



From risk to resiliency— leading practices for municipalities

2018

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U.S. states, cities and towns are constantly faced with numerous threats from natural disasters ranging from hurricanes, droughts and wildfires to terrorism threats. As recent events have demonstrated, natural disasters can cause billions of dollars in damage. Frequently, the immediate reaction to a natural disaster is to quickly commit large amounts of money to a rebuilding effort, and in the rush, more strategic alternatives are often ignored. Local governments that understand and address these types of risks using a more holistic approach that incorporates all relevant solutions that best meet their own long-term goals can build a more resilient culture. That type of resiliency can ultimately become a competitive advantage for a city that attracts new business and results in population growth.

Understand the risks in advance

Building resilience is a useful concept for cities to adopt in the face of unprecedented and unforeseen disasters. When a city is resilient it can bounce back from a disaster with minimal disruption to both its services and its reputation. However, building resilience, is a complex process that requires a comprehensive approach. It is one of the most complex challenges facing public leaders, who must address the nature, frequency and magnitude of unknown risks.

Before developing a resiliency response plan, a city must first understand and quantify the threats that exist and determine how those threats may affect its most important services. Cities face numerous demands on their expenditures and resources. They need to maintain their existing assets, comply with legislative demands, enable growth, enhance their services, and deal with developing a proactive approach to responding to natural disasters. In the absence of surprises, governments can usually meet these goals. But when a natural disaster actually hits, all other goals are pushed aside as resources are primarily funneled to respond to that event. Ideally, cities will develop a plan in advance that can identify and address the most critical needs quickly, giving priority to those individuals, services and infrastructure projects that deserve priority.

While many cities have not traditionally considered the impacts of natural disasters, risk and resiliency studies are becoming more common and can be used to assess those risks. Depending on location, this type of study would model the probability and effects of rising sea levels due to climate change or the likely occurrence and severity of a hurricane (including a worst case scenario). The facilities, assets and services that could be affected should be identified so that the risks to each part of a city are understood. Some cities may have data available to analyze and respond to routine failures, but data for more extreme or unprecedented events may not exist. For example, new models may need to be created that take into account how climate change may affect the intensity and magnitude of future hurricanes and floods. Elected officials may need to communicate that future risks are, by definition, uncertain. Certain leading practices can improve the resiliency study itself, as well as the ultimate results if a natural disaster does occur. Cities and their officials should develop and adopt a long-term strategy that guides short-term decisions, including those made in an emergency situation. One of the strategic goals should be to clearly define levels of service across all service areas, both with regard to current service levels and how those service levels may change in the future, along with a clear understanding of

what is required of the assets that enable the service. Cities need a consistent view on target levels of service across all asset types/service areas, requiring a clear strategy across the complete city, as opposed to individual departments pursuing their own targets. Cities need to not just determine what level of protection is desired, but what is affordable, taking into account cost benefit considerations and the outcomes from community engagement.

In understanding the criticality of assets, cities not only need to understand the impacts of their own assets failing, but they also need to understand the impact of failure of their assets and services on other key service providers— e.g., a water main break, causing disruption to a fiber optic cable. The risks faced by each community will vary according to local hazards and exposure levels, vulnerabilities, and capacities to mitigate. Therefore plans to enhance resilience to hazards and disasters in one community may not match the specific circumstance, assets, and requirements in another. Therefore, each community is responsible for developing its own path toward greater resilience.

Building resilience

Building resilience is a multifaceted process that requires a holistic approach; government entities must work in tandem and address several key functions.

Strengthening key infrastructure

Cities must strengthen their critical infrastructure assets. For example, taking into account the latest technology, smart solutions, and long term costs and benefits, a city could replace or refurbish key assets to withstand an extreme weather event.

Organizational resilience

Government entities themselves need to be able to respond rapidly to unforeseen events. This type of resilience begins with the strong leadership. Mayors, governors and other civic leaders need to set priorities, allocate resources and commit to getting the affected entity back on track. Part of this is a cultural issue. The organization and its leaders must communicate their commitment and purpose and develop trust with constituents.

Create the right policies and controls

Although it sounds basic, a resilient city will have adopted and enforced appropriate building codes and land-use practices. Government officials need to consider both positive economic incentives (subsidies and grants) and negative ones (fines and penalties). Regulations need to be balanced against growth objectives.

¹ According to cnn.com, the cost of hurricanes Harvey and Irma could cost between \$150-\$200 billion. Julia Horowitz, CNN Money, September 11, 2017, "Irma and Harvey together will be as expensive as hurricane Katrina."



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Response plans

Cities need to develop, test and continually improve their disaster response plans. Contingency planning can help minimize the impact of an event and ensure that any actual recovery effort is efficient and effective. These plans should include action triggers. For example, as a storm approaches, additional pumps should be deployed and evacuation orders considered.

Community engagement

It is crucial for a city's citizens to feel a sense of ownership and responsibility for any resiliency plan to be effective. Mechanisms to encourage collaboration between the private and public sectors should be created. Constant communication is an important component.

Assess the plan

Cities that have put together the steps needed to create a resilient response should plan on carrying out a maturity assessment to better understand how their, assets, plans

and organizational structure and governance compare to other, similar municipalities. This assessment has numerous advantages. It involves multiple stakeholders and can help engage them and community leaders in the process. The assessment also provides a baseline and creates the basis for an action plan that can be used to address gaps and to monitor progress. Lastly, going through a resiliency maturity assessment can be used to start the change management process since a broad range of stakeholders are involved in the scoring and in setting future priorities.

Addressing an emergency

If a natural disaster occurs and the city has developed a strategy and a plan, it will still need to deal with at least some unexpected issues. Even during an emergency, civic leaders need to calmly assess needs and determine an achievable target level of service. Decisions concerning repairs, including emergency repairs, should be made using a more strategic approach. For example, it may not make sense to devote millions of dollars to rebuilding homes in an area where flooding is a given or to rebuild a bridge in a part of town that no longer sees a large amount of traffic. Addressing a community's needs after a natural disaster is a complex process that requires more than just spending money on the most visible pieces of damaged infrastructure. Cities should incorporate the tenets they learned from their operational resilience, community engagement and policy controls when making decisions. Lastly, cities need to adopt innovative funding options and consider a range of funding alternatives to address the community's needs.

Conclusion

Cities need to take a more strategic approach to dealing with natural disasters and focus on building resiliency. The most successful cities will take a leadership role in creating long-term strategies that are both comprehensive and sustainable, in terms of financial, social and environmental considerations. Leading practices point toward embracing integrative decision making, adopting risk management tools and processes, and optimizing solutions. All relevant

priorities, including long term goals and budget constraints need to be considered. Responding to today's natural disasters requires aggregate funding models and broader stakeholder groups. Cities that have developed a well-thought out risk response and resiliency plan will have created a competitive advantage and become a more attractive place for businesses and private citizens.

How KPMG can help:

- Resiliency maturity assessments
- Risk and resiliency studies
- Resiliency strategies and policies
- Service-level definition
- Organizational resilience
- Alternative funding mechanisms

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