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SPECIAL ISSUE

FOUND GROUND

Putting the city back together

UNDERPASS PARK

Lost and found in Toronto

OVER THE TRACKS

Nelson Byrd Woltz covers
New York's Hudson Yards

DALLAS IS HOOKED

Klyde Warren Park has changed
the downtown landscape

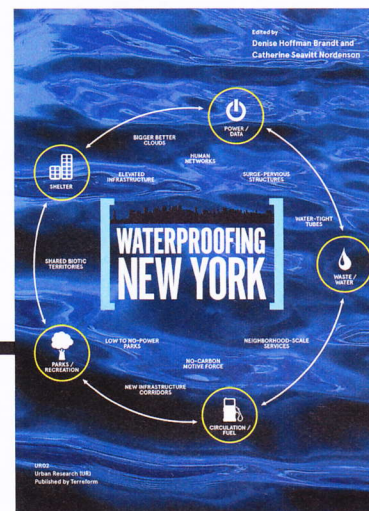


FLOODED WITH IDEAS

WATERPROOFING NEW YORK

EDITED BY DENISE HOFFMAN BRANDT AND CATHERINE SEAVITT NORDENSON; NEW YORK: TERREFORM/URBAN RESEARCH, 2016; 192 PAGES, \$40.

REVIEWED BY THAÏSA WAY, ASLA

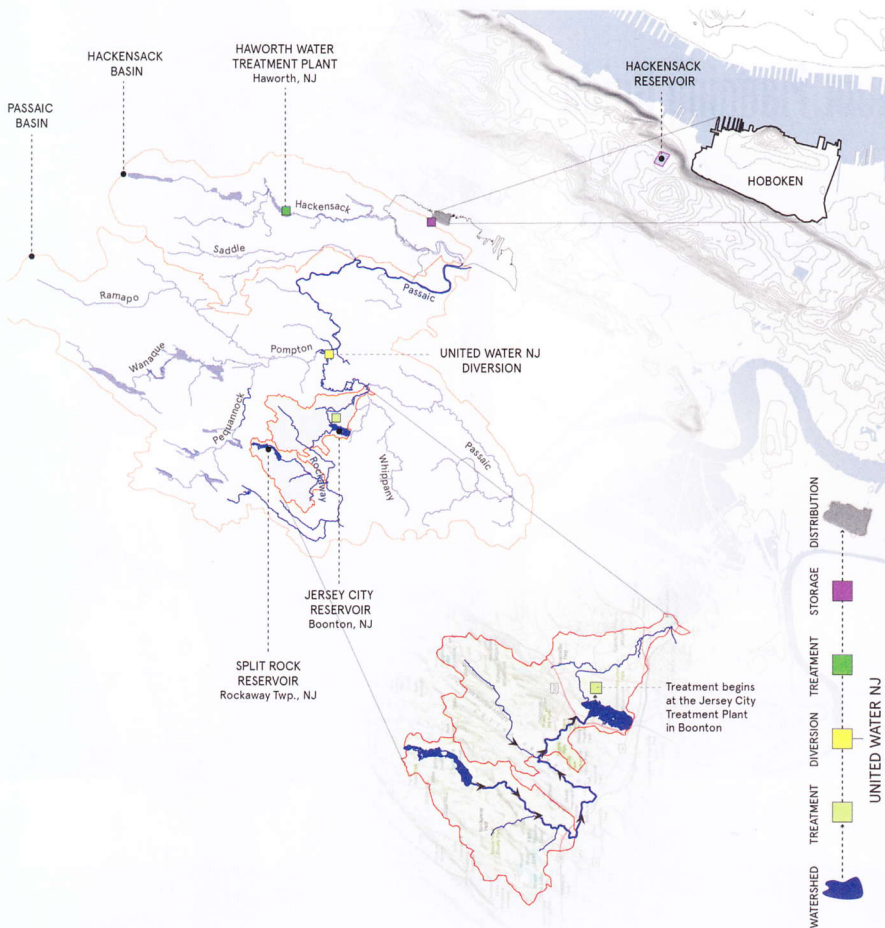


In 2013, New York City began to seriously evaluate the consequences of climate change, extreme storms, and rising waters. Two dramatic storms had challenged the city in ways many residents assumed only threatened more visibly vulnerable cities such as New Orleans. Expanding on earlier responses to sea-level rise such as the Museum of Modern Art's *Rising Currents* exhibition, landscape architects increasingly are taking the lead in exploring ways to both prepare and respond. Denise Hoffman Brandt, ASLA, an associate professor of landscape architecture in the City College of New York's Bernard and Anne Spitzer School of Architecture, is at the leading edge of this work, first with her 2009 Van Alen Prize Fellowship project City Sink and now with her symposium and book, *Waterproofing New York*. Hoffman Brandt's work explores change across spectrums of responses, scales of implementation, and frameworks of understanding social, cultural, and environmental forces. This approach is significant, given that we are too often waylaid by the shallow argument of whether climate change is happening, or who is to blame, or how much it would cost to do what is needed. In *Waterproofing New York*, Hoffman Brandt and Catherine Seavitt Nordenson, ASLA, outline a persuasive case for both experimenting with and critiquing urban responses to climate change.

As many have noted, the sustainability of cities as measured by human and environmental health will define our success in stewarding the future of our planet. The global challenges of energy security and resources, water scarcity, air quality, food security, poverty, and declining social equity are embedded in urban systems and landscapes. It has become clear that we can no longer merely draw on familiar techniques and technologies. Rather, we need to explore alternatives, even radical ones, which might disrupt the systems that have previously sustained us.

Hoffman Brandt and Nordenson, an associate professor at City College whose research focuses on design adaptation to sea-level rise in urban coastal environments, organized "Waterproofing New York," a two-day conference to investigate the impact of past and future storms on urban infrastructure systems. They also explored the ways everyday disruptions erode the resiliency of the engineered systems and the communities they serve. Their agenda was a specific response by the Landscape Architecture Program of the City College's Spitzer School of Architecture to the destructive forces of Hurricane Sandy in 2012; however, they also engaged a broader investigation of the increasingly volatile impacts of extreme

Urban Island, analysis of regional water delivery system



storms and climate change. The first meeting was planned for February 2013. Ironically, the plan had to be postponed until March because of a second major storm. Participants included municipal leaders, scientists, landscape architects, engineers, and designers. The work is presented as a volume of UR (Urban Research), a publication series directed by Michael Sorkin and published by Terreform.

Hoffman Brandt's City Sink project reimagined the city as a metapark in which dispersed landscape infrastructure could be built to store carbon through the establishment of sequestration reservoirs retrofitted into existing city systems. The project drew on ecological and life cycle research, but more important than its science was the way it challenged public perception of nature in the city, drawing attention to the

elements and processes of natural systems embedded in the urban landscape. City Sink remains a radical approach that has yet to be realized but is increasingly less far-out than one may have thought on introduction.

Hoffman Brandt and Nordenson's book suggests a more nuanced understanding of urban nature while challenging landscape architects, engineers, and policy makers to move beyond short-term pragmatic responses to extreme storms to engage a broader definition of everyday infrastructure. Landscape architects have only begun to engage the space in between the scales of the swale and the floating city, reimagining the evolution of existing urban systems to foster a more robust and resilient future.

Essay contributors share the assumption that cities need to evolve to address social, economic, and political well-being as well as human and environmental health and resilience through integration and redundancy. It is in some sense a designer's version of Naomi Klein's *This Changes Everything*, as we can no longer disaggregate the city into isolated problems of environment versus humans and persuasively suggest that will improve urban landscape as a whole. Instead, climate change, particularly in those cities along our coastal landscapes, will require "a radical recalibration of human ecological practices." This recalibration is as much in how residents perceive nature in the city as it is in how the infrastructural systems perform.

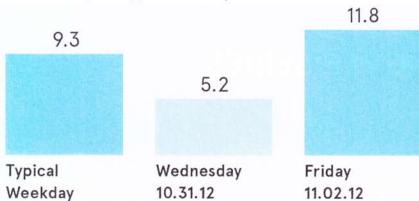
Organized into the topics of Waste + Water, Circulation, Power + Data, Parks + Recreation, and Shelter, student projects generated in a concurrently hosted design studio led by Hoffman Brandt provide the front matter for each area. These are followed with essays written by professionals and academics. The play between student inquiry and scholarly input positions speculations and reflections in dialogue with one another rather than suggesting they provide any complete solutions.

If cities are to build resilient futures, the urban infrastructural systems will have to be modified, tweaked, and improved in

ABOVE
A landscape architect's approach to mapping at a variety of scales for risks and responses can enhance how we understand the larger systems from delivery to waste.

Midtown Avenue Speeds (mph)

Post-Sandy vs. Typical Weekly 8AM–6PM

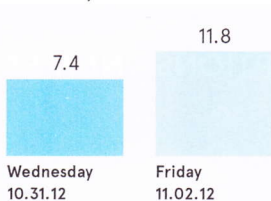


With the bus bridge and HOV-3 requirements in place, Midtown avenue speeds were nearly 30% faster than on a typical day. Due to differences in trip lengths, facilities traveled, and origin-destination patterns, typical-day taxi speeds are not compared with Sandy data.

Hurricane Sandy Travel Disruption Assessment, NYCDOT 12.17.12

Midtown Taxi Speeds (mph)

Post-Sandy 8AM–6PM



Typical Average Post-Sandy

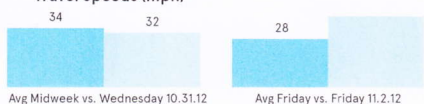
① Gowanus Expressway/BQE Northbound from Bay Ridge to Atlantic Avenue Travel Speeds (mph)



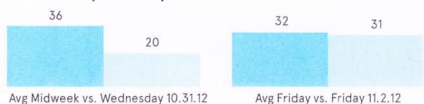
② BQE Northbound from Atlantic Ave. across Brooklyn Bridge Travel Speeds (mph)



③ BQE Northbound from Williamsburg Bridge to Long Island Expressway Travel Speeds (mph)



④ Cross-Bronx Expressway Eastbound to Bruckner Expressway Travel Speeds (mph)



ABOVE

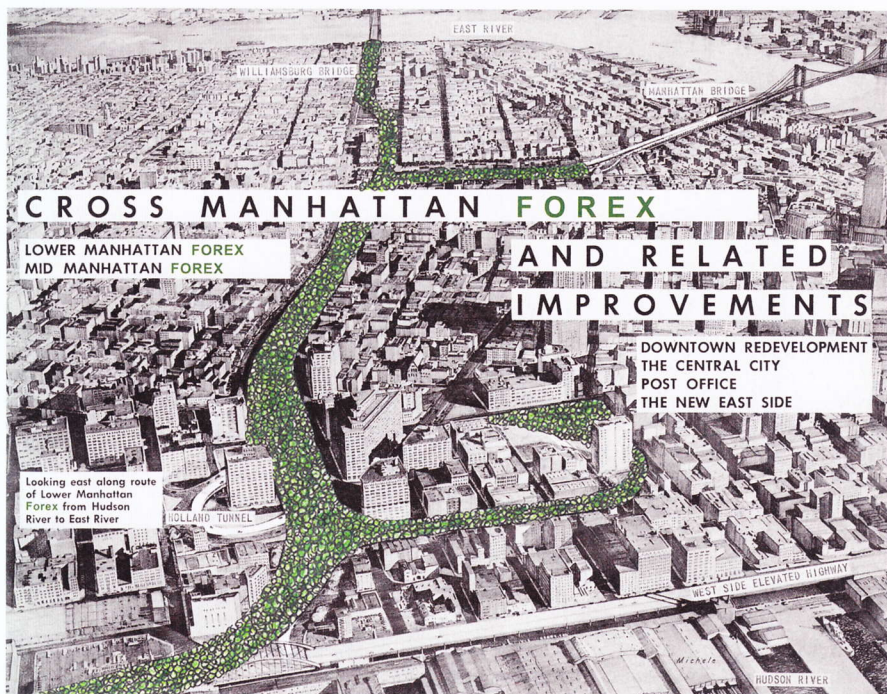
With increased access to an array of data and the tools to analyze, designers and planners have new methods for making design decisions and understanding possible future scenarios.

many dynamic ways. First they must be carefully evaluated, not merely within the framework of extreme weather response but in that of daily performance. It is in the everyday that social inequities become visible and can be addressed with greater integrity. Georreen Theodore, in the essay “Better Boroughs, Resilient Regions,” works with students to consider the power of land-use visualizations to expose social and environmental realities as well as generate response options. These observations reveal the capacities of a variety of answers to ecological,

social, and political objectives in the process of adapting to climate change. None of the approaches is entirely formed or completed, but rather like grassroots projects described by Jeffrey Hou, ASLA, in his essay “Guerrilla Resilience,” they are offered as launching points for discussion and exploration. And it is in the discussion of projects that a challenge of the book’s intentions is made clear. Although in the introduction Hoffman Brandt and Nordenson argue for a process-based response rather than a project-based plan, the essays remain steeped in project-based approaches. It may be that in the end, process is best disrupted through iterative projects. If that is kept in mind, then the projects—whether community-based or policy-oriented—can be thought of as interruptions of process that will aggregate into radical process change.

Whether project- or process-oriented, it is clear we can’t keep asking the same questions or applying the same answers that led to the weaknesses in our urban infrastructures in the first place. Responses will need to employ experimentation and risk to identify the most productive systemic improvements. One approach to mitigating the impacts of risks is to employ multiple and simultaneous approaches. As Nette Compton (“Everyday Infrastructure”) suggests, we “will need a range of approaches to protect our city in the face of predicted climate changes. This means a greater distribution of risk through protective redundancy, an effective strategy that is found in the natural environment.” No one approach, idea, or even policy will be the silver bullet. In turn, we need to responsibly consider distribution of risks and their impacts, and who is engaged in the process. “Natural disasters have an uncanny way of exposing social ones, particularly the ways in which we distribute risk,” Michael Sorkin points out in the afterword. This is how climate change adaptation and policy become the framework for social and political equity priorities and practices.

Further, climate change does not affect any urban landscape equally or with any acknowledgment of political or social borders. Cities are filled with urban landscapes “already caught in cycles of chronic environmental disturbance that will escalate with the impacts of climate change.” To address



ABOVE
Reimagining the urban landscape—as Nordenson does with her cross Manhattan FOREX—is a powerful way in which landscape architects contribute to the future of urban nature.

these inequities, leaders in vulnerable communities have argued for the democratization of engagement and knowledge generation in the development and implementation of climate change policies and projects. As Hoffman Brandt notes, the decisions around climate change must “evolve from a transparent discourse elucidating top-down and bottom-up agendas that brings to the table both traditional and emerging technologies.” This frame is used to question the role of big data and how it informs the CitiBike program. Her concerns echo the focus of Cathy O’Neil’s 2016 book, *Weapons of Math Destruction*, which delves into the disturbing biases of so-called objective algorithms and data analysis. In a similar manner, Lance Jay Brown inquires into the policies of land use and development in a time of climate change as a framework for decisions of treating or proofing a city or retreat and removal in his essay “Treat or Re-(Treat).” What became clear in New Orleans after Katrina was reemphasized with Hurricane Sandy: These decisions are not merely scientific or data-based responses. They must responsibly grapple with the complexities of embedded social, political, and cultural questions.

Democratization also requires redescribing the role of nature in the city in ways that will be compelling for citizens who are being asked to alter their daily lives. In the essay “Urban Stewardship as a Catalyst for Recovery and Change,” a team of social scientists and foresters builds on observations of

natural and human ecologies to reimagine nature in the city. Nordenson describes urban forests, or FOREX, as a vision “in which the unobstructed linearity of streets and the density of woodland canopy traverse the urban grid as a dense upland filter belt, a carbon sink, and a coastal flood buffer.” This is a different image of the city, one that contests the sustained dichotomy of the city and nature.

Finally, it is clear that landscape architects will need to become politically engaged in the formation of policies and regulations. An essay by Kate Orff, ASLA, explores policy as dark matter and the role of permitting procedures and regulations in climate interventions for coastline cities. More specifically, Janette Sadik-Kahn writes of the lessons learned during Sandy about the consequences of high-occupancy-vehicle restrictions in the development of traffic jams—and how bicyclists and pedestrians were used to literally move the city forward after the storm. The challenges of even the most simple of interventions are not just about addressing disaster but reminding us that disasters are lessons for how to organize for the everyday city. In fact, it may well be that the everyday performance of infrastructure is where our focus should be. As Compton notes, “Most of our time will not be spent experiencing another hurricane.... We must also pay attention to the everyday climate risks that are less likely to grab the public’s attention.”

These essays collectively suggest possible projects and approaches. Each essay is an introduction to a question and response rather than a complete thesis on a topic. They are not solutions but explorations of how water-ready the city might be, not so much how to waterproof it. And this is the strength of this book: It is flooded with ideas. None are utopian, and only a few are mundane; not all are possible everywhere, but every single one is worthy of contemplation. As a dialogue, it is exactly the engagement we should be teaching and practicing. ●

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