated when the Cedar River crested at more than 31 feet, or 19 feet above flood stage, in 2008. In the aftermath of the flood,

Cedar Rapids placed a heavy emphasis on participatory planning, putting a building moratorium, as well as mortgage and tax relief, in place while that process occurred; ultimately, they too adopted a voluntary acquisition program. With some funding coming from HUD's Community Development Block Grant and some from FEMA's Hazard Mitigation Grant Program, a portion of the properties acquired were slated for redevelopment and a portion for new open space, organized around the "dry" and "wet" sides of a planned levee designed to protect against

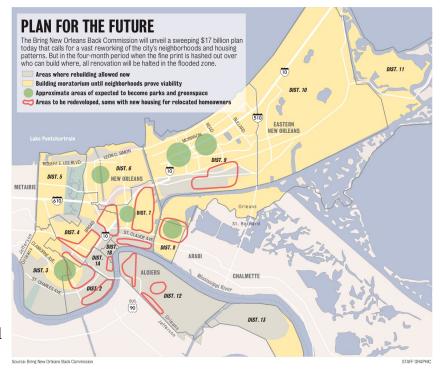


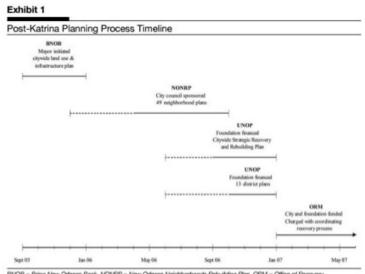
Fig 6.4: New Orleans "Green Dot" Map. Rush, 2015.

future damage. Ultimately, the City acquired approximately 1,400 parcels through the program, has built around 200 housing units on this land, and has constructed portions of a new riverfront park system, with others currently in the planning phase.

Together, the two cases represent a useful spectrum of the scale and character of governmental intervention in the rebuilding process. These range from the Cedar Rapids City Council's "bold move" to disallow redevelopment in an area slated for open space and levee construction while at the same time "including the public in all of that dialogue... [to] build public trust over time,"<sup>22</sup> to the situation described by Jeff Hebert, executive director of the New Orleans Redevelopment Authority, in which any discussion of turning areas into greenspace was deemed "political suicide" and the City ended up following a market-based approach in an environment where "no one ha[d] the appetite for big government."<sup>23</sup>

Bringing New Orleans Back: "It was just so politically suicidal that you didn't even talk about it."<sup>24</sup>

Though much has been written on the topic, I will provide here a brief overview of the post-Katrina planning process in New Orleans. In recounting the events, I will rely primarily on two sources. The first is a personal interview with Jeff Hebert, who helped to develop the Road Home process at the Louisiana Governor's office in the aftermath of Katrina and later moved on to the New Orleans Redevelopment Authority (NORA), where he has been managing the disposition of the acquired land. The second is "Planning, Plans, and People," a 2007 article in HUD's *Cityscape* journal by Marla Nelson, Renia Ehrenfeucht, and Shirley Laska of the University of New Orleans. As described by Nelson, Ehrenfeucht, and Laska, three distinct planning processes emerged in New Orleans in the wake of the storm: the Bring New Orleans Back Commission, the New Orleans Neighborhoods Rebuilding Plan, and the Unified New Orleans Plan. Ultimately, all three of these



BNOB = Bring New Orleans Back. NONRP = New Orleans Neighborhoods Rebuilding Plan. ORM = Office of Recovery Management. UNOP = Unified New Orleans Plan.

Notes: The solid lines indicate approximate start and finish dates for the planning processes; the dotted lines indicate periods when the processes became public but had not yet begun.

*Fig 6.5: New Orleans Recovery Planning Timeline. Nelson et al, 2007.* 

plans, as well as plans developed through two grassroots effortsthe People's Plan for Rebuilding the 9th Ward and Broadmoor's rebuilding plan—were adopted by the City Council as the official Citywide Strategic Recovery and Redevelopment Plan in June 2007. Bring New Orleans Back (BNOB) launched the month after the storm, in September 2005. The Commission was a "blue ribbon panel" consisting of 17 business and community leaders selected by Mayor C. Ray Nagin to develop recommendations for how the city should be rebuilt.<sup>25</sup> Nelson and her colleagues describe BNOB as a "topdown process driven by professional planners and designers, result[ing]

in a citywide plan that focused on urban design and land use solutions."<sup>26</sup> Among these proposed solutions, and influenced by a suite of recommendations produced by an Urban Land Institute study, was a four-month moratorium on new building permits in flood-damaged areas, during which time the City would launch a neighborhood planning process that would enable community members "to prove the viability of their neighborhoods by demonstrating that a significant proportion of the residents wanted to return."<sup>27</sup>

The assumption underlying this process, of course, was that not all of these neighborhoods would be proven viable and that the city's footprint would thus shrink, with some heavily impacted areas converted into multi-purpose park spaces that could assist with storing and absorbing stormwater—the "green dots"—while other areas might be redeveloped at a higher density to provide replacement housing. As a *Times-Picayune* article reflecting on the incident in 2010 recalled, "while urban planners who drew up the map meant the dots merely as examples of where parks might be created — after the approval of a government buy-out program and the conclusion of a citizen-driven planning process," that is not how they were received. "Amid the panic and fury" that was ultimately the result, the report continues, "the map quickly met its demise... [and] along with it went a suggestion that City Hall temporarily quit issuing building permits."<sup>28</sup> Indeed, as Jeff Hebert relates, this effect was lasting. The publication of the map and resulting reaction "was the end of that conversation, very early on... it was just so politically suicidal that you didn't even talk about it."29 Nelson et al emphasize that the *Times-Picayune*'s map and article themselves also contributed to the reaction (not just the "urban planners" referenced in the paper's retrospective), noting that "it was not solely the ideas generated by the BNOB Land Use Committee that engendered fear; it was the way the information was conveyed... although the reporters attempted to convey that the green dots were not finalized decisions, a newspaper article was inadequate for explaining the complexity of the proposals."30

Wherever the responsibility lies, it also important to note that the reaction was particularly pronounced within the city's African American community. As Hebert explains it, "there was a lot of backlash... that it [the creation of green space] was going to impact vulnerable populations more than others."<sup>31</sup> According to Nelson et al, given that African Americans were much more likely than white residents to live in areas of the city that had been heavily impacted by Katrina, "shrinking the footprint was ultimately viewed as a means to keep many African Americans from returning." This should not have been surprising to city officials, the authors note, given the long history of distrust in the community of the city's political and business elite (stretching back to a 1927 decision to dynamite a section of levee protecting a predominately African American area in parishes south of New Orleans to protect the city proper).<sup>32</sup>

Even before the pushback, according to the researchers from the University of New Orleans, the official recovery process exposed and amplified rifts not only between citizens and the government but between different governmental bodies themselves, much as in New York. The authors contend the BNOB Commission "exacerbated long-standing tensions between the mayor and the city council," with the situation splintering far enough that the Council put forth its own "rival, although short-lived, advisory committee on hurricane recovery" before Mayor Nagin conceded to the pressure and appointed the Council's president to the Commission.<sup>33</sup> Though this first rival committee may not have lasted long, however, the Council passed a motion in the wake of the BNOB controversy in December of 2005 to launch another, the New Orleans Neighborhoods Rebuilding Plan (NONRP) process (also known as the Lambert plans after one of the consultancies involved), replacing the neighborhood planning process that was to have taken place through BNOB with one making the contrary assumption that all neighborhoods would be rebuilt. The resulting plans, informed by more than 100 neighborhood meetings, identified \$4.4 billion of repairs and improvements to infrastructure and public facilities, categorizing these into critical, necessary, and desired actions; The New York Community Rising Reconstruction Plan framework is reminiscent of the NONRP's plans' community engagement and project- and repairs-based focus, along with the accompanying prioritization scheme. It was out of the NONRP, as well, that the "lot next door" program arose, providing a lot's abutters with the first opportunity to purchase the property in order to "partially combat the 'jack-o'-lantern effect—an unplanned mix of occupied and vacant houses throughout areas of the city devastated by Hurricane Katrina."<sup>34</sup>

While the NONRP process was taking place, the attempts to resurrect a citywide plan after the stalled BNOB process was unable to secure FEMA funding led to the initiation of the Unified New Orleans Plan (UNOP), which the Louisiana Recovery Authority launched with funding from the Rockefeller and Greater New Orleans Foundations and the Bush-Clinton Katrina Fund. As Nelson et al recount, this process again pitted the City Council against its counterparts in other branches of government. "UNOP's emergence caused confusion among residents about the legitimacy of the city council planning process that had been well under way when UNOP was announced," the authors write. "Although initial proposals for the UNOP process called for shutting down the city council planning efforts," they continue, "the council's opposition to the idea prompted the decision that the UNOP process would integrate previous planning efforts into a single, city¬wide rebuilding plan."<sup>35</sup> It was out of this process that the clustering concept, "a compromise between forcibly shrinking the city's footprint... and permitting redevelopment to continue throughout the city in a haphazard or unplanned manner," was first developed. At the time the authors were writing, this effort was described as "vaguely articulated," perhaps by design, as "for UNOP planners fearful of a public backlash, a certain level of abstraction was necessary; green-spacing of neighborhoods were not an option, and place-specific recommendations threatened to derail the process."36

Interestingly, despite the fact that the clustering has gained currency in Staten Island with explicit reference to New Orleans—Hebert explains that in the end the city "did not take a heavy handed approach at clustering." As he continued:

Any disaster recovery planner and professional who's done this around the world, you know, they will always tell you that's probably the best thing to do. So if you have a low-population area, you do the buyout, and then for people who want to remain in the area you do something clustered in the safest part of the area, and then move that forward. That is more easily said than done, right? You have property rights, you have all these issues, and no one has the appetite for big government in order to do that.<sup>37</sup>

Early on, the thought process had been that big government—the biggest government would in fact play that role. Richard Baker, U.S. Representative for Louisiana's sixth district in East Baton Rouge Parish, proposed what would become known as the "Baker Plan," which would have established a federally funded entity dubbed the Louisiana Recovery Corporation (LRC) to purchase homes from voluntary sellers and clean and clear the lots; as Hebert describes it, the LRC would "go in and buy-out the property and do the right thing." Homeowners who chose to sell would have the option of buying back property from the LRC after necessary improvements had been made. Otherwise, properties would be sold to developers with the explicit goal, according to Hebert, of clustering redevelopment.<sup>38</sup> Ultimately, however, Hebert noted that such an initiative is "easier said than done, especially when the incentive program, the Road Home program, did not align with that sort of thought process." Without the support of the President, New Orleans thus ended up pursuing a "much more free-market based recovery, which the Bush White House preferred."<sup>39</sup>

The Road Home program mentioned by Hebert, formally the Road Home Homeownership Assistance Program, was New Orleans's primary housing recovery program. Run by the Louisiana Office of Community Development's Disaster Recovery Unit, Road Home offered three options to homeowners: to receive a grant that would allow them to rebuild in place, to receive a buyout and relocate within Louisiana, or to receive a buyout and locate outside of Louisiana. The buyout option was available to all eligible homeowners regardless of geography, but the vast majority of applicants—around 90 percent—chose the first option. Still, the State ended up purchasing more than 5,000 properties, transferring them to the Road Home Corporation (now doing business as the Louisiana Land Trust), which was established by a June 2006 act of the U.S. Senate. As Hebert explains, "the idea was, we set up the land trust to hold the property in trust until the local governments were in a position to then accept the properties and then do as they wished—dispose of them, turn them into parks, whatever." This was in part, he continued, "because the governor did not want to dictate local planning," but also because "we had the resources at the State level, [and] we also didn't think that it was fair to try to push all that back down on the local governments until they had matured enough in their recovery to manage it on their own."<sup>40</sup>

Thus, before receiving the properties, local governments were required to submit a redevelopment and disposition plan to the State. From a property owners' perspective, however, these disposition plans were not part of the Road Home process and, like many in New York, Hebert does not believe that this was a primary concern for impacted residents—"I don't think anyone was even concerned at the time about the future use of the land, really," he shared, "they just wanted to get out." Even from the perspective of the government, the required disposition plan "was really open ended," and did not have to be geographically or property-specific. As a result, "New Orleans included everything... You could dispose of it, you could green-space it if you wanted, basically it was written so that everything would be possible."<sup>41</sup> In 2010, the Louisiana Land Trust approved New Orleans' plan and transferred the acquired properties to the New Orleans Redevelopment Authority (NORA).

In terms of the disposition of these properties, as Hebert described earlier, the City took a market-driven approach. Whatever one may think of this strategy, it is important to note the context in which these decisions were being made. As Hebert explains, "the single most important thing in the aftermath of Katrina was repopulation. So we had to make available places for people to come back." Under these circumstances, NORA moved forward with development on any parcels in neighborhoods where there was enough market demand to do so—developing a tiered disposition strategy that employed different approaches based on the market strength of a given area. As Hebert explained, a neighborhood's pre-storm conditions were its best predictor of poststorm success. "Our weakest markets that also had flooding and buy-outs are still our weakest markets," he went on. "And the markets that might have had flooding but were strong markets before the disaster...it might have taken some time, but [they] have come back, right? And so your redevelopment or disposition strategy really is at the whim of the market in some instances." Accordingly, NORA has auctioned properties to the highest bidder in hot market areas and worked to develop affordable housing either directly or in partnership with a non-profit developer in areas with weaker demand but where NORA believed with some subsidies as incentive, "a developer could create community." As for the properties with the lowest market demand, the city has had to pursue other strategies.<sup>42</sup>

The best known of these is the Lot Next Door, the program through which the city has disposed of the greatest number of properties. The Lot Next Door gives homeowners the opportunity to buy adjacent NORA-owned parcels under an agreement to maintain them as green space for a period of at least five years, after which they may resell the property for new development; according to Hebert, the program "produced huge benefits in many neighborhoods." At this stage, however, Hebert believes that all of the properties likely to be adopted under this program already have been. The 2,000 properties that remain under NORA's control today, then, are the properties "that are just left. That no part of the market wants. The affordable housing market, the straight private market wanting something at auction, and they're not next to something next door that somebody wants—you know, we're, what, the ninth year after Katrina? We've exhausted that." Interestingly, he continued, when one looks at the spatial distribution of these properties, a pattern emerges. "With one exception," Hebert contends, "the ULI [Urban Land Institute] plan was right. It just happened by market. The market itself is exactly what ULI said it was going to be."<sup>43</sup>

In these areas, New Orleans has pursued a number of creative strategies. As of November 2014, the City had leased 47 properties through the Growing Green program, begun the previous May, which provides opportunities for residents and community groups to undertake neighborhood greening, gardening, and agriculture projects. The Authority has also developed pilot rain garden projects that "beautify neighborhoods and reduce flooding" (much like the proposed BNOB properties on a smaller scale), as well as other neighborhood green spaces. NORA has also sponsored a number of competitions that tie grant funding to innovative proposals for projects on Road Home properties. These include Lots of Progress, an initiative undertaken in partnership



Fig 6.6: NORA Dispositions. New Orleans Redevelopment Authority, 2014.

with the New Orleans-based social entrepreneurship incubator and accelerator Propellor, and Future Ground, run in partnership with New York's Van Alen Institute.<sup>44</sup>

While many of these strategies have been effective, Hebert believes New Orleans's decision not to develop acquisition programs at a scale larger than the lot level in the months after the storm has had a continuing impact on NORA's work. "We might... have an easier chance at disposing of some of these properties if they could be assembled together," he explained. Echoing New York City staff concerns about the Cedar Grove exercise, he continued to reflect that:

having the scattered approach makes it very difficult in the weaker areas because you can't attract anybody to develop something on fifty lots scattered across five, ten blocks. It's just not as productive... particularly in these weaker market areas that could be developed, having the properties assembled beforehand I think would have made it easier.... But that's just the political reality that existed in 2005, 2006, 2007.

In fact, NORA was actually in the process of acquiring abandoned properties in these areas in the winter of 2015—an idea that would have been unthinkable years earlier, with the Authority's main priority to dispose of the thousands of properties on its rolls—in order to assemble more attractive parcels for development. Without doing so, NORA is having difficulty moving forward even with projects outside of the realm of housing. "If we want to do a big water retention project, or a great sort of interior to the city cultural restoration project or any of that stuff," Hebert explained, "we have to assemble in order to get to scale."<sup>45</sup>

At the same time, though the city itself has not been directly involved in trying to generate neighborhood clusters, they have also been able to achieve this objective to some degree through partnering with local non-profit developers. As an example, Hebert discussed NORA's work with Project Home Again (PHA) in the city's Gentilly neighborhood. "PHA would negotiate and buy people's properties, they would actually do a buy-out, or a trade," he explained, "and have people move into new houses on properties that we transferred to PHA. That consolidated people in an area." In this arrangement, PHA is then left with the properties they themselves bought out and, much like NORA, may pursue a number of options for its disposition: from initiating further land swaps with NORA, to selling the lots, to undertaking community greening projects. As Hebert continued, this arrangement was "the easiest way for that [clustering] to be accomplished in the political environment that we were in... it's actually worked because government hasn't had to been involved."<sup>46</sup>

One more important element of the city's recovery to consider in the context of Staten Island is the case of the Lakeview neighborhood, a "solidly middle class" area of modest homes constructed primarily between the 1930s and 1970s. According to Hebert, the neighborhood had experienced some challenges immediately after the storm, when a number of returning homeowners "got really crazy and elevated astronomically. Just really crazy elevations." While that has settled over time, however, a different phenomenon has also taken place on a longer time frame. As residents returned or moved into the neighborhood, people would purchase adjacent lots and undertake dramatic changes to the pre-storm housing typologies. As Hebert explains, "people have built back McMansions on what was mostly a bungalow or small sort of California ranch community from the thirties and forties, they've gone back to three stories, you know, four or five thousand square feet, just these huge houses." Today, lots in the neighborhood can sell for \$200,000 to \$250,000, a price Hebert cites as not only literally ten times what one would fetch immediately after Katrina, but "extremely high" for New Orleans as a whole, particularly outside of the uptown areas.<sup>47</sup>

Interestingly, a *Staten Island Advance* article in a 2013 series reflecting on the parallels between Katrina and Sandy highlights Lakeview in particular as an inspirational example. The neighborhood, the reporter related, is "lined with pretty home after pretty home, almost all of them

new and elevated to flood standards. Save for the palm trees and the southern accents, the closely clustered, large homes wouldn't be out of place on a residential street in a well-to-do Staten Island neighborhood, save for their height off the ground." Still, she continues, not all is a rosy picture: "Even in Lakeview, where it can be easy to forget what the storm did, there is a reminder on nearly every block. An empty lot in a community that was once so packed full of housing there were none. A homeowner who returned but didn't bother to elevate his home. Or worse, a squat, dilapidated slab-on-grade house that has sat mostly untouched since the storm, left behind."<sup>48</sup>

Despite all of the progress that the New Orleans has made, Hebert concluded our interview with his thoughts on what could have been. "What is amazing to me," he related:

is if you look at many of those maps of what was going to happen, of what people thought would happened and some of the good minds around these issues predicted, a good bit of that stuff came true. And it always kills me about, if the politics weren't what they were, how much more proactive we would have been able to be and how different things might look today.<sup>49</sup>

Room for the Cedar River:

"The public participation process is a key element, a tried and tested approach. This is about a high level of transparency."<sup>50</sup>

Three years after Katrina and about 900 miles north of New Orleans up the Mississippi River Valley, Cedar Rapids, Iowa was confronted with a crisis of its own. The period from

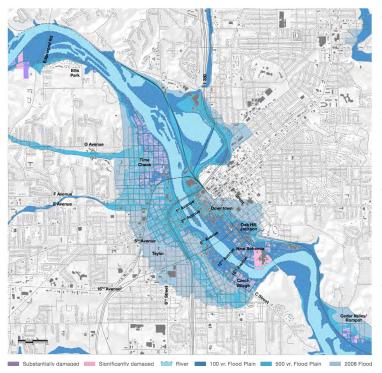


Fig 6.7: Cedar Rapids Inundation Map. Sasaki Associates, 2008.

December 2007 through May 2008 was the second wettest on record in Iowa in more than 100 years. The precipitation didn't stop at the end of that month, either; between May 29 and June 12 alone, an average of nine inches of rain fell across the state—setting rainfall records at eight monitoring stations and coming in at more than six and a half inches higher than conditions the state's climatologist considered normal for this period.<sup>51</sup> Absorbing all of that rainfall, rivers throughout Iowa and neighboring Midwestern states quickly began to rise. By June 13, 2008, the Cedar River, which runs through Cedar Rapids' downtown, had reached a crest of 31.12 feet—more than eleven feet higher than the previous record and 19 feet above flood stage. The waters inundated more than 10 square miles of the city, causing an estimated

\$6 billion in damage, flooding 5,900 residential properties, and displacing approximately 10,000 residents.<sup>52</sup> Thankfully, no one was killed. As in New Orleans, the State took the lead on overall recovery planning and coordinating with the federal government—through a body called the Rebuild Iowa Office—but deferred to local planning priorities for how funds would actually be disbursed.

Prior to the flood, tourism officials in Cedar Rapids had declared 2008 "The Year of the River," honoring the 100th anniversary of the city's purchase of Mays Island, which housed the city's civic buildings, including City Hall, the courthouse, and the jail. In conjunction with this effort, officials had hired Sasaki Associates that May to prepare a Riverfront Park Master Plan for the city, building on a downtown plan that had recently been completed by the architects [LG Associates. Representatives from Sasaki arrived for the kick-off meeting on June 11 and 12, while the water was already rising; on June 17, four days after the flood, the City Council expanded Sasaki and JLG's scope of work, directing them to generate a framework recovery and reinvestment plan addressing four elements: economic recovery, flood management and protection strategies, public facilities replacement, and health and human service needs.<sup>53</sup> Of these mandates, the flood control element received the greatest attention. As Jennifer Pratt, the city's Director of Planning Services, explains, "I will say one thing that Cedar Rapids did is we were very proactive about looking at flood control immediately. That's the first public process we did, is what would a possible alignment be. That was really important to make sure that people were sure that we did have a commitment to protecting them against flooding in the future." What's more, Pratt felt that engaging in the process itself was cathartic. "I think... being able to participate in that process for people that early on after the disaster, she related, "was helpful as they tried to move on."<sup>54</sup> The City held open houses for the public to workshop the plan in July and September, the second of which was devoted entirely to evaluating flood management options.

According to Jason Hellendrung, Sasaki's lead on the project, it was important at this stage that the planners demonstrate that they were taking resident concerns seriously. When some suggested a reservoir upstream to detain floodwaters, for example, the consultants sketched and modeled this option—noting that it was projected to be 98 percent effective but would cost hundreds of millions of dollars to build, possibly over decades, and would endanger

an upstream power plant. While this option was ultimately not recommended, then, exploring it made a difference: as Hellendrung explained, "people said, 'oh, these guys are listening."<sup>55</sup> Sasaki went on to present community members with three possible flood management alternatives gleaned from a broader analysis of available techniques. As Hellendrung recounts, the team started off by proposing that "we could build



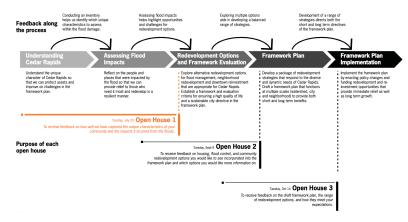
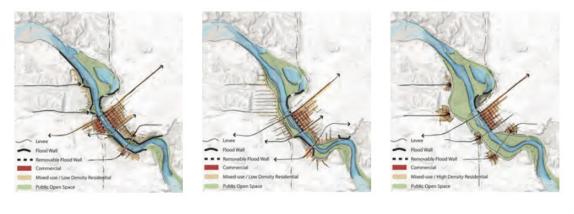


Fig 6.8: Cedar Rapids Public Process. Sasaki Associates, 2008.

big

floodwalls along the river, and everybody could come back into their neighborhoods, but you'd completely cut off from the river's edge." At the opposite extreme, they presented an option "where you just bought everybody out. 'You guys live in floodplains, let's just buy out all the floodplains and go to higher and drier ground.' And there were a lot of people that supported that, more than we expected."<sup>56</sup> Ultimately, however, the team ended up with the third alternative, which combined a levee system with floodable riverfront parks. The Council selected this as their preferred flood management strategy on the first of October, opening the plan to comment at a final meeting later that month, and voted on a preliminary levee alignment in November. With the alignment approved, as Jennifer Pratt explains, the Council "took a really bold move and they said that no State or Federal funds would used for rehabilitation in that construction area, so the area we had identified, or on the wet side... only in the areas that we had committed to protecting."<sup>57</sup> In order to facilitate the levee construction, it was understood that a voluntary acquisition program would be developed to purchase homes in the path and on the river side of the levee—to this end, the City adopted a Voluntary Acquisition Plan in December 2008.<sup>58</sup>

Even at that early stage officials recognized that it would likely be at least a year and a half before federal money became available for acquisitions, despite the fact that, already according to a July 2008 *New York Times* article "some homeowners [were] bristling at the notion that they might rebuild, only to have their homes demolished by a redevelopment plan or flooded again... [and] many would prefer to move to higher ground now." As city manager Jim Prosser was quoted in the article, the delay was not only inherent to federal compliance, however, but necessary to do the job right. "The public participation process is a key element, a tried and tested approach," he contended "This is about a high level of transparency."<sup>59</sup> Indeed, Hellendrung explained that in his opinion, during this period Prosser "was really smart in that he said 'I don't want people to rebuild, please be patient, because I don't want you to lose your personal savings. I want you guys to remain whole. And so just let us go through this process so that we can try to make you whole."<sup>60</sup> To try to mitigate the problem—with residents being told not to rebuild but no option to be acquired in their immediate future—the city provided property tax relief, interim mortgage assistance, and down payment assistance for new homes. As Pratt described it, "it seemed like a long time to receive an allocation of funding for acquisitions," so this suite of programs were designed to allow



Option 1 - Floodwall

Option 2 - Levee and Parkway

Option 3 - Naturalized Floodplain

Fig 6.9: Cedar Rapids Recovery Alteratives. Sasaki Associates, 2008.

people "to move on before their house was actually acquired."61

Meanwhile, on the heels of the framework plan, the city launched a four-month neighborhood planning process in November 2008. The process outlined a vision—"Cedar Rapids is a vibrant urban hometown—a beacon for people and businesses invested in building a greater community for the next generation"—and three goals. These were to create "a detailed a set of actions for reinvesting in our neighborhoods and meeting our vision" and "a framework for evaluating proposals and plans to ensure adherence to community goals," as well as to "encourage leadership building and improve communication between the City and community to create stronger neighborhoods."<sup>62</sup> In advance of the process, 60 city employees underwent facilitation training in order to better communicate with the public; meetings were organized such that residents were able to discuss ideas with a facilitator in break-out groups of 10 community members or less.<sup>63</sup>

The acquisitions, while slow in coming, were a significant part of this conversation. According to several involved, the neighborhood planning process helped property owners to frame their decision in the context of neighborhood change. As Pratt explains, while:

The focus of that voluntary acquisition was to help people move on from this disaster... [and] you don't want to say we're doing these acquisitions to get to that plan... it did help, I think, when people were making decisions about 'Do I sell or not sell?' Kind of knowing what the community vision was helped them make that decision.<sup>64</sup>

Hellendrung further emphasized the future-oriented aspect of the process. "When we did the engagement planning, it was always about what's the future vision of the city," he explained. "It wasn't just about—here's a check, you're bought out, go away. It was always 'how are we leaving the city for our kids and grandkids.' And it was very values based."<sup>65</sup> Around this time, the city had also decided that, outside of the levee and greenway areas, it would allow acquired some properties for redevelopment. In a few cases, this would be allowed even in the 100-year floodplain, as long as the parcels in question were in identified historic districts or key commercial corridors, provided some flood protection as part of the site and building design, and would not be eligible for future disaster recovery assistance. As Pratt explains, the 2008 flood:

Went well beyond even our 500-year floodplain, so some of our decision to redevelop really is based on just the fact that these are clearly established neighborhoods where people had already been receiving disaster relief funds to rebuild in place... they were going to be protected in the future by this flood control system and reinvestment was already happening in those areas.<sup>66</sup>

With this understood, planners felt the process also helped to address concern that arose about the future of the acquired properties. Just as in Staten Island, city officials more than once heard concerns about gentrification through disaster redevelopment. As Pratt explains, "I think we had heard some of those concerns very early on... they really feared that we were getting rid of these low-to-moderate [income] neighborhoods... you would hear people say 'we don't want them then resold and developed as high-end, high-rise condos on the river.'" Here too, she believed that "having the plan and the vision... helped." Indeed, Paula Mitchell, Cedar Rapids' Housing and Redevelopment Manager, felt that the process was key in building trust generally between the city and its residents—as had been one of the process' explicit goals. "Including the public in all of that dialogue I think was really important in building public trust over time," she shared:

It didn't happen overnight, clearly, but over time as people saw how people were involved in the planning and the planning was actually executed, that goes a long way with residents. And even if they didn't necessarily agree with all of the components of the plan, just having the consistency in the public entity doing what was laid out in the plan I think was very helpful.<sup>67</sup>

This element of the city's work has continued through to its ongoing recovery efforts now that these initial planning phases are over, as well. As Mitchell continued, "it's so important to not just think that we have the public trust, [but ask] how can we make sure we're keeping that as we go through the process." One way of keeping that question in the forefront is through the disposition process, a competitive proposal system in which each developer's submission is reviewed not just by City staff, development experts, and representatives of financial institutions, but "someone from the neighborhood association or other property owners in the area." Having that representation, Mitchell contends, has "helped a lot to ensure that we are looking at that compatibility with the neighborhood."<sup>68</sup> Outside of the 100-year floodplain, the city is primarily looking to the acquired parcels as a site for replacement housing. As in New Orleans, the focus here is explicitly on affordability; the city's framework plan articulates the desire to "rebuild high quality and affordable workforce housing and neighborhoods," noting that "before the flood the City was already lacking in affordable housing stock" while "with the flood, that need has only grown."<sup>69</sup>

Meanwhile, acquisitions in the levee area began in 2009, and demolitions picked up that summer. A *New York Times* article from August 2009 profiled some of the frustration—among both residents and policymakers—that the process had taken as long as it had. At least one city official at that time had grown to feel that Cedar Rapids was suffering from a lack of attention from the federal government. With only \$689 million of a promised \$3.1 billion in federal aid disbursed, Greg Eyerly, the city's flood recovery director, lamented:

We really feel that we are the forgotten disaster. We don't make sexy products. We make starch that goes into paper, we make foodstuffs, ingredients in crackers and cereal. We make ethanol. The sexiest thing we make is Cap'n Crunch... We make an anonymous contribution to our country, and people forget about us.

For their part, residents, who dealt directly with the city, directed their ire at the local level. "It's so exasperating," one Kenneth Benning, an 83 year old resident complained. "Every day you wonder what they're going to come up with that you have to deal with. Here it is 14 months or better, and the city hasn't made any move on the buyouts." (It is worth noting, however, that Benning had been able to move into a new home while awaiting news on his flood-damaged property). As evidence of the long road to recovery for communities generally, the article also mentions that some of the reason attention had flagged in Cedar Rapids is because it had been eclipsed by a resurgent interest in the Gulf—as it was the fourth anniversary of Hurricane Katrina, and many needs were still unmet.<sup>70</sup>

Interestingly, after all the attention Cedar Rapids paid to the flood protection system, the Army Corps ultimately only ended up being able to economically justify investments on the east side of the river, protecting the city's downtown. The west side levee, which would run through residential neighborhoods like Time Check that had been the subject of the acquisitions, was left unfunded. The City twice brought a sales tax increase to voters in order to raise local revenue for this element of the plan, but neither initiative passed. Ultimately, they were able to convince the state legislature to pass a bill creating the Flood Mitigation Program in 2012, a tax increment financing device that allows localities to keep any growth in their state sales taxes revenues to pay for flood mitigation. On March 29, 2014, the City's application to the program was approved by the State, securing \$264 million for the west side levee project over 20 years and putting the initiative back on track some six years after the initial alignment was approved.<sup>71</sup> As of April 2015, meanwhile, funds for the federal, east bank project—which has been approved—have not yet been allocated.<sup>72</sup>

Even in order to move forward with its own plan, the City will have to contend with the property owners who remain in the levee's path. Last summer, the City instituted a moratorium on any activities beyond regular maintenance on these properties. As Pratt explains:

We do have one small area in that northwest neighborhood quadrant where we acquired the most properties, where there are a few remaining, that we have put an overlay there to allow them to do regular maintenance but not to do any expansion or new construction. And the reason for that really was driven by the fact that we're having trouble getting safe water to them.<sup>73</sup>

A Cedar Rapids *Gazette* article that profiled the moratorium explained that with significant depopulation in the neighborhood—the City counts about ten homes and two businesses in the area subject the moratorium—water demand has decreased by 96 percent, and the City is spending \$60,000 a year to continually flush the system in order to ensure it is safe to drink. The article also states another reason for the moratorium, however. According to Sandi Fowler, the assistant city manager, "the moratorium is intended to limit further investment in the area so the city doesn't have to pay more when the time comes to buy property." Though all of the initial acquisitions in the area were voluntary, with the levee finally moving along the city is now considering the use of eminent domain for "properties in this area that we feel that will eventually need to be city-owned."<sup>74</sup> According to Pratt, "in our future land use maps... we just have [the moratorium areas] down as 'future flood control." This will be the case until the City has a truly final alignment, slated for June 2015, at which time will reexamine the issue with "those policies before them on what will the cost be for providing services to those homes once a levee was built in that neighborhood."<sup>75</sup>

On a final note, as Cedar Rapids moves forward with flood protection it has also begun a planning process to bring more specificity to the riverfront park plan. As Mitchell told me, many of the area's former residents are still invested in seeing how the neighborhood will take shape in its new iteration, and have been showing up again for this latest of many planning processes. "It was interesting to see how many of the residents that no longer live there... do show up," she related. "There's this huge connection that they still feel with this area. That lasts."<sup>76</sup>

# **CHAPTER SEVEN:** Conclusion

What conclusions can we draw from these experiences, both in New York and elsewhere? There are several, and can be understood as belonging to one of two categories. The first offers practical lessons on how to guide the future of the East Shore now. Community members and policymakers alike have largely agreed on a vision to pull development back from some areas, compensate with greater density in others, and explore new housing typologies that can preserve affordability while providing a greater degree of safety. Yet the acquisitions as they stand now will have difficulty meeting these goals. With the acquisition programs and Resilient Neighborhoods process picking up steam, this first set of recommendations will be most useful for the residents and policy makers who, given the programs, policies, and processes that are already in place, seek to shape their community as best they can. The second set of conclusions probes broader and deeper to investigate the practice and meaning of planning in a post-disaster environment. Lessons gleaned here will hopefully be useful in guiding the work that remains to be done in New York, while at the same time serving as a touchstone for crafting future policies both there and elsewhere.

#### What Now?

Looking at the experience in New York, the information generated by the processes that have occurred so far, and lessons gleaned from New Orleans, Cedar Rapids, and elsewhere, there are a number of steps that New York can take now that will hopefully lead the East Shore and its residents to better outcomes. The following recommendations, which could be developed as part of the Resilient Neighborhoods process or as stand-alone programs, seek to outline such an agenda.

#### Development Controls for the Buy-Out Areas

However one feels about the retreat program advanced by the State, the best outcome, now that the program is in place and significant demolitions have occurred, is to encourage participation—moving the area closer to the future described by Garcia-Duran, where the land acquired may perform any number of beneficial community functions that would be difficult to

achieve on today's scattered sites. In order to facilitate this shift in the long term, the areas should be rezoned, as is likely to occur in Cedar Rapids, in order to prevent any significant upgrades to the remaining structures that would represent private reinvestment in the area. As described in Cedar Rapids, if the program is to remain open for future buyouts, this would also hold down property values in the area in support of future acquisitions. Though this cannot legally be the primary goal of the zoning action, it is a relevant consideration, as voluntary offers may continue to arise when people are confronted with the realities of living in a depopulated neighborhood. The Ocean Breeze resident I spoke with informed me that if anything would influence her decision to leave, for example, it would be the changes to the neighborhood, rather than fear of another storm—her husband no longer allows her to walk the dog alone at night, and she feared the drifts that might result from an upcoming snowstorm now that there was so much open land over which the snow could accumulate.' I asked Garcia-Duran whether this option was being considered, and he informed me that it had been raised, but was still very much an open question.

#### Land Swaps

Another strategy that might assist the city is to pursue a land swap model like the one Hebert described in New Orleans. Again, such a strategy was mentioned by East Shore community members during the SImagines process, which identified a desire for "property exchange." Residents who were not interested in selling and moving out of their neighborhood through the Build it Back program might be more interested if they were able to relocate within the neighborhood to replacement housing that had already been identified, or even move their home to another parcel (this latter strategy may even work in the State program, if hold-out residents could be successfully consolidated to one road or one edge of the buyout area). Such a program would also provide a second chance for other community members that may even have become belatedly interested in Build it Back, but are no longer able to participate, as registration has closed. The city could undertake such work directly or, if trust issues persisted to such a degree as they did in New Orleans, could work through intermediary organizations.

Such a strategy could represent a compromise between the City's opportunistic cluster agenda and the more comprehensive clustering program that lay at the root of the Acquisition for Redevelopment pathway in the first place, at least according to Borough President Oddo. Moving existing bungalows onto existing lots of commensurate size could both provide a development option for these parcels and open up more contiguous land elsewhere that would provide meaningful opportunities for restoration and redevelopment.

#### **Open Space Planning**

As part of the Resilient Neighborhoods process, the Department of City Planning should launch a participatory planning effort to determine not only which areas may be targeted for re-naturalization, but what those areas would then look like. Developing a plan for the State buyout areas with both their residents and their neighbors could help to generate buy-in that would support the implementation of a number of the other recommendations described above. As established earlier in this thesis, in Cedar Rapids residents who were bought-out have even returned to engage in such a process, and it seems that in New York the vision of a future natural area was a factor in convincing at least some residents to accept that State's offer; if a homeowner was able to see what would be possible if their home was moved three addresses down that wouldn't be possible if it stayed in its current location, they might be more inclined to embrace this option.

#### The Lot Next Door

Up to this point, the Lot Next Door has been NORA's single most often used disposition strategy in post-Katrina New Orleans. According to Hebert and others, this broad application of the program has made an admirable impact in many of the city's neighborhoods. In the SImagines process for the East Shore, residents themselves listed a similar-sounding policy — "first right of refusal for adjacent lots" — as one of their concepts for moving the neighborhood forward. As I have mentioned before, any comparison of New Orleans and Staten Island must be sure to take into account the very significant differences in real estate market dynamics that exist between the two localities; it must be noted, then, that the Lot Next Door's primary purpose is to provide ownership over land in which there may be little development interest, in order to ensure active use and maintenance of a property that would otherwise be a blight upon the community. Still, however, I believe that the program has applicability to the East Shore.

First, I believe that a modified version of the program, providing for leasing rather than sale, may be useful in the State buyout areas. If these areas are not likely to be cleared in anything less than a twenty year timeframe, providing remaining residents with the opportunity to lease adjacent, vacant parcels on a temporary basis for non-structural uses could help to mitigate the jack-o'-lantern effect in the neighborhood during this long period of transition, while also decreasing maintenance costs for the city. This is especially important in light of the fact that maintenance of these parcels is not only a legal obligation but a critical safety issue, as some have raised concern that the phragmites likely to move in to the area absent any active restoration plan may increase the risk of wildfire for both those that remain and adjacent communities.

Second, such an option could also be useful to HPD in the Acquisition for Redevelopment program. With the agency concerned about acquiring lots that may essentially be physically undevelopable, it makes sense to provide neighbors with an opportunity to assume ownership of the open land, which would likely be too small or difficult to maintain for the city to use it as public open space. Indeed, it appears that the Department of City Planning is explicitly considering mechanisms that would encourage lot combination, as evidenced by language in *A Stronger, More Resilient New York*, which mentions that Resilient Neighborhoods "zoning changes may include mechanisms to accommodate or even encourage retrofits of buildings on existing lots, and the voluntary construction of resilient housing through the combination of smaller lots."<sup>2</sup> If development were either temporarily or permanently disallowed on these parcels, as in New Orleans, such a program would perform the same function as it might in the Buyout areas, helping to ensure that vacant properties don't drag down the neighborhood and reducing the city's maintenance burden. Of course, if development were allowed, this policy would also further the Department's clustering goals by another means—fulfilling the same goal as the zoning changes mentioned above.

When considering clustering, however, it is important to decouple the legitimate infrastructure, safety, and logistical concerns that are driving a push for the creation of larger lots from the reports of class-based hostility to a typology that provides affordable housing in the community. There are serious concerns about the viability of the bungalow as a typology in the face of a changing climate, and larger lots could help the area overcome some significant challenges.

But, at least in my opinion, consigning the neighborhood to the kind of changes that Lakeview has seen—even if such change would not be as visible or dramatic as the universally dreaded condominium towers—would be undesirable. How, then, could concerns about resiliency, density, neighborhood character, and affordability be balanced? One strategy, perhaps, would be to condition any construction that the new owner undertook on the lot on certain factors designed to achieve this harmony, achieved through deed or zoning restrictions on city-acquired parcels; such regulations could permit redevelopment of new typologies if they maintained or increased historic density levels, for example, but not allow the expansion of the single family footprint over two adjacent lots.

#### Focusing on Affordable Housing

In Cedar Rapids, redevelopment has been explicitly focused on workforce housing. In New Orleans, while the City has pursued auctions in some areas, development over which it has exerted control is also explicitly being used to construct affordable housing. Inevitably, some lot combination and new development will happen on the East Shore through the private market—just as it did before the storm. This is all the more reason, then, for the city to make a strong commitment to affordable housing on the parcels over which it will maintain control. While many parties have acknowledged the difficulty of pursuing affordable housing on Staten Island, it is also worth noting that community members expressed a desire "to preserv[e] neighborhood character and affordability during neighborhood recovery and rebuilding" in *A Stronger, More Resilient New York*, and to "maintain pre-storm affordability" through SImagines. As noted earlier, the Community Board that will ultimately have an institutional voice in any development projects represents a much broader swath of the Island than these shorefront neighborhoods, including wealthier, upland areas. Still, with affordable housing a major goal both on the East Shore itself and citywide, it seems worth attempting to pursue despite opposition at this middle scale.

One way that this might be achieved is, again, to decouple concerns about density, safety, and affordability by focusing on lower density, resilient housing typologies that are also affordable—and, like the bungalows, at a market rate. While this may be easier said than done, it is being explored, and residents expressed interest in "diversify[ing] low-rise housing types" through SImagines. In the previous chapter, I quoted *A Stronger, More Resilient New York* in recommending a design competition to identify just such a prototype, in order to "develop new, high-quality housing types that offer owners of vulnerable building types (e.g., older, 1-story bungalows) a costeffective path that is consistent with city building and zoning requirements and meets the highest resiliency standards." The competition was launched under the name of FARROC in April 2013, and solicited ideas for the redevelopment of the Arverne Urban Renewal Area, an HPD-owned property in the Rockaways that was cleared through urban renewal in 1969 (and that was the subject of the quotation that opened my thesis). Ultimately, Local Office Landscape Architecture was chosen to move forward with the plan. Walter Meyer, one of the principals of the firm, explained the thinking behind the project. "While the mayor's office is concerned with subsidized housing, which he should be," he explained, "[we're asking] how do we build rungs in the ladder that get you to climb out of poverty and build generational wealth... So that is not necessarily a subsidized question, it's more about creating semi-subsidized and unsubsidized shades of grey that are about the housing size. Four walls, a garden, owned by the family. It's an outer borough version of the micro-unit, the Manhattan micro-unit."3

In order to arrive at what such a typology might look like, the firm "studied all of the typologies in Rockaway, bungalows, cottages, detached backyard rental units, and what we came up with was basically a townhouse model, kind of like a rowhouse, but it's really skinny." Each element of the building's specifications have been carefully considered. At 15 feet wide, the townhouse can be produced off-site as a modular unit, and stays under the larger threshold that would require special transportation arrangements—such as traveling only at night, and with an escort—that would drive up the overall price of the project. The building has a double-height first floor to allow for commercial uses, with a studio apartment and a two-bedroom, two-bath apartment above. The concept is that a family would be able to purchase the building to live in the large apartment, keeping down their costs by renting out the studio to help cover their mortgage, and, depending on the zoning and market demand, renting out or running their own business on the ground floor (this area could otherwise serve as additional residential space). The firm also considered an even smaller model, down to 14 or even 13 feet, but ended up preferring the 15 foot model in that it allowed for a separated stairwell, keeping open the possibility that the additional units could themselves be sold as condos to provide additional affordable ownership options in the future. Finally, the building would be built to passive house standards, in order to hold down longterm costs of ownership by minimizing utility bills. As Meyer explains:

it's a marketplace answer. It can be subsidized to make it really easy, but it doesn't depend on the subsidy just because it's so small. The developer likes it because it's more profit per square foot – it actually costs more per square foot for the units – and they [the consumer] like it because the unit cost is low. It's the same strategy as micro-, but it's the outer borough version.<sup>4</sup>

Of course, the Arverne project has the luxury of working on an empty site, and Local Office's concept took advantage of this in proposing a townhouse solution. Constructing new attached housing on the East Shore would be more difficult given the setback and lot line requirements across scattered sites. Still, the approach involved much creative thinking and, particularly with rezoning efforts currently underway—and if a land swap model was pursued—may yet be applicable to the East Shore. This is particularly important because, as Garcia-Duran notes, rezoning can only accomplish so much. "It's one thing to show communities pretty pictures of wonderful beach-side communities," he explained:

but if developers turn around and use those same rules to build something that doesn't look like it or not what we intended, that's not helpful at all. So it's a matter of being able to identify solutions that will capture their imagination but also be able to have the tools to provide something close to it.<sup>5</sup>

The most powerful and direct of those tools would be to undertake development directly on the land that the City will now own in the neighborhood.

#### The Future of the East Shore

Taken together, these recommendations may not arrive at the grand ambitions of either the City's or the State's programs in the immediate term, but could provide the tools and frameworks

necessary to allow something closer to these visions—visions that many of the involved parties seem able to get behind—to take root in the East Shore over time. Freeing up more land on which to operate through development controls and land swaps could create enough contiguous parcels in the buyout areas to pursue Garcia-Duran's concept of a natural area that has real function as a wildlife habitat, drainage network, flood protection, and community asset, just as the East Lents Floodplain project does in Portland, Oregon; embedding this effort in a community-based design process would help to generate the investment needed to keep it moving forward as well as ensuring that it reflects resident priorities and honors those who left or lost their lives. If pockets of housing did remain in the midst of these areas, they would be, perhaps, two homes framing one neighbor's proud garden, grown on land leased from the City. These spaces would support the seawall both by providing the necessary drainage area but also integrating it more easily into its surroundings—providing room for a gentler slope on the landward edge, for example, and providing for a transitional landscape that moves from the wetland areas to a protective, forested dune before giving way to the beach.

Embracing the SImagines solution of a constant overall density for the East Shore that would be redistributed to higher-density developments and depopulated natural areas, elsewhere these tools could help to promote more vibrant, affordable development pattern that provides a safer home for new and existing residents, at densities that support new commercial uses. Such development could meaningfully relate to the new open space, revitalize the beach and boardwalk areas, and cluster in such a way as to make the region more easily serviceable by public transit, such as select bus services. Hopefully, overall, these tools could help to shape Borough President Oddo's "safer, more resilient, and overall more vibrant place."

#### Why Plan?

Beyond these immediate practical implications, the research I undertook also yielded insights into the proper role of planning after disaster more broadly. Throughout many of my interviews, the relevance of planning to post-disaster acquisition and redevelopment programs was consistently and explicitly questioned. Even in Cedar Rapids, where the city manager emphasized the importance of an engaged process, city staff that I spoke with emphasized more than once that acquisitions were primarily a way to meet community needs, not to reshape the face of the city. Despite what by many and certainly New York's standards could be considered a very rapid roll-out, by July, one month after the storm, residents in Cedar Rapids themselves were concerned that they had not yet been given direction about where and how to rebuild. Residents of Oakwood Beach, meanwhile, would likely praise the fact that they were able to circumvent the conventional planning process to obtain relief as quickly as they did. By all accounts, too, this speed was a key factor in the program's high degree of uptake.

But planning does not necessarily equal delay. Indeed, one of the strongest themes I extracted from the Cedar Rapids case was that how we conceive of "immediate needs" in the context of a federally funded disaster recovery program bears questioning. No matter how immediate those needs may be, grants for acquisition and redevelopment programs must wend their way through Congressional appropriations, the drafting and approval of action plans, and other compliance checks before even the first round of funding is released. Even the State of New York's program, widely praised for its speed, wasn't announced for Oakwood until four months

after the storm, and was extended to other communities considerably later. The State did not close on its first home, moreover, for a full year after Sandy. Though these delays may be regrettable, the situation being what it is, there is no reason that planning shouldn't happen in the meantime; the first round of the process in Cedar Rapids, while not perfect, had concluded within five months of the flood. According to Vengoechea, Brokopp-Binder, the Cedar Rapids planners, and others, such a process can also meet an "immediate need" in providing for psychological relief in the disorienting days and weeks after a disaster. With something concrete and productive to focus on, a forum for gathering information, and a goal to work toward, planning processes may actually help struggling residents behind to heal.

Importantly, Cedar Rapids took a number of steps to ensure that the time they took to plan would also pose as little of a burden upon its citizens as possible, providing property tax relief, mortgage assistance, and down payment assistance for a new home. The City of New York's plan allows for mortgage assistance "in extremely limited and time-specific instances" where selffunded rehabilitation work has created a financial hardship for a homeowner, and only in cases where these homeowners are receiving CDBG-DR funds for additional rehabilitation beyond what they had already undertaken.<sup>6</sup> One commenter on the draft plan asked directly about mortgage assistance, and the City explained that repair was its first priority: "The City is prioritizing the initial allocation of CDBG-DR funds for owners facing ongoing repair needs. As reflected in the needs assessment included in the plan, significant physical repair needs remain. HPD will consider additional mortgage assistance programs for future allocations of CDBG-DR funding as repair needs are addressed."<sup>7</sup> While this is certainly a legitimate concern, perhaps the assistance could be targeted in areas, like the East Shore, where it quickly becomes clear that there may be resident interest in rethinking development in the area—and thus rebuilding and repair won't be happening immediately anyway. Outside of this kind of financial assistance, the City's own Rapid Repairs program also provides an interesting alternative model, buying residents time to consider their options by providing them with their true immediate needs while further assistance is on the way.

It is also worth noting that, in terms of the higher degree of participation associated with speed in offering acquisition programs, any delays that might occur through an engaged planning process may be compensated for in part through the benefit of the trust that they build between government and its citizens. In "Planning, Plans, and People," Nelson, Ehrenfeucht and Laska highlight the importance of the trust factor in New Orleans, considering at length the potential difference that taking a more inclusive approach from the outset could have made, while acknowledging the concerns about time sensitivity in the wake of a disaster. "The mayor, when designing the BNOB Commission, did not fully acknowledge the need for a participatory process to both build residents' trust and foster dialogue among all stakeholders about rebuilding strategies and concerns," the authors explain. "The city faced a significant conflict between needing to act quickly to get the city up and running and developing an inclusive, deliberative recovery process."8 Ultimately, however, they believe that the choice to favor rapid action, particularly when dealing with analready marginalized population, is what fomented such mistrust and ended discussion of major land use changes. "Distrust, which should have been anticipated, had far-reaching consequences because," they write, "in the face of strong opposition, the city's administration pulled back from the BNOB's suggestions without further discussing or refining them."<sup>9</sup> The authors believe that an inclusive process could have helped to at least allay these issues, contending that "participatory processes can be a way to share information, both for the government to convey

information and for agencies to obtain information from residents about local areas and priorities; build trust and knowledge about a process or project; and lead to better, substantive decisions through discussion and information sharing."<sup>10</sup> It is worth noting as well that at least the staff in Cedar Rapids, where emphasis was placed on such a process after the flood, believed that the process they undertook in the wake of their city's disaster really did build trust, and provided significant dividends in getting the project approved and implemented down the road. While New Orleans residents were likely less trusting than those in Cedar Rapids to begin with, the Iowans' trust, too, had to be earned. As Paula Mitchell reflected:

including the public in all of that dialogue I think was really important in building public trust over time. It didn't happen overnight, clearly, but over time as people saw how people were involved in the planning and the planning was actually executed, that goes a long way with residents... even if they didn't necessarily agree with all of the components of the plan."

Such trust issues are certainly relevant to Staten Island. Even outside of the context of Superstorm Sandy, residents and politicians often call attention to the Island's long-suffering "forgotten borough" status. During the recovery, this was amplified through early complaints about the immediate response effort, multiple mentions of gentrification through redevelopment that I heard expressed, and Koslov's contention that, more than anything, residents were more willing to deal with the State than the City based on their differing levels of trust for the two levels of government. SImagines is an interesting case to consider in this context. While the process seemed to generate real benefits, it also only consisted of one meeting in each area. While the fact that it was led by local, non-governmental actors seems to have made it easier to initiate conversation with residents, meanwhile, it also meant that it lacked any binding regulatory force. A more effective adaptation of the approach might have been to craft a longer-term model that empowered non-governmental facilitators to lead the process while also being officially endorsed. Though one could argue that this was the approach adopted by the Special Initiative for Rebuilding and Resiliency and NYRCR, I believe it is fair to categorize these as hewing closer to the "blue ribbon panel" approach of Bring New Orleans Back. Boyland, who sat on the NYRCR Committee, noted that the process was not as participatory as SImagines, and Vengoechea pointed out that few if any residents who were not affiliated with a local interest group served on the Committee. With A *Stronger, More Resilient New York* referring to resident meetings as "briefings," meanwhile, it does not seem the emphasis was on two-way communication.

Another argument that arose from the case studies might be that the private market, left alone, will solve the problem—recalling Hebert's observation that, even with no neighborhoods declared off limits, redevelopment has largely unfolded along the lines predicted by the ULI. There are two important counterpoints worth stating here. First, it is not clear that Sandy has put a meaningful dent in the real estate market in Staten Island, where demand was by and large much greater than in New Orleans before the storm and the East Shore in particular had seen a surge in interest. Hebert's experience suggested that those markets that were strong prior to Katrina actually did, ultimately, end up largely regaining population, and analysis in Bloomberg Businessweek has suggested that coastal home values in the United States have not typically been very responsive to hurricanes.<sup>12</sup> It is true that as late as August 2013, an article published in *The* 

## Hurricanes Haven't Sunk Coastal Home Values

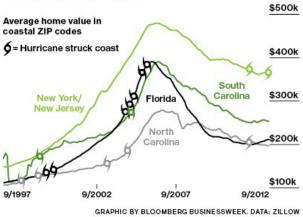


Fig 7.1: Coastal Home Values. Weise, 2013.

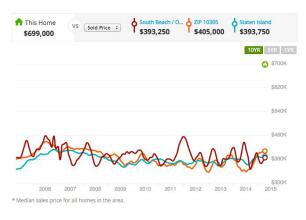


Fig 7.2. South Beach Home Values. Trulia.com.

*Real Deal* described that, despite a high degree of interest in sales in high and dry areas of the island, "the real estate market [was] at a virtual standstill in communities hit hard by the storm, such as Midland Beach, South Beach, New Dorp Beach, Oakwood Beach, Great Kills and Tottenville," citing median sale prices that had dropped from \$330,000 in the second quarter of 2012 to \$125,000. Many of those homes, however, required significant repairs or were being marketed as tear-downs; this data was not, then, necessarily reflecting a significant depression in underlying land values, and it also doesn't mean that these properties didn't ultimately sell.<sup>13</sup> Indeed, data from Trulia.com pulled for Midland, South, and New Dorp beaches shows significant volatility (perhaps because not many homes are sold in the area in any given period), but generally does not seem demonstrate lasting impacts directly related to the storm.

Indeed, without the government involved, it seems more likely that, rather than disinvest from the area, the market would simply skew toward those able to afford high insurance premiums and resilient construction. For example, an April 2015 *New York Times* article profiling Long Beach, a vulnerable barrier island community on Long Island that shares some characteristics with the East Shore, noted that "damaged bungalows are being lifted and rebuilt, and in some cases being sold to young families and empty nesters from Manhattan and Brooklyn."<sup>14</sup> Finally, even if one

were to think that the market might drive land use change in the absence of planning, it is not clear that this would lead to desirable outcomes. Recall that, as Hebert reflected, even though "a good bit of that stuff [depopulation in the "green dots"] came true," he always wonders "if the politics weren't what they were, how much more pro-active we would have been able to be and how different things might look today." One need not look hard to see many cities struggling with the outcomes of piecemeal, uncoordinated divestment from their neighborhoods, which leads to many of the same problems identified in the voluntary City and State processes in which not everyone has chosen to participate.

Finally, on the note of politics, it is important to reflect on the role of the political process in Staten Island. Several of my interviewees described the decision to offer the State buyouts as an ad-hoc response to political pressure on the governor's part, based on a "squeakiest wheel" theory of which neighborhoods should be included in the program. Indeed, obtaining the program in some cases may have even hinged on the efforts of a few key community members; in Ocean Breeze, for example, members of the Ocean Breeze Civic Association staffed a tent in the neighborhood for months on end in an effort to gather enough signatures to submit to the governor.<sup>15</sup> One way to view this is that this is how democracy works, with citizens banding together to hold their elected officials accountable for delivering on their constituents' needs. It is interesting to consider how this process, however, might disadvantage others. The governor's program focused on a limited number of homeowners advocating for themselves based on the needs they felt related to their own homes and parcels of land. These people, understandably, cannot then necessarily be expected to have much immediate concern for the broader neighborhood—indeed, their intention is to leave it. Absent any consideration of that scope, however, meeting the immediate needs of a group of vocal homeowners may ultimately be taking action to the detriment of those immediately beyond the tightly defined buyout area. The fate of the businesses, schools, and community institutions that were supported by that community is called into question; residents who used to live in the center of a community now live on the edge of a wetland. On the other end of the spectrum, South Beach residents who hoped to receive the buyout were mounting protests about their exclusion from the program as late as the fall of 2014, which is not helping to build long-term trust for future neighborhood change.<sup>16</sup> Even within participating communities, the approach may be fraught. An article by Daniel De Vries and James Fraser examined buyout programs with a high rate of participation across four cities and took issue with the portrayal of that rate as representing community consensus, finding that fully 35 percent of those interviewed did not feel their choice had been truly voluntary.<sup>17</sup> While De Vries and Fraser's article deals primarily with the ways in which officials might coerce community members into participation, it is also well accepted in the literature that there is "tipping point" beyond which residents who may not have initially been interested in a buy-out choose to accept it based on their neighbors' participation, and concerns about a depopulated neighborhood.

Ultimately, as described in the first section, it likely makes sense to move away from some neighborhoods, despite the challenges that acquisition programs face. Like Gumb, Meyer, and several others that I spoke with expressed, I believe that some areas may just be too vulnerable, particularly given the changing climate. My argument is not that this may not ultimately be the right decision for some areas, however, but that these decisions cannot be made as if every homeowner is operating in a vacuum. If retreat is to be discussed, so too should replacement housing, and the use of acquired land to serve adjacent neighborhoods that are left behind. If redevelopment is to be discussed, so should how post-disaster land use decisions may shape the future of a place for many years to come, and for whom the area is being rebuilt. Placing a wider frame around the discussion allows planners and residents alike to consider not only those areas that suffered most but those neighboring areas that didn't, and how those, too, may be affected by the changes taking place. A thoughtful, engaged planning process can hopefully lead to a more balanced answer to the question of if and how to rebuild communities. Such a process could look much like SImagines, given more resources, stronger institutional backing, and a longer time frame. Key is that residents should be asked not just to identify the critical facilities that they have lost, or the protections that they desire, but to envision the neighborhood in which they would like to live decades down the road. Discussions about the necessary trade-offs should be clear, and could be facilitated by novel engagement tools: demonstrating projections of the impact of certain programs on housing costs, for example, and the tools that may be available to offset it. Many

have decried the use of disaster as an opportunity to craft grand plans that legislate a new future for a community. But, following Vengochea's exhortation "to rethink the way we do planning," this moment of opportunity—the "design moment"—can also be used to place that power in the hands of impacted communities themselves.

Even if one accepts that planning is important to this situation, however, it is an open question as to how a successful process might be fostered. As in everything else in disaster situations, the best outcome would be to be able to thoughtfully consider the issue before disaster strikes—in a proactive, rather than a reactive mode. This has been the recommendation of disaster scholars for a long time, however, and at least in this country it is easier said than done. For example, as explained in the previous chapter, the Resilient Neighborhoods process is occurring not only in Staten Island, but in many locations around the city, including Edgewater and Harding Parks in the Bronx. Due to their elevation, location, and housing stock, these neighborhoods are vulnerable to severe weather and climate change. With Sandy arriving when it did, however, the Bronx did not bear the brunt of storm; according to Michael Marrella, though a few homes were damaged, "the memory of Sandy has already receded." Through Resilient Neighborhoods, Marella explained, "we thought that one possibility was to discuss in advance of the next storm with these Bronx communities—well, what should the plan be for the neighborhood after the next event? [But there was] very little appetite for that sort of discussion."<sup>18</sup>

Of course, as we have seen, there are many issues with trying to initiate a genuine process after such an event, as well. One place to look for help in this area, however, may be the federal government. In New Orleans, Cedar Rapids, and New York, major housing recovery and redevelopment programs were undertaken with CDBG-DR funding. To receive funds through the program, grantees must submit and receive approval on documents that are hundreds of pages long, demonstrating compliance with many federal rules. Yet few if any of these rules meaningfully consider planning process. While a local government should be leading the way in such an endeavor, the federal government can play an important role in ensuring it does so, one that is particularly important given that the cases examined demonstrate that politics between conflicting branches of government—whether it be the mayor and the city council in New Orleans, or the city and the state in New York—is equally as significant of a factor in shaping recovery as the politics between a government and its people.

At the very least, HUD could refrain from providing funding to undertake two separate housing recovery programs within the same geographical area. Prior to grantees submitting Action Plans, HUD publishes a list of any waivers of federal rules applicable to the grant in the Federal Register. Such waivers are broadly authorized by the Appropriations Act underpinning the Community Development Block Grant program, allowable "based upon a determination by the Secretary [of HUD] that good cause exists and that the waiver or alternative requirement is not inconsistent with the overall purposes of title I of the HCD Act." In advance of Superstorm Sandy, a waiver was published in the Register stating that the "requirements at 42 U.S.C. 5306 are waived, to the extent necessary, to allow a State to directly carry out CDBG–DR activities eligible under this Notice, rather than distribute all funds to UGLGs [units of general local government]. Experience in administering CDBG supplemental disaster recovery funding demonstrates that this practice can expedite recovery."<sup>19</sup> This has been a standard waiver that was granted in both Cedar Rapids and New Orleans. It is hard to imagine, however, that homeowners being unsure of if they are, or should be, dealing with the State or City helped to expedite recovery in New York. If allowing

the State to run programs directly makes sense—and I will defer to HUD's depth of experience in the field on that point—the agency could either not provide separate funding to localities in such a case or decline to approve State action plans that intend to provide programs that overlap considerably with similar programs being provided by a local government in a given area.

HUD regulations governing CDBG-DR actually do also contain a requirement that grantees develop a "citizen participation plan," as well, that must be adopted before any funding is received. The rules governing this element of the program, found in 42 U.S.C. 5403(a)(2) and (3), 42 U.S.C. 12707, 24 CFR 570.486, 91.105(b) and (c) and 91.115(b) and (c), are primarily concerned with furnishing information to citizens, holding hearings, and allowing plans to be subject to a public comment period. Even these modest requirements were also waived in the name of streamlining, removing the hearing requirement and providing a truncated public comment period. Though I appreciate the "conflict between needing to act quickly to get the city up and running and developing an inclusive, deliberative recovery process" that Nelson, Ehrenfeucht and Laska identified in New Orleans, I believe it is worth considering whether HUD might attach more meaningful public participation requirements to its funding. Though I have argued earlier that part of the rationale for incorporating a public process is that it will take time for federal funds to become available, HUD could potentially create rules that would require approved programs to be in harmony with a participatory process that had already been undertaken in the wake of the disaster.

HUD could also require through the Action Plan approval process that any proposed buyout be tied to an agency that has agreed to be the long-term steward of the land. While it may be unrealistic to require any land use planning to occur prior to a buyout, as grantees would not necessarily be able to identify which parcels would become available in advance, the federal government could perhaps require that grantees demonstrate that funds are available for ongoing maintenance of these properties, and that a planning process for their use will be carried out once properties become available. It is worth noting in this context that the process that was offered so quickly in Cedar Rapids also provided a very accurate picture to planners of who would be participating in the acquisition program early on—their projections ultimately fell within 100 homes of the 1,400 they ended up acquiring in reality.

Finally, in order that any mandated planning processes be taken seriously, HUD could also decline to fund parallel processes like the Special Initiative for Rebuilding and Resiliency and the New York Community Rising program, which undertook neighborhood planning efforts in the same communities. Such competition, again, gives community members an unnecessary reason to distinguish between the different governmental agencies providing relief and recovery planning; in a situation where the array of available programs and policies for affected individuals can be dizzying, creating such a multivalent system only further confuses the process. Such a policy may not be able to address competing planning efforts that happen outside of the CDBG-DR process, such as the New Orleans City Council's and Mayor Nagin's. Yet it seems that frequently, bodies such as Rebuild Iowa, the Governor's Office of Storm Recovery, and the Housing Recovery Office are formed by governments in the wake of disaster to take charge of managing relief grants and interfacing with the federal government. Even if not dealing directly with differing agencies, HUD could use this opportunity to bring stakeholders together to the table when bodies such as these are being formed.

This institutional framework is important, and may also provide an opportunity to work

back toward at least some meaningful planning happening prior to a disaster. If a body such as the Governor's Office of Storm Recovery is to be created in the wake of every event, it may be worth having a similar, if perhaps less formal, body extant all the time. Such an agency could facilitate pre-disaster discussions not just at the State, but across governmental levels—and potentially also with ongoing citizen involvement—that build trust and relationships such that when something does happen, parties at least have enough of a dialogue with one another that they can share concerns about proposed approaches, even if they don't ultimately come to consensus. Internally to the Department of City Planning, a flood resilience working group meets weekly to discuss ongoing recovery and future planning efforts. A similar institution, expanded to other stakeholders, could at least begin to move toward the structure needed to facilitate genuine cooperation in the wake of disaster, and could generate agreed-upon engagement plans necessary to support a coordinated, on-the-ground planning response after the next storm hits.

In the introduction to this thesis, I quoted a warning from Jacob Wagner and Michael Frisch: "the decisions made during a design moment can shape the physical form of a city for decades," they wrote, "or even centuries, to come." Too often, in the heat of the moment, those decisions are rushed, made by fiat, or representative of one perspective in a deeply contested yet unacknowledged field of views. Planning process after disaster, meanwhile, has been denigrated as divorced from the immediate needs of those it purports to serve and bent to the service of the grand ambitions of planners and designers eager to capitalize on the design moment in order to pursue their own ends. Neither, I believe, need be true. The design moment is as much an opportunity for residents as it is for any others, and if the right structures are in place, they can work in concert with their representatives to confront, together, the hard choices that need to be made to arrive at a safer, improved community that serves its residents and the city at large.

## Postscript

Sunnymeade Village:

"We're looking back into the past. And what South Beach used to be, it used to be a resort back in the late 1800s."<sup>1</sup>

There is at least one place on the East Shore where acquisition may be being used on somewhat of the "grand scale" that had been explored in Cedar Grove. When Governor Cuomo announced the buyout program, members of the South Beach Civic Association had hoped to be included. Once it became clear that the Governor would not be adding any additional Enhanced Buyout Areas after Graham Beach, however, the group began to consider what other options might be available to them. In partnership with Zone A New York, an organization that formed to advocate for residents and rethink Staten Island neighborhoods after Superstorm Sandy, the Civic Association invited David Businelli and architect Matthew Bremer of Architecture in Formation to lead a re-visioning effort for South Beach, starting in the 20-home bungalow colony of Sunnymeade Village. As Businelli explained, the visioning effort is important for residents because, absent such a process, it is uncertain exactly what would happen to the neighborhood if they all decided together to sell to the city. "Let's say the city comes in and buys an entire block," he hypothesized. "Then what? What are they going to do? They're going to sell off lots? Some developer is going to come in and buy four lots, right? And make them, compile them into as-of-right zoning lots, and then what? They're going to build the same old stuff?" While this concern may again reflect miscommunication between the City and its residents—certainly, the City hopes that any development that might occur would be subject to the new zoning that would be put in place by the Resilient Neighborhoods process, and that this would not allow developers to simply build "the same old stuff"—it also highlights Garcia-Duran's concern about being able to guide future development through zoning alone. In addition, it reflects the importance, to this community, of coming to a decision together about a place that they might want to return to.

Designs for the redevelopment are in the early stages, but Businelli and his partners have already articulated two key elements. First, they believe that higher densities in the area might be possible, but only if a comprehensive approach is taken to improving streets and infrastructure

and, importantly, if residents are able to preserve some amount of the small, private open space that they have been used to. Second, the team hopes to take inspiration from the past: creating a vibrant, mixed-use beach community that hearkens back to South Beach's boom days as a summer resort. Businelli explains that the basic concept is to create a development, much like Local Office's scheme, that creates space for "lower-level commercial and upper-level residential, whatever form that takes. The initial idea was to put some detached units on a platform above the retail," he explained, "that may become a more of a higher density type situation, but we don't know yet."

The approach faces some challenges. Like all of the other redevelopment initiatives, the plan still requires a high, if not total, degree of participation, and details of how residents would be able to be displaced temporarily before returning to claim a unit in the new development have yet to be worked out. Still, according to Businelli, residents were very receptive to the first presentation. Because it's a much smaller area than Cedar Grove, Garcia-Duran also mentioned Sunnymeade Village as one possible area where a broader approach to acquisition for redevelopment might be possible. Businelli's hope is that the development could set a tone for a new vision for the area that would radiate outward from there, starting with the nearby historic Sand Lane. Maybe South Beach, the first East Shore neighborhood to develop after being connected to the rest of New York by train, will be the first to be redeveloped in the twenty-first century—as the result of a citizen-led visioning process, viewed with cautious optimism by the city, which embraces a past that embraced the sea.



Figure 8.1: South Beach Redevelopment Rendering. Zone A New York, 2014.

### NOTES

Chapter One: Introduction

1. Weisman, Steven R. "Arverne Mirrors Renewal Woe." *The New York Times*, April 18, 1971. <u>http://query.nytimes.com/mem/archive-free/pdf?res=950DEFD6113BE73ABC4052DFB266838A669EDE</u>.

2. Haq, Husna. "Gov. Cuomo's Grand Plan Post-Sandy: Give Some of New York back to Nature." *Christian Science Monitor*, February 4, 2013. <u>http://www.csmonitor.com/USA/Politics/2013/0204/</u> Gov.-Cuomo-s-grand-plan-post-Sandy-give-some-of-New-York-back-to-nature-video.

3. James Oddo quoted in Crean, Sarah. "Awaiting the Next Storm: Staten Island Balances Long-Term Planning, Short-Term Needs." *Gotham Gazette*, April 16, 2015. <u>http://www.gothamgazette.com/index.php/government/5687-awaiting-the-next-storm-staten-island-balances-long-term-planning-short-term-needs-oddo.</u>

4. Fried, Joseph P. "Reviving the Rockaways: A Bitter Trail." *The New York Times*, July 18, 1987. <u>http://www.nytimes.com/1987/07/18/nyregion/reviving-the-rockaways-a-bitter-trail.</u> <u>html?src=pm&pagewanted=1</u>.

5. Wagner, Jacob A., and Michael Frisch. "Introduction: New Orleans and the Design Moment." In *New Orleans and the Design Moment*, edited by Jacob A. Wagner and Michael Frisch. London: Routledge, 2013. p. 2.

6. Ibid, 4-5.

7. Ibid, 14.

8. Ibid, 2.

Chapter 2: A Hostile History

1. "Rapid Transit on Staten Island: A Plan for A Belt Steam Railway to Distribute the Passengers." *The New York Times*, April 20, 1880. <u>http://query.nytimes.com/gst/abstract.</u> <u>html?res=950CE0DF173FE533A25753C2A9629C94619FD7CF</u>.

2. Collins, Glenn. "The Very Cold Case of the Glacier." *The New York Times*, September 14, 2005, sec. New York/Region. <u>http://www.nytimes.com/2005/09/14/nyregion/14glacier.html?pagewanted=all</u>, and Urban Waterfront Adaptive Strategies Project Team. *Urban Waterfront Adaptive Strategies*. Department of City Planning, City of New York, June 2013. <u>http://www.nyc.gov/html/dcp/pdf/sustainable\_communities/urban\_waterfront.pdf</u>.

3. Steinmeyer, Henry G. *Staten Island 1524 - 1898*. Revised. Richmondtown, Staten Island, NY: The Staten Island Historical Society, 1987.

4. "Rapid Transit on Staten Island," 1880.

5. "Notes of Various Interests." *The New York Times*, August 10, 1883. <u>http://query.nytimes.com/gst/abstract.html?res=9F05E5DB163AEF33A25753C1A96E9C94629FD7CF</u>.

6. Leng, Charles W., and William T. Davis. *Staten Island and Its People : A History, 1609-1929*. Vol. 1. 5 vols. New York: Lewis Historical Pub. Co., 1930. <u>http://hdl.handle.net/2027/wu.89072988603</u>. p.318.

7. "Phases of City Life." *The New York Times*, June 22, 1890. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9907E4D6123BE533A25751C2A9609C94619ED7CF</u>.

8. "New Corporations: A South Beach Summer Resort and a Charitable Society." *The New York Times.* November 1, 1890. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9F02E7DA113BE533A25752C0A9679D94619ED7CF</u>.

9. "New Staten Island Railway: Line from South Beach to Midland Beach Incorporated

Yesterday." *The New York Times*, August 19, 1899. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9F01E2DE1F3AE533A2575AC1A96E9C94689ED7CF</u>.

10. "Staten Island Land Grant." *The New York Times*, November 1, 1901. <u>http://query.nytimes.com/</u>gst/abstract.html?res=9B02E7DC1E39EF32A25752C0A9679D946097D6CF.

11. "New York's Sunday Outing: Coney Island and Staten Island Beaches Well Patronized." *The New York Times*, May 26, 1902. <u>http://query.nytimes.com/gst/abstract.</u> <u>html?res=9C00E5DE113DEE32A25755C2A9639C946397D6CF</u>.

12. "In the Real Estate Field." *The New York Times*, August 7, 1908. <u>http://query.nytimes.com/gst/abstract.html?res=9B00E2DA123EE233A25754C0A96E9C946997D6CF</u>.

13. Fioravante, Janice. "Oakwood, Staten Island: City Streets, Country Feel, and a Beach." *The New York Times*, January 27, 2002. <u>http://www.nytimes.com/2002/01/27/realestate/27LIVI.html</u>.

14. "Scores of Homes Burned." *The New York Times*, May 5, 1930. <u>http://query.nytimes.com/mem/archive/pdf?res=9DoCE6D71738E03ABC4D53DFB366838B629EDE</u>, and "40 Police Called Out in Beach Fee Row." The New York Times, June 9, 1930. <u>http://query.nytimes.com/gst/abstract.</u> <u>html?res=940DE1D81238E03ABC4153DFB066838B629EDE</u>.

15. Beminoff, Alan I., William J. Fritz, and Michael Kress. "Superstorm Sandy and Staten Island: Learning from the Past, Preparing for the Future." In *Learning from the Impacts of Superstorm Sandy*, edited by J. Bret Bennington and E. Christa Farmer, 21–40. London: Academic Press, 2015. p 26.

16. Special Initiative for Rebuilding and Resiliency. *A Stronger, More Resilient New York*. New York: City of New York, June 11, 2013. <u>http://www.nyc.gov/html/sirr/html/report/report.shtml</u>. p 273.
17. "Realty Increases on Staten Island: Percentage Advance in Five Years Greater than Any Other Borough." *The New York Times*, April 22, 1928. <u>http://query.nytimes.com/mem/archive/pdf?res=9F07E7D91538E23ABC4A51DFB2668383639EDE</u>.

18. "New Bridge Is Expected to Aid Realty in Richmond and Bayonne." *The New York Times*, November 15, 1931. <u>http://query.nytimes.com/mem/archive/</u> pdf?res=9C04E6D61030E631A25756C1A9679D946094D6CF.

19. Bennett, Charles G. "Design Is Speeded on Narrows Span." *The New York Times*, April 11, 1959. <u>query.nytimes.com/mem/archive/pdf?res=9E06E2D7103EE63BBC4952DFB2668382649ED</u>.

20. Tumarkin, Laurel, and Jonathan Bowles. "Staten Island: Then and Now." *Center for an Urban Future*, 2011. <u>https://nycfuture.org/research/publications/staten-island-then-and-now</u>, and "Staten Island Growth Management." *NYC Planning*, 2014. <u>http://www.nyc.gov/html/dcp/html/sigrowth/index.shtml</u>.

21. New York City Planning Commission. *Staten Island Development: Policies, Programs and Priorities.* New York: The Commission, 1966. 1.

22. Beminoff et al, 2015. 26.

23. Steinberg, Ted. *Gotham Unbound: The Ecological History of Greater New York*. New York: Simon & Schuster, 2014. p. 310.

24. Plambeck, Joseph. "Low Prices, Slow Traffic, Copious Sand." *The New York Times*, July 29, 2011. <u>http://www.nytimes.com/2011/07/31/realestate/low-prices-slow-traffic-copious-sand-living-inmidland-beach-s-i.html?pagewanted=all</u>.

25. Plambeck, Joseph. "Why Ask for the Moon? They've Got the Beach." *The New York Times*, July 24, 2009. <u>http://www.nytimes.com/2009/07/26/realestate/26living.html?pagewanted=all</u>.

26. Fioravante, 2002.

27. "Staten Island Growth Management," 2014.

28. City of New York. "Resilient Neighborhoods: East Shore." *NYC Planning*, 2014. <u>http://www.nyc.gov/html/dcp/html/eshore\_res/index.shtml</u>.

29. Fioravante, 2002.

30. Platt, Tevah. "For Oakwood Residents, Ocean Flooding Still Prevails." *Staten Island Advance*, April 8, 2010. <u>http://www.silive.com/eastshore/index.ssf/2010/04/for\_oakwood\_residents\_ocean\_fl.html</u>.

31. Garcia-Duran, Len (Staten Island Planning Director). In discussion with the author, January 15, 2015.

32. Leng and Davis, 303.

33. "Tide Floods Big Area in City and Suburbs." *The New York Times*, November 11, 1932. <u>http://query.nytimes.com/mem/archive/pdf?res=9A0CE3DA1E31E333A25752C1A9679D946394D6CF</u>.

34. "Gale and Floods Hit Coast; Homes Razed, Ships in Peril." *The New* 

*York Times*, November 18, 1935. <u>http://query.nytimes.com/mem/archive/pdf?res=9B07E0DA173EE53ABC4052DFB767838E629EDE</u>.

35. "1500 Families on Staten Island Taken from Tide-Flooded Homes." *The New York Times*, November 26, 1950. <u>http://query.nytimes.com/mem/archive/</u>pdf?res=9E03E2DE1E3FE033A05755C2A9679D946192D6CF.

36. "Beach Area Aided on Staten Island: Temporary Storm Protection Is Ordered for Oakwood Pending Permanent Job." *The New York Times*, October 19, 1955. <u>http://query.nytimes.com/</u> <u>mem/archive/pdf?res=9803E4DB113AE73ABC4152DFB667838E649EDE</u>. See also "Tide Floods Homes Along Coast Here: Thousands Are Evacuated – Emergencies Declared in Jersey and Fairfield." *The New York Times*, November 8, 1953. <u>http://query.nytimes.com/mem/archive/</u> pdf?res=9905E7DB103EE43ABC4053DFB7678388649EDE.

37. Knafo, Saki, and Lila Shapiro. "Staten Island's Hurricane Sandy Damage Sheds Light On Complicated Political Battle." *Huffington Post*, December 6, 2012. <u>http://www.huffingtonpost.</u> <u>com/2012/12/06/staten-island-hurricane-sandy\_n\_2245523.html</u>.

38. Foderaro, Lisa W. "To Tackle an Invasive Weed, Bringing In the Hooved Pros." *The New York Times*, June 21, 2012. <u>http://www.nytimes.com/2012/06/22/nyregion/at-freshkills-park-borrowing-goats-to-tackle-a-weed-problem.html</u>.

39. "Scores of Homes Burned," 1930.

40. "Brush Fire Cuts Path in Richmond Marshes: Boys Blamed for Blaze That Threatens Bungalows of Oakwood Beach District." *The New York Times*, March 1, 1931. <u>http://query.nytimes.com/mem/archive/pdf?res=9F00E3DF163DEE32A25752C0A9659C946094D6CF</u>.

41. Community Wildfire Protection Plan: East Shore, Staten Island (Richmond County). NYC DEP, NYS DEC, NYC DPR, FDNY, NPS, n.d. <u>http://www.nycgovparks.org/pagefiles/47/CWPP.pdf</u>.
42. Donnelly, Frank. "Small Brush Fire Breaks Out, This Time in Midland Beach." *Staten Island Advance*, November 13, 2010. <u>http://www.silive.com/eastshore/index.ssf/2010/11/small\_brush\_fire\_breaks\_out\_th.html</u>.

43. "Staten Island Group Asks Flood Control; Federal Aid Urged at Army Hearing to Protect Land Along New Creek." *The New York Times*, November 17, 1937. <u>http://query.nytimes.com/mem/archive/pdf?res=9D05E5DA1638E033A25754C1A9679D946694D6CF</u>.

44. New York City Planning Commission, 1966. 62.

45. Ibid, 30.

46. Ibid, 37, 7.

47. Ibid, 2.

48. Perkins Eastman in Association with the Louis Berger Group. *East & South Shores Staten Island NY Rising Community Reconstruction Plan.* NY Rising Community Reconstruction Program. New York: Governor's Office of Storm Recovery, March 2014. <u>http://stormrecovery.ny.gov/sites/default/files/crp/community/documents/statenisland\_nyrcr\_plan\_66mb.pdf.</u> p. 21-24.

49. Peters, Jonathan R., Richard M. Flanagan, and Cameron E. Gordon. *Unto the Breach -- Self-Funding Models for Urban Levees: Exploring Alternative Financing Models for Modern Storm Surge Management, The Interesting Case of Eastern Staten Island.* New York: College of Staten Island, February 27, 2014. <u>http://www.csi.cuny.edu/sandyforum/pdf/Peters%20Flanagan%20Gordon.pdf.</u> p. 9.

50. Knafo and Shapiro, 2012.

51. Appleton, Albert. "The Staten Island Bluebelt: A Study in Sustainable Stormwater Management." *Institute for Sustainable Design*, n.d. <u>http://cooper.edu/isd/news/waterwatch/statenisland#</u>ftnref1.

52. Ibid.

53. Knafo and Shapiro, 2012.

54. Perkins Eastman, 2014. 24.

55. "Staten Island Group Asks Flood Control," 1937.

56. Ibid.

57. Schuerman, Matt. "Army Corps Envisioned Hurricane Walls for NYC 50 Years Ago." *WNYC News*, May 29, 2013. http://www.wnyc.org/story/295251-army-corps-envisioned-hurricane-walls-nyc-50-years-ago/.

58. Peters et al, 2014. 8.

59. Ibid, 8-9. See also Knafo and Shapiro, 2012.

60. Shapiro, Rachel. "Schumer, Oddo: Army Corps of Engineers Should Tell Public about Plans for East Shore Improvements." *Staten Island Advance*, March 11, 2015. <u>http://www.silive.com/news/index.ssf/2015/03/charles\_schumer\_james\_oddo\_urg.html</u>.

61. "Beach Area Aided," 1955.

62. O'Grady, Jim. "Neighborhood Report: Oakwood Beach; A Levee Is Still a No-Show." *The New York Times*, November 1, 1998. <u>http://www.nytimes.com/1998/11/01/nyregion/neighborhood-report-oakwood-beach-a-levee-is-still-a-no-show.html</u>.

63. Platt, Tevah. "What Will Stop the Flooding in Staten Island's Oakwood Beach?" *Staten Island Advance*, May 7, 2009. <u>http://www.silive.com/eastshore/index.ssf/2009/05/what\_will\_stop\_the\_flooding\_in.html</u>.

64. Staten Island Advance Editorial Board. "Help for Staten Island's Oakwood Beach." *Staten Island Advance*, October 26, 2012. <u>http://www.silive.com/opinion/index.ssf/2012/10/help\_for\_staten\_islands\_oakwoo.html</u>.

65. Appleton, n.d.

66. Ibid.

67. Ibid.

68. New York City Planning Commission, 1966. 62.

69. Appleton, n.d.

70. Peters et al, 2014. 8.

71. Hicks, Jonathan P. "A New Call for Staten Island to Secede." *The New York Times*, December 17, 2008. <u>http://cityroom.blogs.nytimes.com/2008/12/17/a-new-call-for-staten-island-to-secede/? r=0</u>.

Chapter 3: The Superstorm

1. Isabella Roytblat, 14-year-old Midland Beach resident, describing the night of Superstorm Sandy in Sherry, Virginia N. "Family in Staten Island's Midland Beach Celebrates Rebuild of Hurricane Sandy-Damaged Home." *Staten Island Advance*, October 29, 2013. <u>http://www.silive.com/news/index.ssf/2013/10/family in staten islands midla.html</u>.

2. Beminoff et al, 2015. 24.

3. Special Initiative for Rebuilding and Resiliency, 2013. 11. See also Beminoff et al, 2015. 25.

4. Ibid, 24-25.

5. Perkins Eastman, 2014. 24.

6. City of New York. "Community Development Block Grant - Disaster Recovery Partial Action Plan A," May 10, 2013. <u>http://www.nyc.gov/html/recovery/downloads/pdf/nyc\_cdbg-dr\_action\_plan\_hud\_submission.pdf</u>. p. 18.

7. Schuerman, Matt. "Army Corps Envisioned Hurricane Walls for NYC 50 Years Ago." *WNYC News*, May 29, 2013. <u>http://www.wnyc.org/story/295251-army-corps-envisioned-hurricane-walls-nyc-50-years-ago/</u>.

8. In this instance, the "East Shore" is defined as it is for the purposes of the Department of City Planning's resilient neighborhoods study. FEMA defines major damage as "extensive structural damage and/or partial collapse due to surge effects. Partial collapse of exterior bearing walls" and/or a field verified flood depth of greater than five feet. Destroyed structures are defined as "completely destroyed or washed away by surge effects." The damage assessment data represents a combination of field and aerial imagery assessments.

9. Hunter College East Shore Studio. "Community Survey." *East Shore Studio: Planning for Staten Island Recovery*, 2013. <u>http://huntereastshorestudio.blogspot.com/p/east-shore-community-survey.</u> <u>html</u>. See also Knafo and Shapiro, 2012.

10. Special Initiative for Rebuilding and Resiliency, 2013. 75.

11. Boyland, Tim and Pablo Vengoechea. In conversation with the author, March 20, 2015.

12. New York State Homes and Community Renewal, Office of Community Renewal. "State of New York Action Plan for Community Development Block Grant Program Disaster Recovery," April 2013. http://stormrecovery.ny.gov/sites/default/files/documents/CDBGActionPlan.pdf. p. 4.

13. Connelly, Eileen, and Meghan Barr. "Hurricane Relief: Staten Island, Queens And West Village Residents Feel Neglected In Sandy's Wake." *Huff Post Green,* November 2, 2012. <u>http://www.huffingtonpost.com/2012/11/02/hurricane-sandy-relief-staten-island\_n\_2063692.html</u>.

15. *Office of Housing Recovery Operations. Executive Order No. 175*, 2012. <u>http://www.nyc.gov/html/records/pdf/executive\_orders/2012E0175.pdf</u>.

16. Chaban, Matt. "Rapid Repairs Program Hailed as Model." *Crain's New York Business*, March 22, 2013. <u>http://www.crainsnewyork.com/article/20130322/REAL\_ESTATE/130329955/rapid-repairs-program-hailed-as-model</u>.

17. U.S. Department of Housing and Urban Development. "CDBG-DR Active Disaster Grants and Grantee Contact Information." HUD Exchange, 2014. <u>https://www.hudexchange.info/programs/cdbg-dr/cdbg-dr-grantee-contact-information/</u>.

18. City of New York, 2013. 59-61.
 19. Ibid, 63.
 20. Ibid, 62-63.
 21. New York State Homes, 2013. 4.
 22. Ibid, 19.
 23. Ibid, 40-41.

Chapter Four: "Parcels That Mother Nature Owns"

1. Anonymous (Oakwood Community Member). In discussion with the author, December 29, 2014. 2. Ibid.

3. Zablocki, Alex (Governor's Office of Storm Recovery). In discussion with the author, October 10, 2014.

4. Anonymous (Oakwood), 2014.

5. Ibid.

6. Ibid.

7. Ibid.

8. Ibid. See also Tirone, Joseph (Oakwood Beach Buyout Committee). In discussion with the author, November 29, 2014, and Knafo and Shapiro, 2012.

9. Kushner, Cecilia (Deputy Director for Flood Resilience, Department of City Planning). In discussion with the author, January 13, 2015.

10. Brokopp-Binder, Sherri (Community Psychologist). In discussion with the author, December 2, 2014.

11. Garcia-Duran, 2015.

12. Anonymous (Oakwood), 2014.

13. Crean, Sarah. "No Retreat From The Coastline." *Gotham Gazette*, June 11, 2013. <u>http://www.gothamgazette.com/index.php/environment/4255-no-retreat-from-the-coastline</u>.

14. Anonymous (Oakwood), 2014.

15. Ibid.

16. Cuomo, Andrew M. "Transcript of Governor Andrew M. Cuomo's 2013 State of the State Address." *New York State*, January 9, 2013. <u>https://www.governor.ny.gov/news/transcript-governor-andrew-m-cuomos-2013-state-state-address</u>.

17. Kaplan, Thomas. "Cuomo Seeking Home Buyouts in Flood Zones." *The New York Times*, February 3, 2013. <u>http://www.nytimes.com/2013/02/04/nyregion/cuomo-seeking-home-buyouts-in-flood-zones.html?\_r=0</u>.

18. Cuomo, 2013.

19. Governor Cuomo quoted in Randall, Judy L. "Cuomo Taps Sandy-Ravaged Oakwood Beach, Staten Island for Buyouts." *Staten Island Advance*, February 26, 2013. <u>http://www.silive.com/news/index.ssf/2013/02/cuomo\_taps\_sandy-ravaged\_oakwo.html</u>.

20. Zablocki, 2014.

21. Gumb, Dana (Staten Island Bluebelt Unit Chief, Department of Environmental Protection). In discussion with the author, January 16, 2015.

22. Ibid.

23. Kushner, 2015.

24. Gumb, 2015.

25. Garcia-Duran, 2015.

26. Gumb, 2015.

27. Kushner, 2015.

28. Gardner, Chris (Public Affairs Specialist, U.S. Army Corps of Engineers). In discussion with the author, January 12, 2015.

29. Sinclair, Rebecca (Director of Buyout and Acquisition Programs, Governor's Office of Storm Recovery). In discussion with the author, January 30, 2015.

30. Marrella, Michael (Waterfront and Open Space Division Director, Department of City Planning). In discussion with the author, December 29, 2014.

31. Sinclair, 2015.

32. Ibid.

33. Anonymous (Ocean Breeze Resident). In discussion with the author, January 26, 2015.

34. Randall, Judy L. "City DOT Milling, Paving Streets in Sandy Buy-out Neighborhoods." *Staten Island Advance*, April 16, 2014. <u>http://www.silive.com/news/index.ssf/2014/04/city\_dot\_milling\_paving\_street.html</u>.

35. Sinclair, 2015.

36. Gumb, 2015.

37. Garcia-Duran, 2015.

38. City of Portland, Oregon. "Natural Area Information." *Environmental Services*, 2015. <u>http://www.portlandoregon.gov/bes/article/286175</u>.

39. Sinclair, 2015.

40. Ibid.

Chapter Five: "A Safer, More Resilient, and Overall More Vibrant Place" 1. Mayor Bloomberg quoted in Sherry, Virginia N. "Family in Staten Island's Midland Beach Celebrates Rebuild of Hurricane Sandy-Damaged Home." *Staten Island Advance*, October 29, 2013. <u>http://www.silive.com/news/index.ssf/2013/10/family\_in\_staten\_islands\_midla.html</u>. 2. Marrella, 2015.

3. "Mayor Bloomberg Announces NYC Build It Back Program To Help New Yorkers With Homes Damaged By Hurricane Sandy Recover And Rebuild." *NYC Office of the Mayor*, June 3, 2013. <u>http://www1.nyc.gov/office-of-the-mayor/news/185-13/mayor-bloomberg-nyc-build-it-back-program-help-new-yorkers-homes-damaged-by</u>.

4. Anonymous (HPD Staff). In conversation with the author, January 15, 2015.

5. "Mayor Bloomberg Announces," 2013.

6. Crean, 2015.

7. "Mayor Bloomberg Presents The City's Long-Term Plan To Further Prepare For The Impacts Of A Changing Climate." *NYC Office of the Mayor*, June 11, 2013. <u>http://www1.nyc.gov/office-of-the-may-or/news/200-13/mayor-bloomberg-presents-city-s-long-term-plan-further-prepare-the-impacts-a-changing</u>.

8. Ibid.

9. Annese, John M. "Build It Back Developer to Replace 200 Homes on Staten Island Wrecked by Sandy." *Staten Island Advance*, August 12, 2013. <u>http://www.silive.com/news/index.ssf/2013/08/</u> build it\_back\_developer\_to\_rep.html.

10. Sherry, "Staten Island Woman," 2013.

11. Anuta, Joe. "City Buys 1st Sandy-Damaged Home." *Crain's New York Business*, October 10, 2013. http://www.crainsnewyork.com/article/20131010/REAL\_ESTATE/131019986/city-buys-1st-sandydamaged-home.

12. Frank Moszcynski quoted in Sherry, "Staten Island Woman," 2013.

13. Anuta, 2013.

14. Buettner, Russ, and David W. Chen. "Hurricane Sandy Recovery Program in New York City Was Mired by Its Design." *The New York Times*, September 4, 2014. <u>http://www.nytimes.</u> <u>com/2014/09/05/nyregion/after-hurricane-sandy-a-rebuilding-program-is-hindered-by-its-own-con-</u> <u>struction.html? r=1</u>.

15. Buettner and Chen, 2014.

16. Goldstein, William, Amy Peterson, and Daniel A. Zarrilli. *One City, Rebuilding Together: A Report on the City of New York's Response to Hurricane Sandy and the Path Forward*. City of New York, April 2014. <u>http://www1.nyc.gov/assets/home/downloads/pdf/reports/2014/sandy\_041714</u>. pdf. pp. 9, 21.

17. Ibid, 22.

18. Crean, 2015.

19. Goldstein et al, 2014, 10.

20. Buettner and Chen, 2014.

21. Marrella, 2014.

22. Kushner, 2015.

23. Garcia-Duran, 2015.

24. Office of Housing Recovery Operations. "Acquisition for Redevelopment." Unpublished (Draft), June 21, 2013.

25. Marrella, 2014.

26. Kushner, 2015.

27. Garcia-Duran, 2015.

28. Marrella, 2014.

29. Brokopp-Binder, 2014.

30. Koslov, Liz (Sociologist). In discussion with the author, January 12, 2015.

31. Anonymous (Ocean Breeze Resident), 2015.

32. Barr, Meghan. "NY, NJ Spending Millions to Buy and Destroy Sandy-Damaged Homes." *CNS News*, October 28, 2013. <u>http://www.cnsnews.com/news/article/ny-nj-spending-millions-buy-and-destroy-sandy-damaged-homes</u>.

33. Interboro Team. "Living with the Marsh: Options for Staten Island's Eastern Shore." *Rebuild by Design*, 2013. <u>http://www.rebuildbydesign.org/project/living-with-the-marsh-options-for-staten-is-lands-eastern-shore/</u>.

34. Federal Emergency Management Agency. "Hazard Mitigation Grant Programs: Frequently Ask Questions." *FEMA*, April 24, 2015. <u>https://www.fema.gov/hazard-mitigation-grant-programs-frequently-ask-questions</u>.

35. Koslov, 2015.

36. See, for example, Kick, Edward L., James C. Fraser, Gregory M. Fulkerson, Laura A. McKinney, and Daniel H. De Vries. "Repetitive Flood Victims and Acceptance of FEMA Mitigation Offers: An Analysis with Community–system Policy Implications." *Disasters* 35, no. 3 (July 1, 2011): 510–39. doi:10.1111/j.1467-7717.2011.01226.x. This qualitative and quantitative study both tenders its own findings and also provides a review of the literature exploring the relevance of each of the factors

they studied to flood victims' decisions about relocation. Relevant to Koslov's point about differing levels of trust, the authors also identify trust in local officials as a major contributor to relocation decision-making.

37. Meyer, Walter (Local Office Landscape Architecture). In discussion with the author, February 13, 2015.

38. Garcia-Duran, 2015.

39. Marrella, 2014.

40. Ibid.

41. Garcia-Duran, 2015.

42. Anonymous (HPD Staff), 2015.

43. Garcia-Duran, 2015.

44. Marrella, 2014.

45. Ibid.

46. Garcia-Duran, 2015.

47. Meyer, 2015.

48. Garcia-Duran, 2015.

49. Boyland, Tim and Pablo Vengoechea. In conversation with the author, March 20, 2015.

50. Fainstein, Susan. "Resilience and Justice." Unpublished. Adapted from a presentation at the plenary session of the 2013 joint conference of AESOP-ACSP in Dublin.

51. Alliance for a Just Rebuilding. "About." Alliance for a Just Rebuilding, 2015. http://www.rebuildajustny.org/about/.

52. Alliance for a Just Rebuilding. "About." *Alliance for a Just Rebuilding*, 2015. <u>http://www.rebuilda-justny.org/about/</u>.

53. Barbaro, Michael. "To Address 'Greater Wrongs,' de Blasio Outlines Wide Path to Hurricane Recovery." *The New York Times*, September 29, 2013. <u>http://www.nytimes.com/2013/09/30/nyregion/</u> <u>to-address-greater-wrongs-de-blasio-outlines-wide-path-to-hurricane-recovery.html?ref=nyregion</u>. 54. Campbell, Colin. "Michael Grimm Calls Bill de Blasio's Sandy Plan 'Completely Asinine!" *New York Observer*, September 30, 2013. <u>http://observer.com/2013/09/michael-grimm-calls-bill-de-bla-</u> <u>sios-sandy-plan-completely-asinine/</u>.

55. Grimm, Michael. "Letter to Mayor Bill de Blasio," July 29, 2014. <u>http://www.legistorm.com/</u>stormfeed/view\_rss/560120/member/2775.html.

56. Garcia-Duran, 2015.

57. Sanders, Anna. "De Blasio to Focus on Affordable Housing in 2015." *Staten Island Advance*, February 3, 2015. <u>http://www.silive.com/news/index.ssf/2015/02/de\_blasio\_affordable\_housing\_staten\_island.html</u>.

Chapter Six: Planning After Disaster

1. Businelli, David (Staten Island Architect). In discussion with the author, February 9, 2015.

2. Perkins Eastman, 2014. 33-34.

3. Special Initiative for Rebuilding and Resiliency, 2013. 236.

4. Ibid, 282.

5. Ibid, 287-288.

6. *SImagines: Planning for Recovery Program*. Apias Studios, 2013. <u>http://vimeo.com/67309150</u>.

7. Ibid.

8. Boyland and Vengoechea, 2015.

9. Businelli, David, Timothy Boyland, and Pablo Vengoechea. *SImagines Planning for Recovery Program: Community Planning Workshops, Preliminary Findings (Draft)*. Hunter College Urban Affairs and Planning, AIA Staten Island, 2015. p. 9.

10. Businelli, In conversation, 2015.

11. Boyland and Vengoechea, 2015.

12. Perkins Eastman, 2014. 3.

13. "Cuomo's NY Rising to Pump \$25 Million into Staten Island Neighborhoods Rebounding from Sandy." *Staten Island Advance*. September 18, 2013. <u>http://www.silive.com/news/index.ssf/2013/09/</u> cuomo ny rising to pump 25 mil.html.

14. Perkins Eastman, 2014. 12-15.

15. Ibid, 73.

16. Ibid, 287-288.

17. Garcia-Duran, 2015.

18. Ibid.

19. City of New York. "How Are We Working With Communities?" *NYC Planning Resilient Neighborhoods, East Shore Neighborhoods*, 2014. <u>http://www.nyc.gov/html/dcp/html/eshore\_res/index.shtml</u>.

20. Garcia-Duran, 2015.

21. Hebert, Jeff (Executive Director, New Orleans Redevelopment Authority). In conversation with the author, February 2, 2015.

22. Pratt, Jennifer (Director of Planning Services, City of Cedar Rapids) and Paula Mitchell (Housing and Redevelopment Manager). In conversation with the author, January 23, 2015.23. Hebert, 2015. in reference to discussing shrinking neighborhood footprints in the aftermath of the "green dot" map scandal in New Orleans.

24. Ibid.

25. Hebert, 2015.

26. Nelson, Marla, Renia Ehrenfeucht, and Shirley Laska. "Planning, Plans, and People: Professional Expertise, Local Knowledge, and Governmental Action in Post-Hurricane Katrina New Orleans." *Cityscapes* 9, no. 3 (2007): 23–52.

27. Ibid, 28

28. Krupa, Michelle. "Many Areas Marked for Green Space after Hurricane Katrina Have Rebounded." *The Times-Picayune*, August 23, 2010. <u>http://www.nola.com/katrina/index.</u>

<u>ssf/2010/08/many\_areas\_marked\_for\_green\_space\_after\_hurricane\_katrina\_have\_rebounded.html</u>. 29. Hebert, 2015.

30. Nelson et al, 2007. 28-29.

- 31. Hebert, 2015.
- 32. Nelson et. al, 2007. 29, 38-39.
- 33. Ibid, 29.

34. Ibid, 31.

35. Ibid, 32.

36. Ibid, 33.

37. Hebert, 2015.

38. Ibid. Additional background information about the Baker Plan was drawn from Nossiter, Adam. "A Big Government Fix-It Plan for New Orleans." *The New York Times*, January 5, 2006. <u>http://www.</u>

nytimes.com/2006/01/05/national/nationalspecial/05buyout.html?pagewanted=all&\_r=0.

39. Ibid.

40. Ibid.

41. Ibid.

42. Ibid.

43. Ibid.

44. New Orleans Redevelopment Authority. "Blight Reduction Through Neighborhood Revitalization: 2015 New Orleans Budget Allocation Presentation to the City Council." November 10, 2014.

45. Hebert, 2015.

46. Ibid.

47. Ibid.

48. Jorgensen, Jillian. "As Staten Island Rebuilds, New Orleans Offers Key Lessons." *Staten Island Advance*, March 10, 2013. <u>http://www.silive.com/specialreports/index.ssf/2013/03/as\_staten\_island\_rebuilds\_new.html</u>.

49. Hebert, 2015.

50. Jim Prosser, Cedar Rapids city manager, quoted in Saulny, Susan. "Iowans Washed Out of Homes Find Their Future Hard to Grasp." *The New York Times*. July 30, 2008. <u>http://www.nytimes.</u> <u>com/2008/07/30/us/30cedar.html?\_r=1&</u>.

51. Buchmiller, Robert C., and David A. Eash. *Floods of May and June 2008 in Iowa*. Open-File Report. Reston, VA: U.S. Geological Survey, 2010. <u>http://pubs.usgs.gov/of/2010/1096/pdf/OFR2010-1096.pdf</u>.

52. City of Cedar Rapids. "Flood of 2008 Facts & Statistics." *Cedar Rapids: City of Five Seasons*, 2014. <u>http://www.cedar-rapids.org/government/departments/public-works/engineering/Flood%20</u> Protection%20Information/Pages/2008FloodFacts.aspx.

53. City of Cedar Rapids. "Recovery & Reinvestment Plan." *Cedar Rapids, City of Five Seasons*, 2014. <u>http://www.cedar-rapids.org/city-news/flood-recovery-progress/floodrecoveryplans/pages/recovery-and-reinvestment-plan.aspx</u>.

54. Pratt and Mitchell, 2015.

55. Hellendrung, Jason (Sasaki Associates). In discussion with the author, December 18, 2014. 56. Ibid.

57. Pratt and Mitchell, 2015.

58. City of Cedar Rapids. "City of Cedar Rapids' Flood Mitigation Program Application Executive Summary," August 13, 2011. <u>http://www.cedar-rapids.org/city-news/Documents/CR%20FMP%20</u> <u>Application%20Executive%20Summary\_%2011-8-13.pdf.</u>

59. Saulny, 2008.

60. Hellendrung, 2014.

61. Pratt and Mitchell, 2015.

62. Sasaki Associates. *City of Cedar Rapids Neighborhood Planning Process, Executive Summary*, September 2009. <u>http://www.cedar-rapids.org/city-news/Documents/NPP%20Executive%20</u> <u>Summary.pdf</u>.p. 3.

63. Ibid.

64. Pratt and Mitchell, 2015.

65. Hellendrung, 2014.

66. Pratt and Mitchell, 2015.

67. Ibid.

68. Ibid.

69. Sasaki Associates. *City of Cedar Rapids Framework Plan for Reinvestment and Revitalization*, December 2008. <u>http://www.cedar-rapids.org/government/departments/community-development/floodrecoveryplanning/Documents/REPORT.11.01.09%20framework%20plan%20exec%20summary.pdf</u>. pp. 59, 75.

70. Saulny, Susan. "After Iowa Flood, Feeling Just a Bit Ignored." *The New York Times*. August 27, 2009. <u>http://www.nytimes.com/2009/08/28/us/28cedar.html?\_r=1&</u>.

71. Smith, Rick. "Cedar Rapids Gets \$264 Million Flood Protection Plan Approval." *The Gazette*. March 29, 2014. <u>http://thegazette.com/2013/12/04/cedar-rapids-gets-264-million-flood-protection-approval</u>.

72. Staff Editorial. "Nearing a Flood Protection Destination." *The Gazette*, April 3, 2015. <u>http://thegazette.com/subject/opinion/staff-editorial/nearing-a-flood-protection-destination-20150403</u>. 73. Pratt and Mitchell, 2015.

74. Smith, Rick. "Cedar Rapids Council Proposes Investment Moratorium for Time Check." *The Gazette*, July 22, 2014. <u>http://thegazette.com/subject/news/cedar-rapids-council-proposes-investment-moratorium-for-time-check-20140722</u>.

75. Pratt and Mitchell, 2015. 76. Ibid.

Chapter 7: Conclusion

1. Anonymous (Ocean Breeze Resident), 2015.

2. Special Initiative for Rebuilding and Resiliency, 2013. 295.

3. Meyer, 2015.

4. Ibid.

5. Garcia-Duran, 2015.

6. City of New York, 2013. 63, 74.

7. Ibid, 217.

8. Nelson et al, 2007. 27.

9. Ibid, 29.

10. Ibid, 27.

11. Pratt and Mitchell, 2015.

12. Weise, Karen. "Storm Risk Fails to Deter Buyers of Oceanfront Homes." *Bloomberg Businessweek*, January 31, 2013. <u>http://www.bloomberg.com/bw/articles/2013-01-31/storm-risk-fails-to-deter-buyers-of-oceanfront-homes</u>.

13. Wilson, Claire. "Staten Island, beyond Sandy." *The Real Deal: New York Real Estate News*, August 1, 2013. <u>http://therealdeal.com/issues\_articles/staten-island-beyond-sandy/</u>.

14. Fischler, Marcelle Sussman. "Long Beach Comes Back After Hurricane Sandy." *The New York Times*, April 15, 2015. <u>http://www.nytimes.com/2015/04/19/realestate/long-beach-comes-back-after-hurricane-sandy.html</u>.

15. Koslov, Liz. "Fighting for Retreat after Sandy: The Ocean Breeze Buyout Tent on Staten Island." *Metropolitiques*, April 23, 2014. <u>http://www.metropolitiques.eu/Fighting-for-Retreat-after-Sandy.</u> <u>html</u>.

16. Dickens, Aaron. "South Beach Homeowners Want Cuomo to Bring Back Sandy Buyout Program."

*NY*<sup>7</sup>, n.d. <u>http://www.ny1.com/content/218656/south-beach-homeowners-want-cuomo-to-bring-back-sandy-buyout-program/</u>.

17. De Vries, Daniel H., and James C. Fraser. "Citizenship Rights and Voluntary Decision Making in Post-Disaster U.S. Floodplain Buyout Mitigation Programs." *International Journal of Mass Emergencies and Disasters* 30, no. 1 (March 2012): 1–33.

18. Marrella, 2015.

19. Department of Housing and Urban Development. "Applicable Rules, Statutes, Waivers, and Alternative Requirements." *Federal Register* 78, no. 43 (March 5 2013).

Postscript 1. Businelli, 2015.

## WORKS CITED

"1500 Families on Staten Island Taken from Tide-Flooded Homes." *The New York Times*, November 26, 1950. <u>http://query.nytimes.com/mem/archive/</u> pdf?res=9E03E2DE1E3FE033A05755C2A9679D946192D6CF.

- "40 Police Called Out in Beach Fee Row." *The New York Times*, June 9, 1930. <u>http://query.</u> nytimes.com/gst/abstract.html?res=940DE1D81238E03ABC4153DFB066838B629EDE.
- Alliance for a Just Rebuilding. "About." *Alliance for a Just Rebuilding*, 2015. <u>http://www.rebuildajustny.org/about/</u>.
- Annese, John M. "Build It Back Developer to Replace 200 Homes on Staten Island Wrecked by Sandy." *Staten Island Advance*, August 12, 2013. <u>http://www.silive.com/news/index.</u> <u>ssf/2013/08/build\_it\_back\_developer\_to\_rep.html</u>.

Anonymous (HPD Staff). In conversation with the author, January 15, 2015.

Anonymous (Oakwood Community Member). In discussion with the author, December 29, 2014.

Anonymous (Ocean Breeze Resident). In discussion with the author, January 26, 2015.

- Anuta, Joe. "City Buys 1st Sandy-Damaged Home." *Crain's New York Business*, October 10, 2013. <u>http://www.crainsnewyork.com/article/20131010/REAL\_ESTATE/131019986/city-buys-1st-sandy-damaged-home</u>.
- Appleton, Albert. "The Staten Island Bluebelt: A Study in Sustainable Stormwater Management." *Institute for Sustainable Design*, n.d. <u>http://cooper.edu/isd/news/waterwatch/statenisland#\_ftnref1</u>.
- Barbaro, Michael. "To Address 'Greater Wrongs,' de Blasio Outlines Wide Path to Hurricane Recovery." *The New York Times*, September 29, 2013. <u>http://www.nytimes.</u> <u>com/2013/09/30/nyregion/to-address-greater-wrongs-de-blasio-outlines-wide-path-tohurricane-recovery.html?ref=nyregion</u>.
- Barr, Meghan. "NY, NJ Spending Millions to Buy and Destroy Sandy-Damaged Homes." *CNS News*, October 28, 2013. <u>http://www.cnsnews.com/news/article/ny-nj-spending-millions-buy-and-destroy-sandy-damaged-homes</u>.
- "Beach Area Aided on Staten Island: Temporary Storm Protection Is Ordered for Oakwood Pending Permanent Job." *The New York Times*, October 19, 1955. <u>http://query.nytimes.</u> <u>com/mem/archive/pdf?res=9803E4DB113AE73ABC4152DFB667838E649EDE</u>.

Benimoff, Alan I. "A GIS Study of Urbanization in Hurricane SLOSH Zones on Staten Island."

Geological Society of America Abstracts with Programs 42, no. 1 (2010).

- Benimoff, Alan I., William J. Fritz, and Michael Kress. "Superstorm Sandy and Staten Island: Learning from the Past, Preparing for the Future." In *Learning from the Impacts of Superstorm Sandy*, edited by J. Bret Bennington and E. Christa Farmer, 21–40. London: Academic Press, 2015.
- Bennett, Charles G. "Design Is Speeded on Narrows Span." *The New York Times*, April 11, 1959. <u>query.nytimes.com/mem/archive/</u> <u>pdf?res=9E06E2D7103EE63BBC4952DFB2668382649ED</u>.
- Boyland, Tim and Pablo Vengoechea. In conversation with the author, March 20, 2015.
- Brokopp-Binder, Sherri (Community Psychologist). In discussion with the author, December 2, 2014.
- "Brush Fire Cuts Path in Richmond Marshes: Boys Blamed for Blaze That Threatens Bungalows of Oakwood Beach District." *The New York Times*, March 1, 1931. <u>http://query.nytimes.</u> <u>com/mem/archive/pdf?res=9F00E3DF163DEE32A25752C0A9659C946094D6CF</u>.
- Buchmiller, Robert C., and David A. Eash. *Floods of May and June 2008 in Iowa*. Open-File Report. Reston, VA: U.S. Geological Survey, 2010. <u>http://pubs.usgs.gov/of/2010/1096/pdf/</u> <u>OFR2010-1096.pdf</u>.
- Buettner, Russ, and David W. Chen. "Hurricane Sandy Recovery Program in New York City Was Mired by Its Design." *The New York Times*, September 4, 2014. <u>http://www.nytimes.</u> <u>com/2014/09/05/nyregion/after-hurricane-sandy-a-rebuilding-program-is-hindered-byits-own-construction.html? r=1.</u>

Businelli, David (Staten Island Architect). In discussion with the author, February 9, 2015.

Businelli, David, Timothy Boyland, and Pablo Vengoechea. *SImagines Planning for Recovery Program: Community Planning Workshops, Preliminary Findings (Draft).* Hunter College Urban Affairs and Planning, AIA Staten Island, 2015.

Campbell, Colin. "Michael Grimm Calls Bill de Blasio's Sandy Plan 'Completely Asinine!'" *New York Observer*, September 30, 2013. <u>http://observer.com/2013/09/michael-grimm-calls-bill-de-blasios-sandy-plan-completely-asinine/</u>.

Chaban, Matt. "Rapid Repairs Program Hailed as Model." *Crain's New York Business*, March 22, 2013. <u>http://www.crainsnewyork.com/article/20130322/REAL\_ESTATE/130329955/</u> rapid-repairs-program-hailed-as-model.

City of Cedar Rapids. "City of Cedar Rapids' Flood Mitigation Program Application Executive

Summary," August 13, 2011. <u>http://www.cedar-rapids.org/city-news/Documents/CR%20</u> FMP%20Application%20Executive%20Summary\_%2011-8-13.pdf.

- ———. "Flood of 2008 Facts & Statistics." *Cedar Rapids: City of Five Seasons*, 2014. <u>http://www.cedar-rapids.org/government/departments/public-works/engineering/Flood%20</u> Protection%20Information/Pages/2008FloodFacts.aspx.
- ———. "Recovery & Reinvestment Plan." Cedar Rapids, City of Five Seasons, 2014. <u>http://www.cedar-rapids.org/city-news/flood-recovery-progress/floodrecoveryplans/pages/recovery-and-reinvestment-plan.aspx</u>.
- ———. "Community Development Block Grant Disaster Recovery Partial Action Plan A," May 10, 2013. <u>http://www.nyc.gov/html/recovery/downloads/pdf/nyc\_cdbg-dr\_action\_plan\_hud\_submission.pdf</u>.
- ———. "How Are We Working With Communities?" NYC Planning Resilient Neighborhoods, East Shore Neighborhoods, 2014. <u>http://www.nyc.gov/html/dcp/html/eshore\_res/index.shtml</u>.
- ———. "Resilient Neighborhoods: East Shore." *NYC Planning*, 2014. <u>http://www.nyc.gov/html/</u> <u>dcp/html/eshore\_res/index.shtml</u>.
- City of Portland, Oregon. "Natural Area Information." *Environmental Services*, 2015. <u>http://www.portlandoregon.gov/bes/article/286175</u>.
- Collins, Glenn. "The Very Cold Case of the Glacier." *The New York Times*, September 14, 2005. http://www.nytimes.com/2005/09/14/nyregion/14glacier.html?pagewanted=all.
- *Community Wildfire Protection Plan: East Shore, Staten Island (Richmond County).* NYC DEP, NYS DEC, NYC DPR, FDNY, NPS, n.d. <u>http://www.nycgovparks.org/pagefiles/47/CWPP.pdf</u>.
- Connelly, Eileen, and Meghan Barr. "Hurricane Relief: Staten Island, Queens And West Village Residents Feel Neglected In Sandy's Wake." *Huff Post Green,* November 2, 2012. <u>http://www.huffingtonpost.com/2012/11/02/hurricane-sandy-relief-staten-island\_n\_2063692.</u> <u>html</u>.
- Crean, Sarah. "Awaiting the Next Storm: Staten Island Balances Long-Term Planning, Short-Term Needs." *Gotham Gazette*, April 16, 2015. <u>http://www.gothamgazette.com/index.php/government/5687-awaiting-the-next-storm-staten-island-balances-long-term-planning-short-term-needs-oddo</u>.
- ———. "No Retreat From The Coastline." *Gotham Gazette*, June 11, 2013. <u>http://www.gothamgazette.com/index.php/environment/4255-no-retreat-from-the-coastline</u>.

- Cuomo, Andrew M. "Transcript of Governor Andrew M. Cuomo's 2013 State of the State Address." *New York State*, January 9, 2013. <u>https://www.governor.ny.gov/news/transcript-governor-andrew-m-cuomos-2013-state-state-address</u>.
- Department of Housing and Urban Development. "Applicable Rules, Statutes, Waivers, and Alternative Requirements." *Federal Register* 78, no. 43 (March 5 2013).
- De Vries, Daniel H., and James C. Fraser. "Citizenship Rights and Voluntary Decision Making in Post-Disaster U.S. Floodplain Buyout Mitigation Programs." *International Journal of Mass Emergencies and Disasters* 30, no. 1 (March 2012): 1–33.
- Dickens, Aaron. "South Beach Homeowners Want Cuomo to Bring Back Sandy Buyout Program." *NY1*, n.d. <u>http://www.ny1.com/content/218656/south-beach-homeowners-want-cuomo-to-bring-back-sandy-buyout-program/</u>
- Dienst, Jonathan. "Deadliest Zone: Staten Island Reels from Devastation; Bodies of Boys Ripped from Mom's Arms Found." *NBC News*, November 1, 2012. <u>http://usnews.nbcnews.com/ news/2012/11/01/14857896-deadliest-zone-staten-island-reels-from-devastation-bodiesof-boys-ripped-from-moms-arms-found?lite</u>.
- Donnelly, Frank. "Small Brush Fire Breaks Out, This Time in Midland Beach." *Staten Island Advance*, November 13, 2010. <u>http://www.silive.com/eastshore/index.ssf/2010/11/small</u> <u>brush\_fire\_breaks\_out\_th.html</u>.
- Fainstein, Susan. "Resilience and Justice." Unpublished. Adapted from a presentation at the plenary session of the 2013 joint conference of AESOP-ACSP in Dublin.
- Federal Emergency Management Agency. "Hazard Mitigation Grant Programs: Frequently Ask Questions." *FEMA*, April 24, 2015. <u>https://www.fema.gov/hazard-mitigation-grant-programs-frequently-ask-questions</u>.
- Fioravante, Janice. "Oakwood, Staten Island: City Streets, Country Feel, and a Beach." *The New York Times*, January 27, 2002. <u>http://www.nytimes.com/2002/01/27/realestate/27LIVI.</u> <u>html</u>.
- Fischler, Marcelle Sussman. "Long Beach Comes Back After Hurricane Sandy." *The New York Times*, April 15, 2015. <u>http://www.nytimes.com/2015/04/19/realestate/long-beach-comes-back-after-hurricane-sandy.html</u>.
- Foderaro, Lisa W. "To Tackle an Invasive Weed, Bringing In the Hooved Pros." *The New York Times*, June 21, 2012. <u>http://www.nytimes.com/2012/06/22/nyregion/at-freshkills-park-borrowing-goats-to-tackle-a-weed-problem.html</u>.

- Fried, Joseph P. "Reviving the Rockaways: A Bitter Trail." *The New York Times*, July 18, 1987. <u>http://www.nytimes.com/1987/07/18/nyregion/reviving-the-rockaways-a-bitter-trail.</u> <u>html?src=pm&pagewanted=1</u>.
- "Gale and Floods Hit Coast; Homes Razed, Ships in Peril." *The New York Times*, November 18, 1935. <u>http://query.nytimes.com/mem/archive/pdf?res=9B07E0DA173EE53ABC4052DFB767838E629EDE</u>.
- Garcia-Duran, Len (Staten Island Planning Director). In discussion with the author, January 15, 2015.
- Gardner, Chris (Public Affairs Specialist, U.S. Army Corps of Engineers). In discussion with the author, January 12, 2015.
- Goldstein, William, Amy Peterson, and Daniel A. Zarrilli. *One City, Rebuilding Together: A Report on the City of New York's Response to Hurricane Sandy and the Path Forward.* City of New York, April 2014. <u>http://www1.nyc.gov/assets/home/downloads/pdf/</u> <u>reports/2014/sandy\_041714.pdf.</u>
- Gottlieb, Melinda. "Advance Historic Page from April 10, 1994: Oakwood Beach Residents Live in Fear of Flooding." *Staten Island Advance*, August 13, 2014. <u>http://www.silive.com/news/index.ssf/2014/08/advance historic page from apr 19.html</u>.
- Grimm, Michael. "Letter to Mayor Bill de Blasio," July 29, 2014. <u>http://www.legistorm.com/</u> <u>stormfeed/view\_rss/560120/member/2775.html</u>.
- Gumb, Dana (Staten Island Bluebelt Unit Chief, Department of Environmental Protection). In discussion with the author, January 16, 2015.
- Haq, Husna. "Gov. Cuomo's Grand Plan Post-Sandy: Give Some of New York back to Nature." *Christian Science Monitor*, February 4, 2013. <u>http://www.csmonitor.com/USA/</u> <u>Politics/2013/0204/Gov.-Cuomo-s-grand-plan-post-Sandy-give-some-of-New-York-back-to-nature-video</u>.
- Hebert, Jeff (Executive Director, New Orleans Redevelopment Authority). In conversation with the author, February 2, 2015.
- Hicks, Jonathan P. "A New Call for Staten Island to Secede." *The New York Times*, December 17, 2008. <u>http://cityroom.blogs.nytimes.com/2008/12/17/a-new-call-for-staten-island-to-secede/? r=0</u>.
- Hunter College East Shore Studio. "Community Survey." *East Shore Studio: Planning for Staten Island Recovery*, 2013. <u>http://huntereastshorestudio.blogspot.com/p/east-shore-community-survey.html</u>.

- "In the Real Estate Field." *The New York Times*, August 7, 1908. <u>http://query.nytimes.com/gst/</u> <u>abstract.html?res=9B00E2DA123EE233A25754C0A96E9C946997D6CF</u>.
- Interboro Team. "Living with the Marsh: Options for Staten Island's Eastern Shore." *Rebuild by Design*, 2013. <u>http://www.rebuildbydesign.org/project/living-with-the-marsh-options-for-staten-islands-eastern-shore/</u>.
- Irma and Paul Milstein Division of United States History, Local History and Genealogy, The New York Public Library. "20145-Bathing Beach, South Beach, Staten Island, N.Y. [Nunleys Baths & Pool shore scene and entrance to pool.]" New York Public Library Digital Collections. Accessed May 19, 2015. <u>http://digitalcollections.nypl.org/items/510d47d9c049-a3d9-e040-e00a18064a99</u>.
- ———. "Bungalow City, Midland Beach, Staten Island, N.Y. [people and children outside of cottage row.]" New York Public Library Digital Collections. Accessed May 19, 2015. <u>http://digitalcollections.nypl.org/items/510d47d9-c035-a3d9-e040-e00a18064a99</u>.
- Jorgensen, Jillian. "As Staten Island Rebuilds, New Orleans Offers Key Lessons." *Staten Island Advance*, March 10, 2013. <u>http://www.silive.com/specialreports/index.ssf/2013/03/as</u> <u>staten island rebuilds new.html</u>.
- ———. "Staten Island's Oddo, Ignizio Reflect on Journey to New Orleans." Staten Island Advance, March 10, 2013. <u>http://www.silive.com/specialreports/index.ssf/2013/03/staten\_islands\_oddo\_ignizio\_re.html</u>.
- Kaplan, Thomas. "Cuomo Seeking Home Buyouts in Flood Zones." *The New York Times*, February 3, 2013. <u>http://www.nytimes.com/2013/02/04/nyregion/cuomo-seeking-home-buyouts-in-flood-zones.html?\_r=0</u>.
- Kick, Edward L., James C. Fraser, Gregory M. Fulkerson, Laura A. McKinney, and Daniel H. De Vries. "Repetitive Flood Victims and Acceptance of FEMA Mitigation Offers: An Analysis with Community–system Policy Implications." *Disasters* 35, no. 3 (July 1, 2011): 510–39. doi:10.1111/j.1467-7717.2011.01226.x
- Knafo, Saki, and Lila Shapiro. "Staten Island's Hurricane Sandy Damage Sheds Light On Complicated Political Battle." *Huffington Post*, December 6, 2012. <u>http://www. huffingtonpost.com/2012/12/06/staten-island-hurricane-sandy\_n\_2245523.html</u>.
- Koslov, Liz. "Fighting for Retreat after Sandy: The Ocean Breeze Buyout Tent on Staten Island." *Metropolitiques*, April 23, 2014. <u>http://www.metropolitiques.eu/Fighting-for-Retreat-after-Sandy.html</u>.

Koslov, Liz (Sociologist). In discussion with the author, January 12, 2015.

- Krupa, Michelle. "Many Areas Marked for Green Space after Hurricane Katrina Have Rebounded." *The Times-Picayune*, August 23, 2010. <u>http://www.nola.com/katrina/index.</u> <u>ssf/2010/08/many\_areas\_marked\_for\_green\_space\_after\_hurricane\_katrina\_have\_rebounded.html</u>.
- Kushner, Cecilia (Deputy Director for Flood Resilience, Department of City Planning). In discussion with the author, January 13, 2015.
- Leng, Charles W., and William T. Davis. Staten Island and Its People: A History, 1609-1929. Vol. 1. 5 vols. New York: Lewis Historical Pub. Co., 1930. <u>http://hdl.handle.net/2027/wu.89072988603</u>.
- Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Plate 9, Part of Ward 4 [Map bound by Richmond Ave, Sea Ave (Sand), Seaside Boulevard, Lower New York Bay, Staten Island Rapid Transit Rail Road, Sand Ave (Lane), Old Town Road]" New York Public Library Digital Collections. Accessed May 19, 2015. <u>http://digitalcollections.</u> <u>nypl.org/items/5e66b3e9-0eda-d471-e040-e00a180654d7</u>.
- ———. "Ports de la Nouvelle York et Pertamboy : aux anglois." New York Public Library Digital Collections. Accessed May 19, 2015. <u>http://digitalcollections.nypl.org/items/510d47daefc1-a3d9-e040-e00a18064a99</u>.
- ———. "Staten Island, survey of 1888-89 and 1897, ed. of 1900, repr. 1908." New York Public Library Digital Collections. Accessed May 19, 2015. <u>http://digitalcollections.nypl.org/ items/ba0dabff-e7b5-ecfc-e040-e00a18061295</u>.
- Marrella, Michael (Waterfront and Open Space Division Director, Department of City Planning). In discussion with the author, December 29, 2014.
- "Mayor Bloomberg Announces NYC Build It Back Program To Help New Yorkers With Homes Damaged By Hurricane Sandy Recover And Rebuild." *NYC Office of the Mayor*, June 3, 2013. <u>http://www1.nyc.gov/office-of-the-mayor/news/185-13/mayor-bloomberg-nycbuild-it-back-program-help-new-yorkers-homes-damaged-by</u>.
- "Mayor Bloomberg Presents The City's Long-Term Plan To Further Prepare For The Impacts Of A Changing Climate." *NYC Office of the Mayor*, June 11, 2013. <u>http://www1.nyc.gov/office-of-the-mayor/news/200-13/mayor-bloomberg-presents-city-s-long-term-plan-further-prepare-the-impacts-a-changing</u>.
- Meyer, Walter (Local Office Landscape Architecture). In discussion with the author, February 13, 2015.
- Nelson, Marla, Renia Ehrenfeucht, and Shirley Laska. "Planning, Plans, and People: Professional

Expertise, Local Knowledge, and Governmental Action in Post-Hurricane Katrina New Orleans." *Cityscapes* 9, no. 3 (2007): 23–52.

- "New Bridge Is Expected to Aid Realty in Richmond and Bayonne." *The New York Times*, November 15, 1931. <u>http://query.nytimes.com/mem/archive/</u> pdf?res=9C04E6D61030E631A25756C1A9679D946094D6CF.
- "New Corporations: A South Beach Summer Resort and a Charitable Society." *The New York Times.* November 1, 1890. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9F02E7DA113BE533A25752C0A9679D94619ED7CF</u>.
- New Orleans Redevelopment Authority. "Blight Reduction Through Neighborhood Revitalization: 2015 New Orleans Budget Allocation Presentation to the City Council." November 10, 2014.
- New York City Department of Environmental Protection. "Staten Island Bluebelt: Preserving and Restoring Wetlands for Flood Control in New York City's Richmond County." New York City Department of Environmental Protection, n.d. <u>http://www.nyc.gov/html/dep/pdf/</u> <u>brochures/si\_bluebelt\_brochure.pdf</u>.
- New York City Planning Commission. *Staten Island Development: Policies, Programs and Priorities.* New York: The Commission, 1966.
- "New York's Sunday Outing: Coney Island and Staten Island Beaches Well Patronized." *The New York Times*, May 26, 1902. <u>http://query.nytimes.com/gst/abstract.</u> <u>html?res=9C00E5DE113DEE32A25755C2A9639C946397D6CF</u>.
- New York State Homes and Community Renewal, Office of Community Renewal. "State of New York Action Plan for Community Development Block Grant Program Disaster Recovery," April 2013. <u>http://stormrecovery.ny.gov/sites/default/files/documents/CDBGActionPlan.</u> <u>pdf</u>.
- "New Staten Island Railway: Line from South Beach to Midland Beach Incorporated Yesterday." *The New York Times*, August 19, 1899. <u>http://query.nytimes.com/mem/archive-free/</u> <u>pdf?res=9F01E2DE1F3AE533A2575AC1A96E9C94689ED7CF</u>.
- Nossiter, Adam. "A Big Government Fix-It Plan for New Orleans." *The New York Times*, January 5, 2006. <u>http://www.nytimes.com/2006/01/05/national/nationalspecial/05buyout.</u> <u>html?pagewanted=all&\_r=0</u>.
- "Notes of Various Interests." *The New York Times*, August 10, 1883. <u>http://query.nytimes.com/gst/abstract.html?res=9F05E5DB163AEF33A25753C1A96E9C94629FD7CF</u>.

Office of Housing Recovery Operations. "Acquisition for Redevelopment." Unpublished (Draft),

June 21, 2013.

- Office of Housing Recovery Operations. Executive Order No. 175, 2012. <u>http://www.nyc.gov/</u> <u>html/records/pdf/executive\_orders/2012EO175.pdf</u>.
- O'Grady, Jim. "Neighborhood Report: Oakwood Beach; A Levee Is Still a No-Show." *The New York Times*, November 1, 1998. <u>http://www.nytimes.com/1998/11/01/nyregion/</u> <u>neighborhood-report-oakwood-beach-a-levee-is-still-a-no-show.html</u>.
- Paulsen, Ken. "20 Years Ago Today: Historic Nor'easter Walloped Staten Island." *Staten Island Advance*, December 11, 2012. <u>http://www.silive.com/news/index.ssf/2012/12/20\_years\_ago\_today\_historic\_no.html</u>.
- Perkins Eastman in Association with the Louis Berger Group. *East & South Shores Staten Island NY Rising Community Reconstruction Plan.* NY Rising Community Reconstruction Program. New York: Governor's Office of Storm Recovery, March 2014. <u>http://</u> <u>stormrecovery.ny.gov/sites/default/files/crp/community/documents/statenisland\_nyrcr\_plan\_66mb.pdf</u>.
- Peters, Jonathan R., Richard M. Flanagan, and Cameron E. Gordon. Unto the Breach -- Self-Funding Models for Urban Levees: Exploring Alternative Financing Models for Modern Storm Surge Management, The Interesting Case of Eastern Staten Island. New York: College of Staten Island, February 27, 2014. <u>http://www.csi.cuny.edu/sandyforum/pdf/</u> Peters%20Flanagan%20Gordon.pdf.
- "Phases of City Life." *The New York Times*, June 22, 1890. <u>http://query.nytimes.com/mem/</u> <u>archive-free/pdf?res=9907E4D6123BE533A25751C2A9609C94619ED7CF</u>.
- Plambeck, Joseph. "Low Prices, Slow Traffic, Copious Sand." *The New York Times*, July 29, 2011. <u>http://www.nytimes.com/2011/07/31/realestate/low-prices-slow-traffic-copious-sand-living-inmidland-beach-s-i.html?pagewanted=all</u>.
- -----. "Why Ask for the Moon? They've Got the Beach." *The New York Times*, July 24, 2009. http://www.nytimes.com/2009/07/26/realestate/26living.html?pagewanted=all.
- Platt, Tevah. "For Oakwood Residents, Ocean Flooding Still Prevails." *Staten Island Advance*, April 8, 2010. <u>http://www.silive.com/eastshore/index.ssf/2010/04/for\_oakwood\_residents\_ocean\_fl.html</u>.
- ———. "What Will Stop the Flooding in Staten Island's Oakwood Beach?" Staten Island Advance, May 7, 2009. <u>http://www.silive.com/eastshore/index.ssf/2009/05/what\_will\_stop\_the\_flooding\_in.html</u>.

Pratt, Jennifer (Director of Planning Services, City of Cedar Rapids) and Paula Mitchell (Housing

and Redevelopment Manager). In conversation with the author, January 23, 2015.

- Randall, Judy L. "City DOT Milling, Paving Streets in Sandy Buy-out Neighborhoods." *Staten Island Advance*, April 16, 2014. <u>http://www.silive.com/news/index.ssf/2014/04/city\_dot\_milling\_paving\_street.html</u>.
- ———. "Cuomo's NY Rising to Pump \$25 Million into Staten Island Neighborhoods Rebounding from Sandy." *Staten Island Advance*. September 18, 2013. <u>http://www.silive.com/news/</u> index.ssf/2013/09/cuomo\_ny\_rising\_to\_pump\_25\_mil.html.
- ———. "Cuomo Taps Sandy-Ravaged Oakwood Beach, Staten Island for Buyouts." Staten Island Advance, February 26, 2013. <u>http://www.silive.com/news/index.ssf/2013/02/cuomo\_taps\_sandy-ravaged\_oakwo.html</u>.
- "Rapid Transit on Staten Island: A Plan for A Belt Steam Railway to Distribute the Passengers." *The New York Times*, April 20, 1880. <u>http://query.nytimes.com/gst/abstract.</u> <u>html?res=950CE0DF173FE533A25753C2A9629C94619FD7CF</u>.</u>
- "Realty Increases on Staten Island: Percentage Advance in Five Years Greater than Any Other Borough." *The New York Times*, April 22, 1928. <u>http://query.nytimes.com/mem/archive/</u> <u>pdf?res=9F07E7D91538E23ABC4A51DFB2668383639EDE</u>.
- Rush, Elizabeth. "Leaving the Sea: Staten Islanders Experiment with Managed Retreat." *Urban Omnibus*, February 11, 2015. <u>http://urbanomnibus.net/2015/02/leaving-the-sea-staten-islanders-experiment-with-managed-retreat/</u>.
- Sanders, Anna. "De Blasio to Focus on Affordable Housing in 2015." *Staten Island Advance*, February 3, 2015. <u>http://www.silive.com/news/index.ssf/2015/02/de\_blasio\_affordable\_housing\_staten\_island.html</u>.
- Sasaki Associates. *City of Cedar Rapids Framework Plan for Reinvestment and Revitalization*, December 2008. <u>http://www.cedar-rapids.org/government/departments/community-development/floodrecoveryplanning/Documents/REPORT.11.01.09%20framework%20plan%20exec%20summary.pdf</u>.
- Saulny, Susan. "After Iowa Flood, Feeling Just a Bit Ignored." *The New York Times*. August 27, 2009. <u>http://www.nytimes.com/2009/08/28/us/28cedar.html?\_r=1&</u>.
- ———. "Iowans Washed Out of Homes Find Their Future Hard to Grasp." *The New York Times*. July 30, 2008. <u>http://www.nytimes.com/2008/07/30/us/30cedar.html?\_r=1&</u>.

- Schuerman, Matt. "Army Corps Envisioned Hurricane Walls for NYC 50 Years Ago." *WNYC News*, May 29, 2013. <u>http://www.wnyc.org/story/295251-army-corps-envisioned-</u> <u>hurricane-walls-nyc-50-years-ago/</u>.
- "Scenes in the Areas Where Brush Fires Destroyed Homes." *The New York Times*, May 6, 1930. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9902EFD71738E03ABC4E53DFB366838B629EDE</u>.
- "Scenes in the Metropolitan Area at the Height of Yesterday's Storm." *The New York Times*, November 26, 1950. <u>http://query.nytimes.com/mem/archive-free/pdf?res=9E02E2DE1E3FE033A05755C2A9679D946192D6CF</u>.
- "Scores of Homes Burned." *The New York Times*, May 5, 1930. <u>http://query.nytimes.com/mem/</u> <u>archive/pdf?res=9D0CE6D71738E03ABC4D53DFB366838B629EDE</u>.
- Shapiro, Rachel. "Schumer, Oddo: Army Corps of Engineers Should Tell Public about Plans for East Shore Improvements." *Staten Island Advance*, March 11, 2015. <u>http://www.silive.</u> <u>com/news/index.ssf/2015/03/charles\_schumer\_james\_oddo\_urg.html</u>.
- Sherry, Virginia N. "Family in Staten Island's Midland Beach Celebrates Rebuild of Hurricane Sandy-Damaged Home." *Staten Island Advance*, October 29, 2013. <u>http://www.silive.com/news/index.ssf/2013/10/family in staten islands midla.html</u>.
- ———. "Staten Island Woman Who Lost Husband, Daughter in Hurricane Sandy Is City's First Build It Back Acquisition." *Staten Island Advance*, October 10, 2013. <u>http://www.silive.</u> <u>com/news/index.ssf/2013/10/mayor\_announces\_xxxx.html</u>.
- Sinclair, Rebecca (Director of Buyout and Acquisition Programs, Governor's Office of Storm Recovery). In discussion with the author, January 30, 2015.
- Smith, Rick. "Cedar Rapids Council Proposes Investment Moratorium for Time Check." *The Gazette*, July 22, 2014. <u>http://thegazette.com/subject/news/cedar-rapids-council-proposes-investment-moratorium-for-time-check-20140722</u>.
- Smith, Rick. "Cedar Rapids Gets \$264 Million Flood Protection Plan Approval." *The Gazette*. March 29, 2014. <u>http://thegazette.com/2013/12/04/cedar-rapids-gets-264-million-flood-protection-approval</u>.
- Special Initiative for Rebuilding and Resiliency. *A Stronger, More Resilient New York*. New York: City of New York, June 11, 2013. <u>http://www.nyc.gov/html/sirr/html/report/report.shtml</u>.
- Staff Editorial. "Nearing a Flood Protection Destination." *The Gazette*, April 3, 2015. <u>http://thegazette.com/subject/opinion/staff-editorial/nearing-a-flood-protection-</u>

destination-20150403.

- Staten Island Advance Editorial Board. "Help for Staten Island's Oakwood Beach." *Staten Island Advance*, October 26, 2012. <u>http://www.silive.com/opinion/index.ssf/2012/10/help\_for\_staten\_islands\_oakwoo.html</u>.
- "Staten Island Group Asks Flood Control; Federal Aid Urged at Army Hearing to Protect Land Along New Creek." *The New York Times*, November 17, 1937. <u>http://query.nytimes.com/</u> <u>mem/archive/pdf?res=9D05E5DA1638E033A25754C1A9679D946694D6CF</u>.
- "Staten Island Growth Management." *NYC Planning*, 2014. <u>http://www.nyc.gov/html/dcp/html/</u> <u>sigrowth/index.shtml</u>.
- SImagines: Planning for Recovery Program. Apias Studios, 2013. http://vimeo.com/67309150.
- "Staten Island Land Grant." *The New York Times*, November 1, 1901. <u>http://query.nytimes.com/gst/abstract.html?res=9B02E7DC1E39EF32A25752C0A9679D946097D6CF</u>.
- Steinberg, Ted. *Gotham Unbound: The Ecological History of Greater New York*. New York: Simon & Schuster, 2014.
- Steinmeyer, Henry G. *Staten Island 1524 1898*. Revised. Richmondtown, Staten Island, NY: The Staten Island Historical Society, 1987.
- The Bluestone Organization. n.d. "Home Features." Rebuild Resilient Staten Island. <u>http://www.bluestonerrsi.com/home-features/</u>.
- "Tide Floods Big Area in City and Suburbs." *The New York Times*, November 11, 1932. <u>http://query.nytimes.com/mem/archive/</u> pdf?res=9A0CE3DA1E31E333A25752C1A9679D946394D6CF.
- "Tide Floods Homes Along Coast Here: Thousands Are Evacuated Emergencies Declared in Jersey and Fairfield." *The New York Times*, November 8, 1953. <u>http://query.nytimes.com/</u> <u>mem/archive/pdf?res=9905E7DB103EE43ABC4053DFB7678388649EDE</u>.
- Tirone, Joseph (Oakwood Beach Buyout Committee). In discussion with the author, November 29, 2014.
- Tumarkin, Laurel, and Jonathan Bowles. "Staten Island: Then and Now." *Center for an Urban Future*, 2011. <u>https://nycfuture.org/research/publications/staten-island-then-and-now</u>.
- Urban Waterfront Adaptive Strategies Project Team. *Urban Waterfront Adaptive Strategies*. Department of City Planning, City of New York, June 2013. <u>http://www.nyc.gov/html/dcp/pdf/sustainable\_communities/urban\_waterfront.pdf</u>.

- U.S. Department of Housing and Urban Development. "CDBG-DR Active Disaster Grants and Grantee Contact Information." HUD Exchange, 2014. <u>https://www.hudexchange.info/programs/cdbg-dr/cdbg-dr-grantee-contact-information/</u>.
- U.S. Geological Survey. "Geologic Setting of the Modern Shore." Geology of National Parks, 2015. http://3dparks.wr.usgs.gov/nyc/shoreline/coastgeology.htm.
- Wagner, Jacob A., and Michael Frisch. "Introduction: New Orleans and the Design Moment." In *New Orleans and the Design Moment*, edited by Jacob A. Wagner and Michael Frisch. London: Routledge, 2013.
- Weise, Karen. "Storm Risk Fails to Deter Buyers of Oceanfront Homes." *Bloomberg Businessweek*, January 31, 2013. <u>http://www.bloomberg.com/bw/articles/2013-01-31/storm-risk-fails-to-deter-buyers-of-oceanfront-homes</u>.
- Weisman, Steven R. "Arverne Mirrors Renewal Woe." *The New York Times*, April 18, 1971. <u>http://query.nytimes.com/mem/archive-free/</u> pdf?res=950DEFD6113BE73ABC4052DFB266838A669EDE.
- Wilson, Claire. "Staten Island, beyond Sandy." *The Real Deal: New York Real Estate News*, August 1, 2013. <u>http://therealdeal.com/issues\_articles/staten-island-beyond-sandy/</u>.
- Zablocki, Alex (Governor's Office of Storm Recovery). In discussion with the author, October 10, 2014.
- Zone A New York. "Re-Envisioning South Beach." *Zone A New York*, September 29, 2014. <u>http://</u> zoneanewyork.org/blog/entry/re-envisioning-south-beach.