



# URBANLAND®

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## COASTAL DEVELOPMENT

A rising tide of fresh ideas

**DETROIT**  
PARTNERING TO FIX  
THE MOTOR CITY

**MANCHESTER**  
SMART CITIES,  
SMART CITIZENS

**NEW YORK CITY**  
FALL MEETING  
PREVIEW



## Policy Perspective

### REBUILD BY DESIGN: A NEW REGIONAL MODEL FOR RESILIENCE

THROUGH ITS INNOVATIVE SPIRIT, Rebuild by Design has established a new governmental tool for promoting resilience and demonstrates that regional concerns should inform development, design, and public policy.

Although New York City and the coastal communities of New Jersey bore the brunt of Hurricane Sandy, the storm's impact was regional: major disasters were declared in 12 northeastern states and the District of Columbia. In response, Congress passed a \$60 billion recovery package. The U.S. Department of Housing and Urban Development (HUD) and the Presidential Hurricane Sandy Rebuilding Task Force combined federal funds with a grant from the Rockefeller Foundation to initiate Rebuild by Design, the nation's first design competition held to assist a region in rebuilding from a natural disaster. The competition's scope was focused on New York and New Jersey; and this past June, \$920 million was awarded to both states and selected cities to jump-start the implementation of the winning designs.

Henk Ovink, the Dutch water management expert who was principal of Rebuild by Design, sees the competition as a way to provoke a paradigm shift in America. "This is not about a competition; this is about changing a culture," he says. Ovink says he hopes Rebuild by Design's community-focused approach and its resulting designs encourage the United States to collaborate on a regional scale to protect cities from the effects of climate change. Ovink says that comprehensive plans, which address challenges and leverage assets on a regional basis, bring safety and opportunity. "When every parcel is secure, it makes it attractive to developers. If we work to safeguard a city, there's a wider market benefit. If we do it parcel by parcel, we'd have to build thousands of walls," Ovink says.

To foster regional resilience, Rebuild by Design broke from the competitive grant model favored by the federal government as well as the competition model that is standard in the design world. Instead of responding to a defined problem with a solution for one site, Rebuild by Design encouraged interdisciplinary teams of designers, architects, engineers, and real estate advisers to identify interdependencies, vulnerabilities, and opportunities across the region. The competition put a premium on discovery rather than on meeting detailed criteria. Research, analysis, and design were conducted through a regional lens, focused on community needs, and led to site-specific solutions only after multiple tours, community workshops, and stakeholder meetings.

Mark Johnson, president of Civitas, a Denver-based urban design and landscape architecture firm, called Rebuild by Design "the most unusual design competition I have ever seen." Civitas did not submit to Rebuild by Design, but Johnson has entered and won numerous competitions. He was surprised that teams worked across two states, facing distinct typological and political challenges versus having one site for all teams. In fact, each team submitted proposals for multiple sites, and the jury selected which would advance to the funding stage.

Rebuild by Design's process has helped spur public dialogue. Alex Krieger, professor at Harvard University's Graduate School of Design, classified Rebuild by Design as "an ideas competition first and foremost." While the first phase of the proposals is being implemented, the value of the competition, Krieger thinks, is its

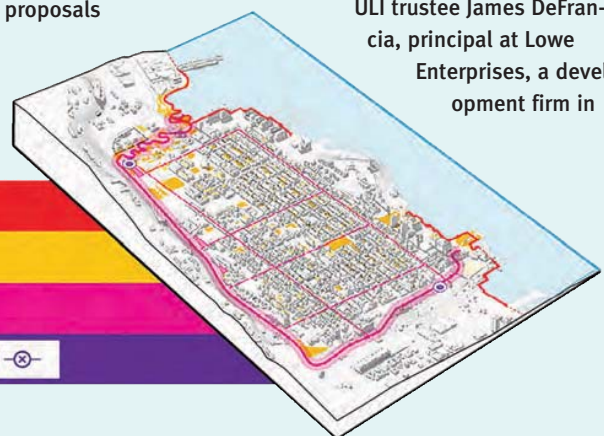
ability to raise awareness about resilience and to stimulate design innovations that may take several years to fully materialize.

#### Understanding Regionalism

Rebuild by Design established a framework based on connecting resources and mitigating risks across various regional scales. ULI created a similar approach when it convened a regional Advisory Services panel in 2013 to identify rebuilding strategies for New York and New Jersey. The *After Sandy* report produced from this effort outlines the core components of regional resilience, including close coordination among local, state, and federal leaders; protection of economic assets; and a regional vision regarding infrastructure. Diverse stakeholders ranging from foundations to developers are becoming aware of the multiple benefits of regionalism.

As managing director, Nancy Kete leads the Rockefeller Foundation's global resilience work and worked closely with Rebuild by Design. She suggested that everyone benefits when parcels are understood as parts of whole neighborhoods, cities, and regions and when connections are forged across projects of varying scale and between sectors. Kete encouraged ULI members to examine the "regional scale before telescoping down to the particular design opportunities" because the proposals put forth by Rebuild by Design were intended to address long-term climate change and "what's happening outside the boundaries of the project itself."

ULI trustee James DeFrancis, principal at Lowe Enterprises, a development firm in



Aspen, Colorado, says the private sector can lead on regional resilience. DeFrancia chaired the first in a series of ULI resilience-themed Advisory Services panels and says that regionalism is absolutely essential to creating resilient communities. “There’s a propensity to value local control, but storms impact broad areas. There has to be a cultural change with how we govern,” he says. DeFrancia urges the private sector “to be assertive in educating the public in an unbiased way on the importance of regional resilience.” He says developers can lead if they articulate the value of regionalism in terms of community-wide needs, rather than their own projects.

Andrew Kimball, chief executive of Industry City, an innovation and manufacturing district with 6 million square feet (557,000 sq m) of space on the Brooklyn waterfront, says Rebuild by Design has led to a discussion about the role of regional transportation in resilience. Kimball was chief executive officer of the Brooklyn Navy Yard Development Corporation during Hurricane Sandy and saw firsthand the consequences of flooded subways. One of

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the winning projects in particular piqued his interest: the Bjarke Ingels Group (BIG) Team’s idea of combining elevated berms with bicycle and pedestrian paths. Kimball says expanded bike lanes and ferry service would strengthen the region’s resilience, and he says he hopes that stakeholders can come together to better connect and protect Brooklyn. “It’s got to be a community-focused process that touches public and private properties,” Kimball says.

The BIG Team won \$335 million for its design of a protective U around lower Manhattan.

Resilience is proving to be a multidimensional endeavor. Jeremy Siegel, project lead at BIG, says he was struck by how multidimensional

resilience is when applied to the tangible realities of a neighborhood. “What you find about resilience,” Siegel says, “is that you end up having to deal with everything about that neighborhood because everything is inextricably linked.”

He used the Lower East Side, one site in the proposal, as an example. The BIG plan calls for a multipurpose barrier in the form of a park to keep water out and improve neighborhood connectivity. Green infrastructure also helps make the ground more pervious, and some ground-floor apartments are relocated and repurposed as job training sites. Such measures not only increase the area’s resilience to storms, but also change the local real estate dynamic.

BIG’s proposal recognizes the Lower East Side’s reservoir of affordable housing and protects the housing stock. The team consulted with a housing specialist to “combine various parts of the resiliency package with longstanding needs in the neighborhood.” Making a neighborhood resilient to flooding is an occasion to increase and protect affordable housing units, Siegel says. “What the city can do when they put in place pro-

safeguard the Hunts Point peninsula in the south Bronx, the site of one of New York City’s most critical resources—a massive distribution complex that provides food to 22 million people and pumps \$5 billion into the economy annually. According to the team’s proposal, one part of the plan will protect the food hub with a waterfront greenway that would not only serve as a storm-surge barrier but also create a recreation space with views of the working waterfront. A new trigeneration power plant will be built to provide a continuous supply of energy for keeping food refrigerated, even if a storm wreaks havoc on the rest of the electrical grid. Finally, a new pier infrastructure and a marine transfer station would serve as key parts of a maritime emergency supply chain that can keep people along the U.S. East Coast well fed, even when the roads are impassible to trucks.

**Living Breakwaters:** Staten Island took a particularly brutal beating from Sandy, but its shoreline faces a more insidious long-term menace from wave action and erosion. SCAPE/Landscape Architecture’s \$60 million project is designed to protect the area against all of those threats while fostering a resur-

gence of the south shore’s traditional marine culture built around oyster harvesting. “Climate change is not just about extreme weather events and flooding, but a whole suite of other issues,” explains Gina Wirth, a designer and urban planner on the SCAPE team. “There’s coastal erosion, land loss, high-velocity water, and also the relationship to the shoreline, and the slow disappearance of ecosystems over time.” Rather than building a floodwall, SCAPE opted for a “necklace” of smaller breakwaters as a buffer. Those structures also would serve as artificial reefs that can nurture micropockets of habitat for finfish, lobsters, and other shellfish. To better connect residents and visitors to the shoreline, SCAPE envisions a network of hubs with amenities such as bathrooms, water fountains, storage space for kayaks, and classroom/laboratory space that can be used by local schoolchildren and teachers for studying the marine ecosystem.

### **Creating an Innovative Process**

While the projects selected by Rebuild by Design might be replicable in other parts of the country,

tective measures is to negotiate a lock-in of affordability for the next 30 years. And so in one move, you're protecting the neighborhood from weather events and you're protecting residents from the moral hazards of flood protection, which is that once you protect a place, it becomes more valuable."

The OMA design firm won \$230 million for a comprehensive urban water strategy for Hoboken, Jersey City, and Weehawken in New Jersey. Their "Resist, Delay, Store, Discharge" strategy uses hard, green, and urban infrastructure; soft landscape; and policy recommendations to lower the area's risk from storm surges and flash floods.

Pittman explains that their framework fosters regional resilience: Hoboken's vulnerability to storm surges extends past its municipal boundaries to Weehawken in the north and to Jersey City in the south. Instead of constructing a "wall that would run perpendicular to the river and separate Hoboken from Weehawken," cities can work together so that their defense does not end at the municipal boundary, he says. "Resist is about making sure there's a continuity of defense that runs along the Hudson," Pittman says.

The remaining three aspects—delay, store, and discharge—constitute a "suite of initiatives that can be carried out by different parties" to address flash floods, Pittman says. "At one scale, you can have the city commissioning park space that can be used as storage, but you can also have developers making sure they're part of a citywide solution." He suggests that developers adopt green roofing and ensure that common spaces are made of porous materials. "In the same way, individual homeowners and businesses can contribute by using rain barrels," he notes. "At the heart of this project is the idea that it's about everybody chipping in and that these small contributions help make a city safe," Pittman says.

As a government tool, Rebuild by Design already appears to be bridging top-down expertise with grass-roots needs. The competition empowered teams to work with communities, make discoveries, and build coalitions that are strikingly independent from rigid requirements. Importantly, the proposals reflect regional and community needs and reveal resilience's links to

housing, transportation, infrastructure, arts and culture, open space, and other social needs.

This past July, HUD announced a new competition, inspired by Rebuild by Design, called the National Disaster Resilience Competition. Rebuild by Design could serve as a new model for generating policy and design innovations and engaging the public in regard to resilience. The competition, however, reveals a few challenges. Cities that were not awarded grant dollars may see the competition as picking winners and losers. But all competitions have limitations, and regional resilience necessitates action by numerous stakeholders over the long term. The cultural change envisioned through Rebuild by Design is for developers and policy makers alike to understand that parcels of land cannot function as islands unto themselves, but rather must be connected to their wider region if a neighborhood, city, or region is to recover from the next storm.

*Nicholas Lalla is an analyst at ULI.*

the process by which they were created may end up being even more influential. Ovink compelled design teams to go into local communities and work with them—to get a feel for displaced residents' plight; some of the designers even worked a shift at a local soup kitchen. That effort not only helped inform their work, but also gave the public a chance to learn about the complexity of dealing with climate change and building resiliency.

"One of our goals was to reach people who don't normally follow design competitions, because the solutions would affect people's daily lives," explains Jerome Chou, director of competitions for the Van Alen Institute, which assisted Rebuild by Design. "The mission was: 'don't just come up with a design and planning strategies for the next storm, but figure out how to improve life on all the days when you don't have a Hurricane Sandy.' "

Rebuild by Design's process and its integrative approach to climate resiliency also have won praise from outside observers. Armondo Carbonell, chairman of planning and urban form at the Lincoln Institute of Land Policy in Cambridge, Massachusetts,

touts the program as "a real development in the way that planners and engineers are thinking about the relationship between cities and nature. Instead of the old dichotomy—keep nature and the city in separate places—there is this fertile interaction. Instead of retreating, you have this hybrid where you integrate natural processes into your strategy. They're using nature, and getting it to do some of the work."

Even as the next stage of implementation on Rebuild by Design's projects is underway, Ovink already is looking to replicate the program. "I was in San Francisco last week, and we've been talking to Boston, too," he explains. "So yes, we're going to try to do it in other places as well. There are a lot more places in the U.S. that could benefit from it." **UL**

**PATRICK J. KIGER** is a Washington, D.C.–area journalist, blogger, and author.