

PRESCRIPTION FOR DISASTER

HARNESSING PRIVATE-SECTOR TOOLS IN HURRICANE SANDY RECOVERY

By Roland Kastoun and Sharon Marcil

EVEN BEFORE SANDY HIT the northeastern U.S. on October 29, 2012, it was clear that the superstorm would leave a stunning path of destruction in its wake. Sandy was massive—at its peak, covering an area nearly one-fifth the size of the contiguous U.S.—and was bearing down on some of the most densely populated areas in the country, including New York City. The storm left 44 people dead in New York City alone, thousands displaced from their homes, and, overall, it was among the most costly hurricanes in U.S. history, trailing only Hurricane Katrina.

Following Hurricane Sandy, New York City set out on the challenging and complex task of assessing the damage and designing a recovery program. In early 2013, the New York City Mayor's Office of Housing Recovery Operations enlisted The Boston Consulting Group's help in leading that charge. The effort focused on determining the storm's total damage and designing an aid delivery system for long-term rebuilding under what ultimately became the "Build it Back" program.

At the heart of the effort was a commitment to draw on lessons from previous natural disasters in order to adopt best practices and avoid common pitfalls. The resulting approach was radically different from many earlier recovery programs. In the past, the actual extent and profile of the need was, in many cases, unknown until people applied for help—*after* priorities and funding had been set and the programs had been designed and established. This would result in the need for significant course corrections and long delays in aid delivery while the programs were adjusted to meet the actual recovery need. Even the best of the programs relied on town hall meetings and discussion—which provided useful but anecdotal information—to identify need. By contrast, the New York City program harnessed detailed data on both the damage inflicted and the victims who were most in need of help. Using this approach, it was possible to set priorities and make funding requests that reflected actual need—well ahead of the receipt of applications. And the entire effort was built around one goal: to help New Yorkers return to their communi-

ties and thereby stabilize the neighborhoods most impacted by the storm.

Learning from Best Practices— and Mistakes—of Past Recovery Efforts

Unlike cities in areas commonly hit by hurricanes or other natural disasters, New York had not recently suffered anything comparable to the damage Sandy had inflicted on its housing and infrastructure. To understand what drives effectiveness in disaster recovery, we analyzed the efforts undertaken after a number of other events including Hurricane Katrina, Hurricane Ike, and the 2008 floods in Iowa. The process involved interviews with a wide range of disaster recovery experts, as well those with direct field experience—federal, state, and local officials from around the country; consultants and recovery practitioners; and not-for-profit community groups—and the assessment of published literature and news accounts.

That work resulted in four important lessons:

- Rigorous analysis of data collected by all levels of government, in addition to on-the-ground sampling, would be required to gain a workable understanding of the true cost of the recovery need and the characteristics of affected residents. This information would also provide insight into where and in what form aid was needed.
- Effective recovery programs draw on community organizations and other nongovernmental groups for outreach to heavily impacted populations, ensuring that residents with the greatest need get to participate in the program.
- Controls against fraud and waste are critical.
- For complex programs, it is valuable for residents to have a single point of contact from which they can get help navigating the process.

Although importing best practices from previous disaster recoveries was critical, it

also became apparent that New York City's program could not be based only on what had been done elsewhere. The unique conditions in the city, including the regulatory and legal landscape related to disaster aid, called for a novel approach.

Creating a Program Built on Data

To develop a program specifically suited to New York City's needs, we applied lessons learned from past disasters and deployed rigorous data analysis to answer two key questions: How extensive was the damage? Who were the people most in need of help?

To quantify the impact and understand the circumstances of victims, we tapped every relevant data source available. Information on the thousands of damaged homes and apartments in New York came from sources such as the Federal Emergency Management Agency (FEMA), which has data from a number of programs including one that provides homeowners with money for quick repairs; New York City's Department of Buildings, which has figures on damage assessments and home values; and FEMA's National Flood Insurance Program, which provided damage estimate numbers. At the same time, using, for example, census data and additional FEMA information, we were able to create a picture of the people who were most in need of assistance.

The importance of this step was highlighted by recovery efforts in the aftermath of Hurricane Katrina. In that case, a rigorous analysis of the damage would have revealed that to help the renter population, the recovery of small landlords was critical. Absent that sort of insight, the recovery involved separate programs for homeowners and rental-property owners, and the program for the latter was poorly designed and underfunded. Assistance to small landlords was slow in coming: although small landlords accounted for the majority of the 82,000 rental units lost, as of 2008, only 370 rental units had gone through the program designed to help them.

In New York City, where 50 percent of the residential population rents, a similar ap-

proach would likewise have been a serious misstep. Deep analysis allowed for tailoring the recovery program to accommodate the unique nature of New York’s housing environment. Aid for homeowners and rental properties fell under a single program. However, assistance for a large, 100-unit apartment building, for example, was designed quite differently from the aid delivered to a 3-unit apartment building owned by a single individual.

Data on the overall damage sustained were married with information on aid from other sources such as the National Flood Insurance Program, FEMA, and the U.S. Small Business Administration (SBA). The gap between the funds that were already allocated and the estimate of damage was the amount of aid the city still needed. Our analysis revealed that to rebuild residential structures, New York City would need about \$2 billion in aid. To further storm proof properties that had sustained damage—to make them “resilient”—would take another \$2 billion.

That modeling allowed New York City to provide a detailed picture of its needs. This assessment informed the design of the program that would address those needs and served as the basis for the city’s successful funding request to the U.S. Department of Housing and Urban Development (HUD). Furthermore, rather than waiting for the perfect data set for assessing damage, we continually adapted the analysis in response to new information. For example, when HUD’s policy on assistance to recipients of SBA disaster loans was modified, we incorporated the latest SBA data into our picture of available funding and unmet need. The result was a very detailed initial picture—essentially a one-week or one-month answer—that was continually refined.

Adopting a Customer-Centric Approach

The detailed modeling of the damage in New York City also drove the creation of a blueprint for how aid would be distributed. The funds from HUD would flow in discrete payments—called tranches—and it was critical to target those funds in a way

that contributed most effectively to sustainable community recovery.

To ensure that sort of successful recovery, we crafted a customer-centric approach that tailored offerings to the situations of real people rather than imposing a one-size-fits-all solution on residents. Pathways were designed to respond to the ways people wanted to move forward, depending, for example, on whether they wanted to sell or repair their home. And aid was calculated on the basis of “cost to complete”—the amount a resident would need for full recovery—instead of the often-used “cost of damage” metric. That tactic was based in part on insights gained through extensive interviews with residents to assess the needs and problems they faced. And it reflected lessons learned in previous disasters after which many homeowners received aid well below what was necessary to make their homes habitable. In addition, to minimize waste and fraud, the city contracted directly with builders and other parties involved in rebuilding properties, paying out funds only as certain milestones were achieved.

The plan also incorporated other best practices such as partnering with local community organizations that could help guide people who might not otherwise understand how to navigate the system. In past disasters, many of the neediest groups were left out because the programs were too complex to understand or their onerous requirements made them inaccessible. Utilizing granular data on those impacted populations, BCG supported a targeted outreach strategy aimed at such populations as the elderly and non-English-speaking residents.

The result: by October 2013, the pace of registrations from underrepresented groups had jumped 80 percent compared with a 20 percent increase for the overall affected population. Such outreach enabled widespread participation in the recovery: there were more than 25,000 program registrations.

Partnering in Execution

Once the overall action plan for recovery was established, implementation became

the key challenge. This involved not only developing all the detailed policies and procedures that would govern aid distribution and rebuilding but also reexamining all decisions as new information became available.

There was also the challenge of analyzing the impact of the myriad decisions the city had to make. In fact, it is rare that a disaster program incorporates a clear, concise methodology for estimating the outcomes of a range of possible decisions. In New York City's case, as new issues came to the fore, the city's leaders were positioned to balance the tradeoffs inherent in different decisions through scenario analysis. So, for example, if there were questions about whether a homeowner who needed to fill in his or her

basement should get aid to add an equal amount of square footage elsewhere in the house, analysis would compute the number of other residences that would be covered and the financial impact. Decisions were made not in the vacuum of a crisis; instead, they were based on solid facts.

THE STORY OF the recovery in New York City is still being written. And rebuilding from the magnitude of devastation Sandy brought is never without setbacks and challenges. But New York City's experience highlights the critical role sophisticated data analysis and program design could play in rebounding from the next superstorm.

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