

Improving disaster recovery: Lessons learned in the United States

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Introduction

We live in a world where natural disasters are increasing in frequency and severity.

A large proportion of disaster-related losses are borne by governments, making these costs one of the largest public expenditures when compared with other social programs. For example, estimates suggest that the United States has a disaster-related unfunded liability that could be even greater than that of Social Security (up to \$7.1 trillion versus \$4.9 trillion).¹ Governments increasingly share the common challenge of having to design and lead expensive and complex recovery efforts that take years, all while continuing to govern.

Although more governments everywhere are experiencing natural disasters, the process of learning from these experiences has barely begun. Recovery remains surprisingly difficult for all governments, including, in the United States, the local and state governments at the front lines of recovery implementation. What has been missing is a broad examination of government experiences coupled with analysis that can drive improved disaster-recovery outcomes in light of shared best practices and pitfalls. To meet that need, this article describes why recovery remains so difficult and offers practical lessons learned from our experience in supporting implementing governments.

While the lessons we describe have been gained from our work with governments around the world and at all levels, we focus here on lessons for state and local governments in the US context. This focus is not to suggest that the only opportunities for improvement lie with state and local governments. In fact, federal agencies in the United States play a determinative role in the success or failure of a disaster-recovery effort, due to their interaction models with grantees, the stipulations they impose on fund use, and the breadth and quality of advice and assistance they provide. Nevertheless, the vast majority of state and local governments facing disaster have rarely, if ever, experienced disaster before and thus are not well positioned to draw on their own experience quickly. We hope this article will help state and local leaders understand some of the most critical actions they must take to set themselves up for a successful recovery.

¹ Kate Sheppard, "Flood, rebuild, repeat: Are we ready for a Super Storm Sandy every other year?," *The Atlantic City Lab*, July 29, 2013; J. David Cummins, Michael Suher, and George Zanjani, "Federal financial exposure to natural catastrophe risk," in *Measuring and Managing Federal Financial Risk*, ed. Deborah Lucas, Chicago: University of Chicago Press, February 2010. Range depends on assumptions of growth and discount rates.

Why recovery is surprisingly challenging

Over and over, disaster recovery poses demonstrable challenges to effective government service. But the elements of recovery coordination—aligning internal stakeholders, getting input from stakeholders, allocating and managing public resources, and delivering services and benefits—are all functions governments perform every day.

So why is disaster recovery so difficult for the vast majority of governments? The answer is found in a combination of external factors and common government mind-sets after a disaster. From our experience, we have found four common challenges:

- **Political pressure and public scrutiny to “get money out the door” are heightened.**

Media interest in recovery efforts is high and increases around major anniversaries (e.g., one year after the event) and any notable failures in program implementation. Because of the scale of recovery efforts—across neighborhoods, sectors, etc.—successes and failures are scrutinized by many interested groups. The stories of hardship among individual, highly sympathetic homeowners and small-business owners often are more accessible to media than the complicated regulatory and organizational reasons why that hardship is not yet alleviated.

Governments regularly fail to define the right model for communicating to and engaging with the media and the public. Public expectations about the amount, pace, and flexibility of recovery funding are rarely met, because public officials tend to set unrealistic targets before they understand recovery issues. The public demands a combination of quick wins and long-term outcomes, some of which may be at odds with one another: fast disbursement of funds and accelerated rebuilding to spur growth may conflict with goals for transparent and accountable spending and for improved, more resilient infrastructure.

- **Receiving and spending recovery money can take a long time.** Many aspects of disaster recovery take a long time, often due to factors outside of a state or local government’s control. For example, congressional approval of an emergency supplemental funding appropriation can take months;² adherence to federally mandated environmental-assessment requirements can add months or even years to implementation time lines;³ and rebuilding of complex capital infrastructure itself is not a quick endeavor. Furthermore, the “color of money” (the characteristics of different recovery-funding sources) in recovery budgeting is complex, and the stakes are high. The rules are complicated, as programs that fund recovery also include legacy rules and policy objectives from the non-disaster

2 *Reuters*, “Senate approves \$50.5 billion in long-delayed Superstorm Sandy aid,” January 28, 2013, <http://www.reuters.com/article/2013/01/29/us-usa-congress-sandy-idUSBRE90R10620130129>; *New York Times*, “House Approves \$4.2 Billion in Aid Sought by Louisiana,” March 17, 2006, <http://www.nytimes.com/2006/03/17/politics/17aid.html>.

3 United States Government Accountability Office, Report to Congressional Requesters, “National Environmental Policy Act: Little Information exists on NEPA Analyses,” April 2014, pp 13-14, <http://www.gao.gov/assets/670/662543.pdf>; US Army Corps of Engineers, “Major NEPA Milestones, EIS Process Checklist and General Timelines,” January 31, 2013, <http://www.spd.usace.army.mil/Portals/13/docs/regulatory/qmsref/eis/12509.1.1.pdf>.

programs on which they were based. Examples include the US Department of Housing and Urban Development's (HUD's) Community Development Block Grant – Disaster Recovery (CDBG-DR) program and several Department of Transportation programs. Furthermore, the most flexible funding sources may be oversubscribed relative to overall needs. Finally, even once funding becomes nominally available, the timeline required to set up programs and processes through which to begin spending while maintaining compliance with federal rules can take many months.

- **Government leaders leading recovery are confronted with a magnitude of resources and complexity of tasks they are (appropriately) unprepared to administer, so they often misjudge resources and skills required to deliver.** Typically, large disasters don't hit the same places more than once, yet the resulting learning curve takes years to climb.⁴ The scale of government operations and urgency of action needed to support recovery efforts exceed anything a typical government would be prepared for under normal operating conditions. Typically, state and local leaders overestimate the ease with which new recovery programs can be organized and launched. Likewise, agency staff, more removed from political pressures, typically underestimate the degree of urgency associated with execution, expecting to be able to deliver recovery programs over a longer period of time with something close to existing resources, on pace with the non-disaster programs they are accustomed to running.
- **Effective recovery governance requires commitment to bold organizational changes that leaders are often too risk-averse to make.** Recovery is not "business as usual" for a government and therefore cannot rely on business-as-usual governance. Leaders struggle to decide whether to administer recovery through the existing bureaucracy (e.g., an existing housing department) or to invest significant political capital and control in a new recovery-dedicated leadership (often a team in the governor's or mayor's office). They face a significant trade-off. On the one hand, existing bureaucracy is often under resourced and improperly staffed for the scale and urgency of recovery and has its core non recovery tasks and responsibilities to attend to, which may compete for time and attention. On the other, a recovery-dedicated team may not know the ropes of the bureaucracy or may lack the legal authority or even basic supporting systems necessary to carry out certain functions (e.g., payments processing) that are vested in existing permanent agencies. When faced with this trade-off, leaders frequently under resource their recovery organizations and stop short of committing to bold reorganization. This may be exacerbated by the fact that, in this age of fiscal austerity, public leaders do not want a reputation for increasing government overhead by creating new stand-alone recovery offices that may be perceived as duplicative.

Despite this complexity, there are clear lessons for how governments can act in the immediate aftermath of a disaster to pave the way for a successful long-term recovery.

⁴ Louisiana, for example, was widely criticized for its recovery after Hurricanes Katrina and Rita. Yet the state dug its way out over several years. Louisiana's staff is now considered to be among the most competent disaster administrators in the country, as demonstrated in, for example, their responses to Hurricanes Gustav and Ike, and their contribution of expertise to the recoveries of New Jersey and New York after Superstorm Sandy.

How governments can lay groundwork for successful long-term recovery

Getting the first several months right in the aftermath of a disaster contributes significantly to the odds of a successful long-term recovery. Why? Implementation time lines are longer than the public expects and require periods of preparation during which progress is invisible to the public. Completing this preparation before public scrutiny becomes too critical. It allows implementing governments to demonstrate visible progress much sooner. Moving swiftly also helps mitigate staff burnout by avoiding build-up of pressure associated with unmet expectations.

In the early days following a disaster, governments can set the stage for a successful long-term recovery by taking nine critical actions (Exhibit 1). These actions cover four dimensions of recovery: organizational capabilities, strategic focus, aligned execution, and community engagement. While no major recovery effort to date has managed success across all

Exhibit 1	
Effective recovery requires nine critical actions by frontline governments	
Dimension	Critical action
Organizational capabilities	1 Appoint a strong, experienced leadership team and establish an integrated governance body to gain the full support of the public, other government agencies, and funders
	2 Conduct a thoughtful, phased approach to strategic procurement of external expertise and implementation support to ensure timely, high-quality, and cost-effective implementation of recovery programs
	3 Establish a strong, dedicated recovery-management organization with a dual coordination-implementation mandate and a hard-charging, performance-driven staff
Strategic focus	4 Develop a framework for prioritizing recovery needs to guide sequencing of rollout
	5 Develop a truly integrated budget based on the prioritization framework
Aligned execution	6 Plan for and develop creative solutions to mitigate capacity constraints that the scale and urgency of the recovery will impose
	7 Invest early in developing a data infrastructure and reporting cadence to drive program performance, not simply ensure compliance
	8 Implement bold innovations in design of recovery programs and processes that move beyond traditional models for a better balance of the potentially competing goals of recovery
Community engagement	9 Make a meaningful commitment to community engagement and public communications to set appropriate public expectations and ensure that affected communities see their priorities reflected in recovery decisions

dimensions, those recoveries with the best outcomes – the least public and media criticism, the fewest management challenges – have taken some combination of these steps.

While all nine actions are critical, their sequencing and timing matter (Exhibit 2). Some actions, such as strategically phased procurement of recovery services (e.g., case management for housing recovery, grant management IT systems, application processing services) are only successful to the extent they proceed from a prioritization framework aligned on by a core recovery leadership team.



Let's look at some best practices for carrying out each of the actions, how they affect and enable one another, and how each action has an impact on the success of a recovery effort.

1. Appoint a strong, experienced leadership team and establish an integrated governance body to gain the full support of the public, other government agencies, and funders

Governments must quickly establish an organization to coordinate and deliver recovery programs. This organization should have direct accountability to the governor's or mayor's office to ensure rapid access and the high-profile executive sponsorship to remove or appropriately circumvent agency-level or interagency obstacles. Leadership of this organization should consist of a high-level executive and a board.

Senior chief recovery officer (CRO). The leader of the overall recovery efforts ideally should be a chief recovery officer (CRO) experienced in complex program management in a highly regulated environment. The CRO should serve as day-to-day point of contact with the governor's or mayor's office, with a direct line to the executive office. The CRO's first deliverables should include defining a cadence of progress reviews and structured decision meetings with the governor or mayor and his or her senior advisers to ensure continuous

alignment on recovery goals, program design, and progress. The CRO should have actual management and execution experience and strong stakeholder management and communications skills.

Even if an external hire might be more appropriate for this role in the long term, the timing of public hiring processes may require that the CRO initially be an existing state or city employee. If the government fills the position internally, it also must identify who will cover this person's previous job duties, as recovery management will be a full-time policy job for at least the first 12 to 18 months. Governments sometimes consider filling this role with an executive loaned by the private sector but, before doing so, should carefully consider if he or she has the requisite experience in public management and can be committed to the role for the full minimum time required.

Recovery governance board. The recovery governance board, chaired by the CRO, should include consistent representation by senior representatives of the budget office, the general-administration agency, the community-development agency, the emergency-management office, communications, intergovernmental and legislative affairs, and legal counsel, and others as needed. This body should meet regularly (approximately every one to two weeks for the first six months; monthly thereafter) and should have clear decision rights to set recovery targets, review and assess progress, provide guidance, and—perhaps most importantly—remove obstacles for day-to-day recovery leadership.

2. Conduct a thoughtful, phased approach to strategic procurement of external expertise and implementation support to ensure timely, high-quality, and cost-effective recovery programs

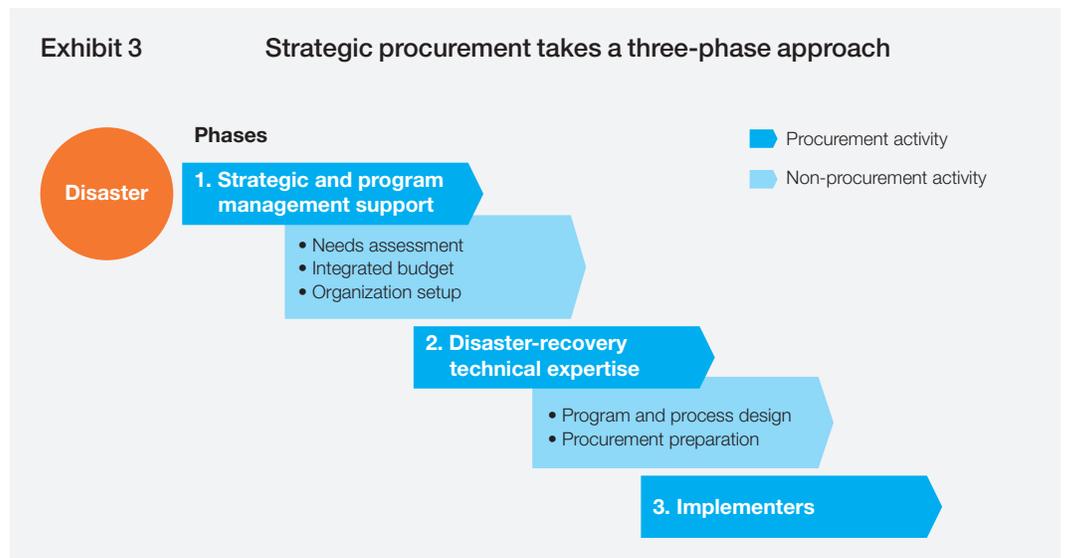
Even when the government has established a recovery-management organization staffed with excellent public servants, every large-scale disaster requires the procurement of significant external support, especially for large, complex programs (e.g., housing reconstruction, major-infrastructure recovery). Conducting these procurements well is critical for securing high-quality, cost-effective external contractors who deliver effective recovery programs. The consequences of poor management of procurements can be severe, and nearly every disaster-recovery effort experiences them. For one government, a more effective procurement process could have expedited its housing recovery time line by 6 to 12 months and reduced program delivery costs by 30 percent to 40 percent (\$90 million to \$120 million).

Governments can reduce the likelihood of these pitfalls. Measures that we have seen be helpful include a phased approach to procurement, establishment of a highly skilled procurement team, and identification of creative—but existing—avenues of procurement.

Phased approach to procuring support. Governments facing a recovery require an overwhelming number and variety of procurements. The best approach is to separate them into three broad phases, staggered to allow for the appropriate non procurement activities to take place (Exhibit 3):

- **Phase 1: Strategic and program-management support.** Immediately after a disaster—on an emergency basis, if appropriate—governments should procure strategic and overall program-management support. A typical model for this phase 1 support might call for two to three months of deliverables-based support, during which time needs assessments are conducted, recovery programs are designed and budgeted at a high level, and the recovery organization is established.
- **Phase 2: Disaster-recovery technical expertise.** During phase 2, governments should acquire the senior disaster-recovery technical expertise needed to inform more granular program and process design and funds for legal and regulatory compliance. This expertise often lies with individuals acting as independent consultants or as experts with firms that have direct experience in managing recovery programs from past disasters. These experts can be critical to program and process design, which bears directly on governments’ ability to obtain best-practice procurements for specific areas of program implementation (see phase 3).
- **Phase 3: Implementers.** During phase 3, governments should acquire vendors to implement specific programs (e.g., housing buyout program) or specific components of programs (e.g., construction-management component of housing-rebuilding program). Using best-practice procurements closely tailored to the actual program and process design will ensure that the contracted vendors have clear expectations and service-level agreements to ensure accountability, while the affected government will have more effective contract-management systems in place to control outcomes and productivity.

The one exception to this focus on implementation in phase 3 is external support for processes that require a high degree of specialization and particularly long lead times, such as an environmental review or grants management IT system. Governments might need to acquire this expertise and implementation support in phase 1 or early in phase 2.



Putting in place a highly skilled procurement team. Recovery procurements require a team experienced in running complex and ambiguous procurements on rapid timetables. Agencies that may have relevant content knowledge for a recovery program (e.g., housing) may not have extensive procurement experience, given the nature of their non-disaster portfolio of programs, and therefore may not be the best source of recovery procurement staff. Governments could consider looking across agencies and taking the following steps:

- Identify potential members of a procurement team for disaster recovery. For example, what agencies have robust procurement processes and can detail staff to the recovery effort?
- Quickly assign clear roles and responsibilities to the team members identified. For example, who will manage which subject areas? Who will lead the Q&A process with respondents? Who will be on which panels evaluating requests for proposal (RFPs)?
- Determine who will cover each team member's existing portfolio for the three- to six-month period following a major disaster, when recovery procurement is a near-full-time job.

On the back end of procurement, a strong contracting team should be in place to draft contracts with clear service-level agreements and penalties for nonperformance. Lastly, a strong contractor-management function will need to manage both cost and performance across all vendors.

Identifying creative existing avenues through which to bring on support. Recovery-program leaders often see their options for acquiring external support as limited to procuring a service provider either on an emergency basis or through a competitive procurement. The latter is often especially daunting, as it may require writing from scratch an RFP for a program that may be still evolving. Recovery-program managers should first ask, upon identifying a need for external support, whether there are any creative existing mechanisms through which they could acquire that support. For example, one affected government needed to scale quickly its title-search-company support to conduct eligibility reviews for its homeowner-repair program. A program manager explored several creative alternatives to new procurement, including asking whether the state's mortgage/housing-finance agency or transportation authority had prequalified or previously procured capacity.

3. Establish a strong, dedicated recovery-management organization with a dual coordination-implementation mandate and a hard-charging, performance-driven staff

One of the first tasks the chief recovery officer often confronts is to build up his or her recovery-management organization (RMO) from scratch. An effective RMO has four critical features.

Independence. In designing their recovery organizations, leaders will inevitably face the issue of whether or how the organization should share authority with existing agencies. Making the recovery organization independent from any one executive agency can help to ensure that no single agency's functional agenda inadvertently over steers the recovery, and that recovery priorities and funding allocations are based on a whole-of-government perspective.

Dual coordination-implementation mandate. The RMO should be capable of coordinating and leading recovery-program implementation. A coordination function alone will not sufficiently empower the RMO to prevent an individual agency’s business-as-usual approach from hampering recovery progress. The RMO will need a strong program-implementation capability (supplemented by external support), as existing agencies will most likely be unable to deliver on implementation with the flexibility, speed, number of staff, and accountability required. For one affected government, leadership lost valuable time in the first year after the disaster because it attempted to run recovery through existing agencies with only a coordination RMO. Eventually, that government reorganized to place nearly all implementation authority under the RMO, and achieved much better results.

Critical program-specific and cross-cutting functions. The RMO should include a team of senior staff to manage each of the following areas:

- **Specific areas of recovery programming**, such as housing, small business, and infrastructure
- **Cross-cutting functions**, such as external-contractor management; collection, analysis, and reporting of recovery-performance data; communications and public relations; financial management; human resources; legal and compliance, with a focus on expertise in federal disaster-recovery funding programs; administrative support; and coordination of nongovernment recovery resources.

Hard-charging, performance-driven staff. Staff hired for these roles—whether already in the state or city government or external hires—should be highly entrepreneurial, impact-oriented, and excellent project managers prepared for a high level of intensity in both work hours and public scrutiny for a sustained period of time.⁵ Governments should resist the temptation to fill line-accountable roles with external contractors: while contractors can be brought on board quickly, they will lack the decision rights necessary to perform their roles effectively, leading to bottlenecks as final decisions are left for the small number of staff members who are actual government employees. Instead, the RMO should hire or detail full-time public servants into roles of line accountability. It should then procure external experts to advise and support these staff members as they organize their portfolios, develop their work plans, and manage their programs.

Given delays in public-sector hiring, the CRO will need to launch a recruitment and hiring effort immediately after the disaster. The CRO should leverage executive-office support to accelerate—or identify appropriate workarounds to—normal hiring mechanisms, identify avenues for offering significantly higher compensation to RMO staff than to peers in non-recovery roles (given the competence required, demands of the role, and acknowledgment that these are limited rather than long-term, secure job positions), and lean on other agencies to provide detailees.

⁵ While 12 to 18 months is a minimum for staff, usually roles are required for two to three years.

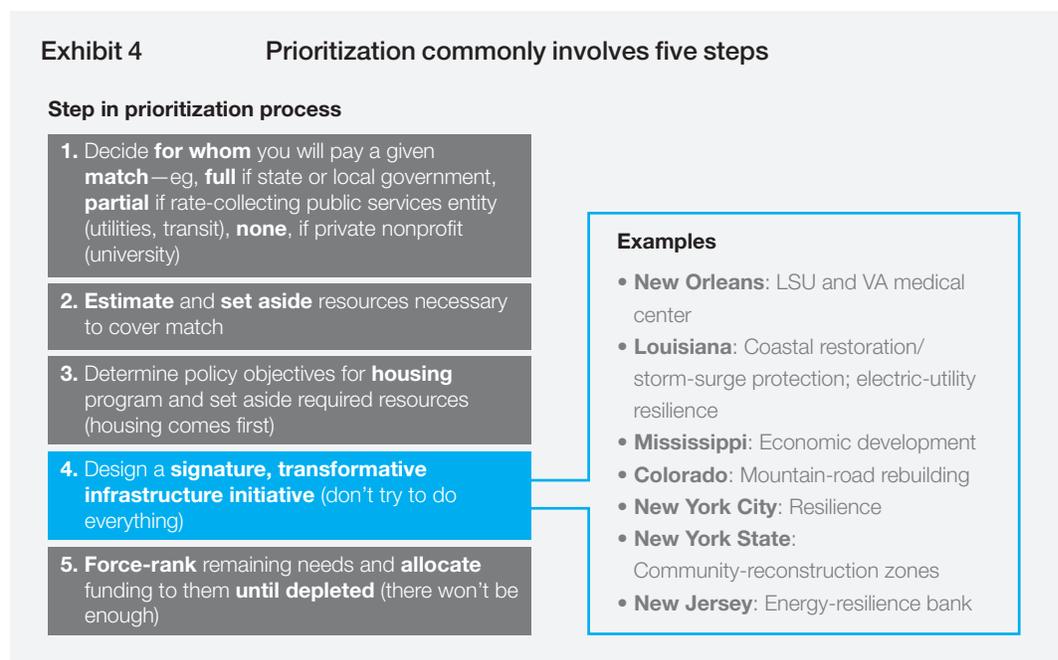
4. Develop a framework for prioritizing recovery needs to guide sequencing of rollout

Recovery is an extraordinarily high-stakes environment, with many urgent needs. Developing a framework to prioritize those needs is critical for two reasons.

Certain needs are more immediate than others. Needs may be immediate because of either the physical and emotional damage associated with them or the bottlenecks they can cause for other aspects of the recovery. Housing repair is illustrative. Getting this recovery program right early on is critical not only to addressing the real, immediate needs of those displaced from their homes, but also to ensuring sustained public support for the recovery effort. By contrast, under investing in housing recovery can lead to delays in the rollout of housing assistance and criticism that clear and urgent recovery needs such as returning residents to their homes are being sacrificed for other political agendas.

Likewise, even within housing, many governments, overwhelmed by the complexities of establishing their programs for homeowners, fail to begin setting up their programs for small and large-scale rental properties until well into the recovery. This delay can prompt threats of or actual lawsuits from affordable housing advocates.

Recovery funds are typically stage-gated and may be insufficient. Funding agencies seldom release all their funds at once. For example, HUD releases CDBG-DR funds in tranches associated with each Action Plan. Furthermore, the total amount of funds is potentially insufficient to cover all recovery programs, given the difficulties in accurately estimating program demand and the program cost overruns that recovery programs often experience.



Given this, it is critical to develop a prioritization approach that ensures funds are set aside for the most critical needs first, especially for the most reliably large and flexible pools of funding (e.g., CDBG-DR) that can be used to satisfy the federal-match requirements of other federal programs. Exhibit 4 illustrates a common approach to prioritization.

Prioritization should include “quick wins.” Certain quick win recovery efforts not only address real needs, but also help create momentum and public support that allow the recovery organization to stay focused on delivering longer-term recovery efforts. Governments should identify and prioritize some quick win initiatives, those that require less lead time to set up than full-fledged repair and reconstruction programs, allowing a state or city to satisfy some of the public demand for money out the door while building the larger programs (Exhibit 5).

Exhibit 5	
Hurricane Sandy recovery provides examples of “quick win” recovery programs.	
Program	Description
New Jersey Homeowner Resettlement Grants	<ul style="list-style-type: none"> State allocated approximately \$200 million of initial HUD CDBG-DR allocation to provide \$10,000 grants to over 18,000 homeowners for non-construction-related expenses (eg, mortgage payments) to prevent out-migration
New York City Rapid Repairs	<ul style="list-style-type: none"> First-of-its-kind program offered emergency repairs to essential systems, enabling >20,000 affected residents to shelter in their own homes In <100 days, program spent \$640 million to make repairs (many with permanent value) to restore heat, power, and hot water service to >11,700 buildings
New York State emergency (small-business) loan fund	<ul style="list-style-type: none"> \$10 million program provided emergency low-interest loans of up to \$25,000 to small-business owners to cover working capital, equipment replacement, and repairs months before the state’s small-business repair program was fully established
Airbnb partnership to expand temporary housing	<ul style="list-style-type: none"> The social network for renting space in homes provided a platform through which 1,400 hosts offered temporary shelter to affected residents while the recovery effort got under way Airbnb is formally partnering with local governments to pre-identify and activate hosts who commit to providing temporary housing after a disaster

SOURCE: New Jersey Community Development Block Grant Disaster Recovery (CDBG-DR) Action Plan; New Jersey Department of Community Affairs, “Superstorm Sandy CDBG-DR Dashboard,” www.newjerseyrebuild.org; City of New York, “NYC Build It Back,” <http://www.nyc.gov/html/recovery/html/resources/rapid.shtml>; Russ Buettner and David W. Chen, “Hurricane Sandy recovery program in New York City was mired by its design,” *New York Times*, September 4, 2014; Airbnb, “Airbnb disaster response,” <https://www.airbnb.com/disaster-response>; New York State, “Governor Cuomo announces small business emergency loan fund to provide assistance for businesses affected by Sandy,” news release, November 14, 2012

The prioritization approach should also be based on a comprehensive assessment of recovery needs—among the first critical tasks of the newly created RMO. Availability of data and information for a diagnostic assessment is often not a significant issue following a disaster in the United States. However, multiple agencies and/or different levels of government (municipal, state, federal) often conduct their own assessments, which then must be harmonized to enable a full understanding of the needs in a particular sector or geographic area. Several funding programs require state and local governments to articulate their own funding needs based on the available data (e.g., in HUD CDBG-DR Action Plans). Governments can launch efforts to harmonize these various data even before appropriations are finalized.

5. Develop a truly integrated budget based on the prioritization framework

The prioritization of recovery needs should form the basis for a comprehensive road map of programs and an integrated budget for funding those programs. Development of this road map and budget is a complex task that requires a dedicated, public-finance-savvy team early in the process. The integrated budget should take into account the color of money (the constraints and requirements) among various recovery-funding sources, such as eligibility rules and timing of funds availability, to identify the most strategic use of specific funds (e.g., how the application of the Federal Emergency Management Agency’s (FEMA) Hazard Mitigation Grant Program funds should differ from its Section 406 Public Assistance Mitigation allowances) and channel funds to the highest-return uses (e.g., overall recovery priorities, opportunities to leverage existing capital plans for infrastructure, or existing jurisdictional master plans for community- and individual-recovery programs).

To develop a truly integrated budget, state and local governments facing recovery should appoint a strong leadership team, identify and incorporate additional sources of funding, and build a system for tracking expenditures.

Appoint a strong budget leadership team and set up an overall governance process.

The leadership team should include internal and external experts who establish and execute clear protocols for the budgeting process. A senior staff member in the government’s budget division should be appointed to draw up the integrated budget and to chair a budget steering committee that meets regularly to make and document funding decisions as part of overall recovery governance. Alongside native jurisdiction budget expertise, the team needs agency experts who understand the specific eligibility and policy constraints of various sources of recovery funding. The team should resolve up front the process for channeling recovery investment, including where actual legal allocation authority sits. For example, for each source of funding, the team should trace the legal or regulatory process by which allocations are proposed, reviewed, approved, and dispensed, and it should resolve early and clearly any questions on legal authority by evaluating what arrangement will best advance recovery goals. The team also needs to design and put in place processes to track funds received, disbursements, and opportunities for additional cost recovery (e.g., FEMA readjustments).

Identify and incorporate additional sources of funding for the recovery. The integrated budget should also take into account recovery resources provided by other governments (e.g.,

local governments in the case of a state-run program) and the private sector (e.g., nonprofits, foundations, and corporations). While a significant share of philanthropic support following a disaster in the United States is for immediate response, resources do continue to come in as response shifts to recovery.⁶ Governments at the front lines of implementation should ensure that their financial planning accounts for this, and that they use an integrated perspective to guide private donors to where their support is needed most, based on gaps left by federal or other funding programs. Two examples from the Gulf Coast after Hurricane Katrina illustrate the complementary gap-filling role private actors can play. In the first example, two problems hampered recovery planning: recovery-planning efforts for New Orleans stalled a year into recovery, with competing plans being created by multiple stakeholders, and the White House determined that federal funds could not appropriately be used for local recovery planning. The Rockefeller Foundation and local philanthropic partners stepped in and funded a comprehensive Unified New Orleans Plan, through a process specifically designed to integrate all previous planning processes and to be inclusive to ensure public support. A second funding gap appeared when federal funds for rebuilding libraries could not be used to replace books. In that case, the Bush-Clinton Katrina Fund stepped in to fill the gap.

Build a system to track—and dedicate resources to tracking—where expenditures go. Once implementation begins and expenditures ramp up, it is critical to have a system that tracks where the expenditures go. The system should ensure that decision makers can at any time track and access expenditures by federal-nonfederal cost shares, subsequent reimbursements, and funds remaining in each federal-funding source. This prevents problems such as the experience of one government budget department a year following a disaster: the department scrambled to determine the amount of its unfunded general-fund liability after learning that some of the expenditures incurred right after the disaster were potentially or actually ineligible for federal reimbursement. It is critical to build a system early to track expenditures by source, as well as ensure that the system is kept up to date as expenditures ramp up. This gives the government visibility into funding questions before they become significant budgetary issues for the state or local general fund.

6. Plan for and develop creative solutions to mitigate capacity constraints that the scale and urgency of the recovery will impose

A large-scale disaster requires delivery of services at a scale and urgency very few governments are prepared for. Bringing on external vendors to run programs typically does not fully address the capacity constraints associated with this scale and urgency (Exhibit 6). Two types of capacity constraints can be especially problematic:

- **Government functions.** Federal-program requirements and/or the nature of the process may prevent state and local governments from outsourcing some areas of program implementation.

⁶ Foundation Center and Center for Disaster Philanthropy, “Measuring the State of Disaster Philanthropy 2014: Data to Drive Decisions”, http://foundationcenter.org/gainknowledge/research/pdf/disasterphilanthropy_2014.pdf.

Exhibit 6	
Housing-recovery programs show limits of relying on external vendors	
Resource	Typical constraint
Environmental-review approvers	<ul style="list-style-type: none"> ■ Federal law mandates that a housing-recovery program complete an environmental-review checklist for each home ■ While completion of the checklist can be outsourced, review and approval cannot, so the state or city government must designate additional staff as reviewers and back-fill their positions
Construction workers	<ul style="list-style-type: none"> ■ Housing-recovery programs often lead to a surge of demand for experienced construction contractors, laborers, and skilled tradespeople ■ But the local labor market may lack sufficient capacity and workforce-development programs to meet demand quickly, and limited affordable-housing options may prevent out-of-town/out-of-state workers from coming in to fill gaps
Title/deed office staff	<ul style="list-style-type: none"> ■ To verify that an applicant owns a given home, programs must conduct a title search ■ But where local jurisdictions lack online title databases, external title-search firms must go to local title offices with limited staff, hours of operation, and workstations on which to view titles

- **Specialized skills.** Large-scale recovery programs require certain skill sets that simply may not exist in sufficient quantities at the local level. Examples of these are the skills of construction contractors, laborers, and tradespeople critical in housing repair and reconstruction.

The good news is that these constraints are predictable and can be mitigated with early action to size the constraint and develop creative mitigation measures. For example, one affected government developed an innovative program to relieve municipal capacity constraints in issuing building permits. The government’s housing recovery program paid supplemental permit fees to municipalities, enabling them to cover the cost of increased demand for permits generated by the program.

7. Invest early in developing a data infrastructure and reporting cadence to drive program performance, not simply ensure compliance

Recovery organizations can truly balance recovery goals, like timeliness, fraud prevention, and cost-effectiveness, only if they have a performance management system that captures the right data, generates easy-to-understand reports on a frequent basis, is closely linked to decision-making processes, and is fully operational at an early stage of program implementation. While legal and regulatory compliance is important in the recovery context, often data platforms and

reporting processes are focused too narrowly on serving a compliance function, rather than also enabling program managers to improve programs continuously based on real-time data.

Likewise, systems have to be built swiftly to ensure that applicant files are digitized early in the process and that systems can accommodate the many changes to program design that inevitably take place in the first 6 to 12 months of program implementation. Otherwise, as one affected government experienced, program managers may have to sift through hard copies of applications (often over 100 pages per applicant) and build parallel, error-prone systems (e.g., several Excel spreadsheets) to ensure that program implementation is not delayed by lack of system readiness.

8. Implement bold innovations in the design of recovery programs and processes that move beyond traditional models for a better balance of the potentially competing goals of recovery

In designing recovery programs and processes, state and local governments are faced with myriad potential goals that often may compete with one another (Exhibit 7). For example, although “building back better” is an important aspiration, weaving mitigation and resilience measures into a program typically makes implementing it more costly, complicated, and time-consuming. Likewise, the strictest fraud-prevention measures may reduce error rates and lower risks, but run counter to the goal of getting money out the door quickly to affected citizens.

Exhibit 7	Potential recovery-program goals sometimes compete
Speed	Get money and information to affected individuals, businesses, and communities as quickly as possible to enable them to begin recovery
Customer experience	Prioritize needs of affected citizens in designing recovery programs; understand and improve citizens’ experience of recovery programming
Quality	Minimize errors in programming that may cause confusion and frustration, generate significant rework, and result in inappropriate disbursement of scarce recovery funds
Cost effectiveness	Maintain reasonable program-delivery costs to ensure responsible stewardship of tax revenues
Fraud prevention	Limit opportunities for unscrupulous behavior with measures to prevent fraudulent uses of limited recovery funds, so as not to undermine credibility of recovery programs
Mitigation and resilience	Improve resilience and strength of housing, infrastructure, small businesses, and communities in the face of future disasters
Transparency	Provide clear and timely public access to information about funding allocations and progress

Every government engaged in a recovery process will face the challenge of having more demands than resources available. One critical approach for managing resource constraints in any setting, whether in the public or private sector, is through process innovation; disaster

recovery should be no different. Nevertheless, unlike complex processes done routinely in the private sector by tens if not hundreds of major companies worldwide, large-scale recovery has not been done frequently enough to be a mature, efficient, “leaned-out” process. While there are certainly lessons to be drawn from previous recovery programs, state and local governments should remain vigilant about looking for sources of waste to eliminate and should look to sources of inspiration from non-recovery contexts in the public and private sectors as they design their programs and associated processes. Here are some examples:

- **Flexible, parallel processes.** Rather than following the traditional, highly sequential housing-recovery process, governments can consider more flexible processes that can expedite program delivery and improve customer experience. For example, one government was lauded for designing a highly flexible process that “avoided a rigidly sequential system,” enabling its housing recovery to significantly outpace peer jurisdictions with more sequential systems.
- **Reducing documentation burden.** In an attempt to comply with federal rules, recovery programs often burden homeowners with significant requirements to provide documentation (e.g., titles, tax returns, paperwork related to benefits already received as part of storm recovery). This is extraordinarily challenging for affected citizens: getting and keeping track of reams of paper is hard for anyone, while storm victims may have lost paperwork in a flood and be overwhelmed with the myriad recovery programs to which they are applying. The result of this is often long delays as agencies wait to process an individual’s application to a recovery program until the applicant has turned in all of the required documentation. An alternative is for recovery organizations to collect this documentation on homeowners’ behalf, thereby reducing delays and improving customer experience, by building tactical data-sharing relationships with federal agencies (e.g., FEMA’s National Flood Insurance Program for flood insurance and the Small Business Administration for small-business loans), other state or local agencies (e.g., tax agencies for income-tax returns, state insurance commissions to encourage private insurance companies to provide data on insurance claims and payouts), and the private sector (e.g., insurance companies, title-search companies to get copies of titles, and nonprofits that provided benefits), while adhering to relevant data privacy rules.
- **Virtual case management.** Many recovery programs require affected citizens to attend multiple in-person meetings that may have unclear purposes. While some segments of affected citizens will require in-person touch points with a case worker, others would actually prefer a lighter-touch, more virtual approach, such as case management by phone and e-mail. By using a combination of approaches, programs can enhance customer experience by offering approaches tailored to different segments, while also reducing capacity constraints on intake centers by centralizing some operations (e.g., a virtual case-management call center).

9. Make a meaningful commitment to community engagement and public communications to set appropriate public expectations and ensure that affected communities see their priorities reflected in recovery decisions

Too many governments mistakenly treat a strong community-engagement strategy as a “nice to have,” rather than a critical component of their recovery efforts. With limited staff and massive programs to design and scale, decision makers understandably view allocating time and resources to public engagement as a lower priority. But an early, meaningful commitment to engagement is critical to the success of recovery efforts, because it meets some important objectives.

Managing public expectations about the recovery. Because of the scale of recovery efforts, successes and failures are highly visible to many interested groups. Establishing a communications strategy and defining the right engagement model, including educating media and other influencers on the complexities of recovery, can make a significant difference in achieving stakeholder support even when the recovery effort runs into problems. This strategy should set aggressive but realistic expectations, being careful not to make public commitments before understanding the significant complexities required to deliver on them. Constant communication is critical to manage often uninformed and unrealistic public expectations about the pace of recovery. Without proactive engagement, governments may experience media and public backlash that will force them to make counterproductive decisions about their recovery. For example, after Hurricane Katrina, a misunderstanding developed among the communities of New Orleans that if they came up with a unified plan, the federal government would make available whatever amount of recovery funds the plan called for. The Unified New Orleans Plan coalesced community support around \$14 billion of infrastructure and other recovery projects, only to be met with an initial offer of \$117 million, less than 1% of the \$14 billion request, but representing all that the State of Louisiana had set aside for New Orleans long term community recovery.⁷ The resulting outrage further alienated the New Orleans public from both the State of Louisiana and the federal government.

Fostering trust in the recovery efforts that may be critical to ensuring participation in programs. One affected government’s small-business recovery program suffered the impact of distrust among the small-business community generated by an earlier, unrelated program run by another entity. The result was that only 15 percent of eligible businesses participated in the government’s program. To prevent such problems and maintain trust, engagement plans should partner with organizations that already have long-standing trust-based relationships with affected citizens, so the trusted organizations can explain the program and ensure participation. For example, in the case of serving small-business owners, recovery programs could partner with local chambers of commerce and local small business development centers.

⁷ Louisiana Office of Community Development, Division of Administration, “Action Plan Amendment Number 12 for Disaster Recovery Funds, Approved August 17, 2007”, at http://www.doa.louisiana.gov/cdbg/dr/plans/Amend12-Approved_07-08-17.pdf. Later amended to \$411 million in “Action Plan Amendment Number 19, Approved September 12, 2008”, at <http://www.doa.louisiana.gov/cdbg/dr/plans/Amend19-Approved-Infrastructure-Funds-08-09-12.pdf>.

Generating innovative ideas for recovery. Engagement is also critical to ensure that recovery efforts are designed not only top-down, but also bottom-up. After Katrina, for example, Louisiana Speaks and the United New Orleans Plan surfaced hundreds of community-driven concepts about flood resilience and economic recovery, a richness and abundance of ideas that could never have been generated by a central government source. Moreover, the engagement made possible by these planning processes gave some affected residents an inclusive and healing experience after a wrenching and distressing event.



State and local government officials facing the daunting task of recovering from a major disaster should benefit from the lessons learned from others. Setting the stage in the immediate aftermath of a disaster is understandably difficult for officials facing the more urgent needs of response, but the effort is critical for a successful long-term recovery. State and local leaders should understand the most critical actions they must take to set themselves on the path to recovery.

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