



RECOMMENDED PRACTICE

Building Resiliency into Capital Planning (2008) (CEDCP)

Background. Disaster preparedness has become an increasingly important issue for local jurisdictions. Entrusted with mitigating the effects of disasters, local jurisdictions regard a quick response and effective recovery a paramount goal of disaster planning. For local jurisdictions, the concept of resiliency should be an integral part of disaster preparedness. Resiliency emphasizes the capacity of infrastructure, operations, and even social systems to respond to and recover from extreme events. Resilient systems reduce the probabilities of failure, the consequences of failure (such as deaths and injuries, physical damage, and negative economic and social effects), and the time for recovery”.¹ A resiliency-based approach is not reactionary to the effects of a disaster, but establishes parameters to contain the effects and because of this, a jurisdiction can measure its resiliency by how quickly it can rebound.

Traditional disaster preparedness emphasizes reacting to a disaster to effectively minimize losses rather than establishing a capital program to invest in assets that can better withstand and recover from extreme events. A growing sentiment within local jurisdictions recognizes that reactive policies may not be enough. Instituting a resiliency-based approach to capital planning can help sustain local services and assure that local jurisdictions remain functional or recover more rapidly following a disaster.

Building resiliency into the capital planning process includes setting appropriate parameters for new construction and the continued maintenance of key assets and infrastructure in order to strengthen a community’s ability to withstand and respond to a disaster. Examples of resiliency in capital projects may include: engineering a new fire station to withstand a category 5 hurricane, designing a community center that could also serve as a critical emergency workforce shelter in the event of a disaster, retrofitting existing infrastructure such as drainage pump stations to sustain high winds or an earthquake, establishing engineering standards for new construction, developing maintenance schedules for critical infrastructure, and instituting redundancy plans for critical services. Establishing a resilient capital program aids local jurisdictions by identifying costs associated with building, rebuilding or retrofitting infrastructure prior to disasters, and emphasizes the constant need for continued maintenance and improvement. A resiliency-based capital program helps local jurisdictions identify critical assets, prioritize infrastructure risk, build in the appropriate and necessary costs, and establish a system that reduces the impact of disasters and the time required for a community to recover and get critical services back up and running.

Recommendation. The Government Finance Officers Association (GFOA) recognizes the importance of disaster preparedness and management, and recommends that local jurisdictions incorporate resiliency into the capital planning process to produce a sustainable community and mitigate the effects of disasters. Ways of incorporating resiliency in the capital planning process include:

- 1. Raising the visibility of resiliency by including in capital plans.** Resiliency-based capital planning recognizes the likelihood of disasters and operates proactively to reduce effects on a community. In planning for new capital projects, resiliency should be among the factors considered in prioritizing the construction, maintenance, or replacement of infrastructure and assets.

¹ GFOA Recommended Practice on Business Preparedness and Continuity Guidelines (2008)

2. **Establishing roles and engaging the general public.** It is essential that local jurisdictions promote financial literacy to its citizens and its governing board so they understand the trade-offs associated with resiliency investments. For that reason, a program seeking to build a resilient community must include at a minimum the following participants: finance and budget officers, CEO/CAO, public safety officers, emergency management and business continuity officers, utility departments, engineers and construction project managers, public works officials, building regulations staff and planning and risk management staff as well as the public.
3. **Developing a resiliency plan.** Identifying the types of extreme events likely to befall a locality and the type of infrastructure most likely to be affected provides the basis for resiliency investment and initiates the process for establishing measures of success. Such analytical and performance management techniques may include cost/benefit analysis, sustainability and life-cycle of infrastructure, and disaster response/recovery measures. Resiliency plans should, at a minimum, consider the following public assets: transportation systems and infrastructure, public utilities and communications systems, public safety installations including infrastructure, operational systems and information technology (IT), and public facilities including their alternate use for temporary housing and shelter.
4. **Planning begins by identifying resiliency needs.** To properly establish a resiliency-based approach to capital projects, jurisdictions should prepare a comprehensive inventory of its physical assets, create a system to determine critical assets and respective resiliency, and establish a scoring system that evaluates levels of resiliency. By doing so, jurisdictions can assess the ability of infrastructure and operational systems to withstand disasters. Steps include:
 - a. Identify systems and related asset usage and condition. Step one utilizes the inventory of assets to establish a condition assessment based on standards and a scoring system responsive to the needs of the jurisdiction. The assessment, standards, and scoring system derive from the specific conditions and unique demands of the jurisdiction, its community members, and its surrounding geography. Here, the jurisdiction should establish functional measures based on a resiliency scoring system that includes type of infrastructure, level of required resiliency based on infrastructure type, likely disaster threat, and an assessment of reliability and vulnerability. This assessment becomes the basis for performance measures and cost allocation. If specific assets fail the resiliency-based scoring system, jurisdictions should consider new approaches and/or establish levels for improvement, including retrofitting or replacement. By developing a scoring system based upon the jurisdiction's required level of resiliency and instituting performance and functional measures to assess infrastructure, jurisdictions establish the analytical criteria needed to determine why an asset passed or failed, and provide recommendations based on performance indicators.
 - b. Use the scoring system to prioritize resiliency needs and capabilities. This step directs capital programs toward the continued maintenance of current assets, establishes retrofitting standards and needs, and further defines the scope for new infrastructure projects. Priority setting provides jurisdiction-wide value, including economic development and public safety, while promoting resiliency. For example, a resilient capital process may reveal the need for region-wide use of certain facilities or other disaster relief components, resulting in joint-use projects, inter-governmental service sharing or joint finance agreements. Rather than stand alone shelters, emergency facilities can and should be used for daily purposes.
 - c. Reconcile the relationship between financial sustainability and resiliency enhancement. A resilient capital program must operate within the financial capabilities of the jurisdiction. As such, the capital planning program should use the scoring system to prioritize the infrastructure and operational systems most likely affected by disasters and build in

resiliency accordingly. Resiliency standards should also factor into over-arching capital planning decisions and should be measured against non-resilient projects.

5. **Funding decisions should be pursued after resiliency plans and project prioritization have been finalized.** Funding and building resiliency into infrastructure assets and operational systems can proceed in two basic ways. First, jurisdictions can use the rating system and prioritization to determine if resilient practices can be funded by capital budgets. This step should consider both resilient projects and non-resilient projects, and base funding decisions on the critical nature and need of the project. Second, if resiliency funding falls outside the scope of the capital budget, local jurisdictions can pursue alternative funding mechanisms such as federal or state grants.

Resources.

- Stephen Flynn, *The Edge of Disaster: Rebuilding a Resilient Nation*, Random House 2007.
- Stephen Flynn, “Rebuilding a Resilient Nation”, *Government Finance Review*, December 2007.
- Shayne Kavanagh, “Stepping Back From the Edge of Disaster: Capital Planning for Resiliency”, *Government Finance Review*, December 2007.
- Community & Regional Resilience Initiative, <http://www.resilientus.org/index.html>

Approved by the GFOA’s Executive Board, October 17, 2008.