

To: Bryan City Secretary
From: Councilmembers Southerland and Pena
Subject: Agenda Item Titled:



Flood Mitigation Public Safety and Cost Reduction

This agenda item placement is in accordance with the Bryan City Charter (j) (1) a. 2. (a) “Council agenda. 1.The City Council shall identify items to place on the City Council meeting agenda and shall establish the order of the agenda. 2.Any two City Council members desiring a particular item to be placed on the City Council agenda shall notify the City Secretary in writing. The item shall be placed on the agenda as requested. 3.This section of the charter supersedes any city Code of Ordinances with which it conflicts.”

Also the Texas Attorney General Opinion Number DM-228 (1993) states no policy can preclude a councilmember from placing an item on the agenda for public discussion.

Therefore, any changes to this agenda item must be approved in writing by both under signs prior to posting to the agenda.

Place the following item on the Bryan City Council Regular agenda of the first scheduled meeting of Aug 2016:

Discussion, consideration, and possible action to:

Direct the City Staff to establish a City of Bryan home purchase fund in an amount up to \$1,500,000 the sole purpose of which is for public safety. Properties that have repetitive and serve flooding, if removed from the flooded area will help to reduce the overall flood hazards and reduce the cost to the City in the implementation and funding of flood mitigation projects. The attached Bryan City Staff “High Priority Flood Mitigation Projects” list dated 7/19/2016, should establish the priority of the actions to be taken. Purchase of homes should be from willing sellers within the city limits of Bryan that have been flooded. These homes should qualify for a Federal Emergency Management Agency (FEMA) property acquisition as a Sever Repetitive Loss (SPL). The process should begin by Sep 1, 2016 or as soon as possible. The funding shall be from City of Bryan General Fund monies, unless the State of Texas and/or FEMA funding is made available within 6 months of the date this agenda item being passed.

Presentations: Councilmembers Pena and Southerland

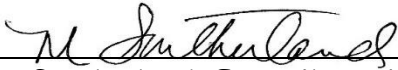
Comments: Outside funding sources have not been made available to relieve homeowners of the sever impact of flooding. FEMA, Release Number: SRFO-NJ NR-023, May 28, 2014 states in part: “Flooding may impact the stability of a home or an entire neighborhood, damage or destroy personal property, impact property values and lead to injuries or loss of life. Emergency responders may risk their own lives to help residents escape rising waters.

And while the waters eventually recede, the misery caused by floods is long lasting. The impact of a storm surge may have structurally weakened formerly sturdy homes. Water-laden walls and floors may set the stage for the development of hard-to-eradicate colonies of mold that can present health risks for vulnerable residents, particularly those with compromised immune systems, children and the elderly. Repeated flooding may leave homes uninhabitable and unlikely to attract a buyer.”



Date: 08/8/2016

Rafael Pena, Councilmember District 2, apena@bryantx.gov, 979 402 9164



Date: 08/08/2016

Mike Southerland, Councilmember District 4, msoutherland@bryantx.gov, 979 229 7805

Enclosures:

1. “High Priority Flood Mitigation Projects”, dated July 19, 2016, by Bryan City Staff as presented to CM Southerland and CM Owens
2. ICMA, PM Magazine, March 2009, Cover Story, “disaster recovery: a local government responsibility” by Christine Becker

High Priority Flood Mitigation Projects

Project zero. Buyout Severe Repetitive Losses - \$1,500,000 - Removes severe house flooding and has benefit of strengthening CRS rating and overall insurance status of City - 18 months.

After that we'd want to target the top areas of the city that have the deepest residential flooding (we've ranked them in order of priority). These areas cover many of the Repetitive Loss areas of the City.

Those are:

1. Upper Still Creek Area (Tennessee/Louisiana/Old Hearne - Lyndale Acres)
2. Upper Burton Creek (Willowbend, Melba, Sharon, Ester, Wayside, Carter Creek)
3. Middle Carter's Creek - Pecan Ridge
4. Lower Briar Creek (Cherry Creek/Apple Creek)
5. Upper Carter's Creek - Castle Heights
6. Localized Flooding - The Oaks

So Projects that fall within those areas that we know of, there are probably more that would come out of more detailed analysis of solutions to the problem.

1. Upper Still Creek Area (Tennessee/Louisiana/Old Hearne - Lyndale Acres)
 - A. Regional Detention off SH6/Wilkes and expansion of soon to be built Bonham School Detention – removes 30 plus homes from flooding due to insufficient creek and drainage infrastructure capacity - \$7M - 12 months
 - B. Wilkes Street Culvert – enlarges culverts from TWDB Study - \$250,000 – 6 months
 - C. Missouri Avenue Culvert – enlarges culverts from TWDB Study - \$200,000 – 6 months
 - D. Tennessee Culvert – costs unknown – feet of water in homes – this could also be a targeted buyout that would cost less than culverts. – 12 months
 - E. Texas Avenue Culvert – costs unknown – see Tennessee Culvert – 12 months
 - F. UPRR Culvert – costs unknown – see Tennessee Culvert – 18 months
 - G. Woodville Culvert Improvements - enlarges culverts from TWDB Study - \$650,000 - 6 months
 - H. Southside Culvert Improvements - enlarges culverts from TWDB Study - \$650,000 - 6 months

Project 1A could happen by itself. Project 1B-1F need to happen together as do Projects 1G-1H together.

2. Upper Burton Creek (Willowbend, Melba, Sharon, Ester, Wayside, Carter Creek)
 - A. Willowbend – Buy out 2 SRL properties - \$500,000 – 18 months
 - B. Willowbend – Buy out Remaining homes that flood on Willowbend (total of 3) - \$1,500,000 – 18 months
 - C. Melba Circle – Storm Sewer improvements to remove 2 Repetitive losses - \$350,000 – 6 months
 - D. Sharon / Ester – Buyouts of 3 homes low in floodplain (some RLs) - \$900,000 – 18 months
 - E. Wayside storm sewer relocation/enlarge – flooding from streets minimized - \$300,000 – 6 months
 - F. Carter Creek Drive Storm Sewer Improvements – overland flooding due to inadequate capacity - \$500,000 – 8 months
 - G. Avon/Bristol area Storm Sewer Improvements – inadequate capacity - \$750,000 – 8 months
 - H. Skrivanek – creek capacity needs to be enlarged – overland flooding - \$2,000,000 – 12 months

3. Middle Carter's Creek - Pecan Ridge
 - A. Buyout low elevated structures (20 structures – commercial rental) on cul-de-sacs and turn to greenspace or elevate structures – no good estimate at this time – 24 months
 - B. Regional Detention, Creek Channel Improvements are options that have not been studied to determine their viability or cost. Channel improvements would be subject to lengthy USACE permitting.

4. Lower Briar Creek (Cherry Creek/Apple Creek)
 - A. Cherry Creek – flooding from street where runoff from Golf Course – possible diversion berm or storm sewer on golf course (not studied) - ~\$500,000 – 6mo
 - B. Cherry Creek/Apple Creek – Dredge existing Golf Course Lake (silted in) - \$2,000,000 – 8 months

5. Upper Carter's Creek - Castle Heights
 - A. Options are listed below, however none of them are as cost effective as buyouts. Also additional studying here would be beneficial
 - B. Upstream Regional Detention Ponds – lower 100 year WSEL by 1 inch - \$2,000,000 – 24 months (land acquisition)
 - C. Storm Sewer Replacements – these are undersized - \$250,000 – 6 months
 - D. By pass Storm Sewer Trib A – 77% reduction of flow in creek decreasing 100 year WSEL by more than 1 foot above Park (essentially 2 year event) - \$2,000,000 – 12 months (easements) – Best to include E with this project to avoid downstream issues (if this done without detention cost rises another \$2.5M for additional piping.
 - E. Regional Detention adjacent – Need to study to determine size of pond – cost will vary with that - \$5,000,000 to \$12,000,000.
 - F. Vegetation Removal – reduces WSEL 2 to 4 inches – cost unknown – 4 months.
 - G. Channel Enlargement – 2 options both contain 100 yr WSEL in banks, both require USACE permit that could take 10 years, both will destroy habitat that we would have to mitigate (extra \$ unknown) – 12 months design, but 10 year permit wildcard.
 - a. Concrete Lined - \$3,500,000
 - b. Vegetation Lined - \$2,000,000

6. Localized Flooding - The Oaks
 - A. Old Oaks / Valley Oaks Storm Sewers – add capacity and new installation locations to minimize lot to lot drainage - \$2,000,000 – 8 months
 - B. Oak Ridge Storm Sewers – enlarge existing storm sewers and expand locations of inlets - \$3,000,000 – 12 months
 - C. Rear lots of Hillside drainage – overland flow needs to be in pipes - \$1,500,000 – 12 months

Recommended Slate of Projects based on Funding Availability

\$3,100,000 Available

1. \$500,000 - SRL Buyout (assuming HMGP grant comes thru)
 - a. Buyout 4 SRL Properties w/ HMGP Grant - \$250,000 local funds. If alternate on Louisiana is not funded in current grant submittal – then submit it under HMGP as well for buyout.
 - b. Buyout remaining 1 SRL Property on Apple Creek with local funds - \$250,000 – allows redevelopment of a residential structure on the property properly elevated.
2. \$500,000 - Buyout Castle Heights - estimated 6 flooding homes
3. \$350,000 - Melba Circle Storm Sewer Improvements – removes 2 RL properties
4. \$500,000 – Diversion Berm or Storm Sewer – Cherry Creek
5. \$250,000 – Wilkes Culvert (can use adjacent Louisiana SRL property to help)
6. \$200,000 – Missouri Culvert
7. \$300,000 - Wayside storm sewer relocation/enlarge
8. \$500,000 - Carter Creek Drive Storm Sewer Improvements

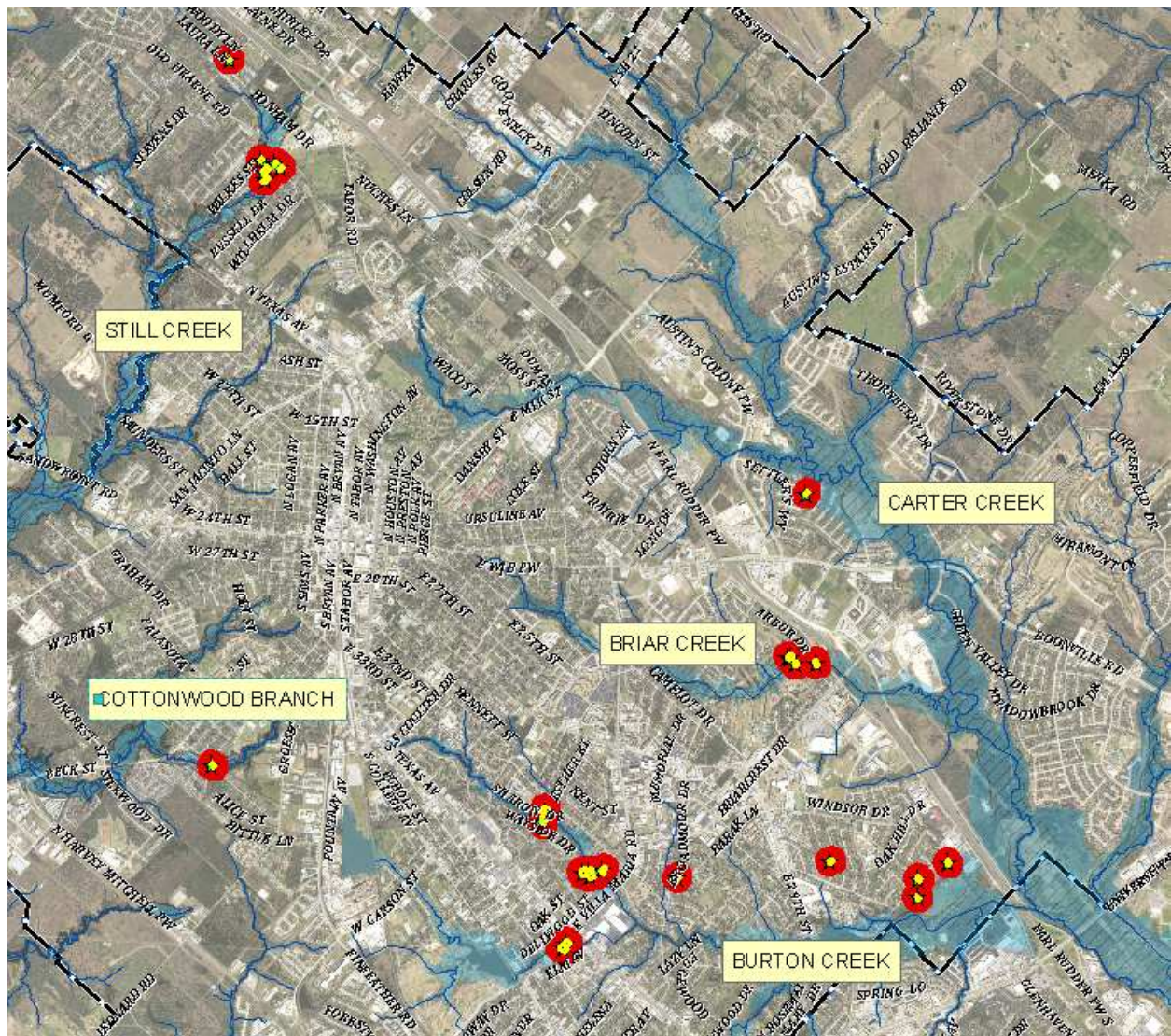
\$6,800,000 Available (everything above plus)

9. \$1,300,000 - Tennessee Area Buyouts – estimated 6 homes – adjacent to existing linear park (4 flooded May rain – could just do these)
10. \$900,000 – Sharon/Ester Buyouts – 3 homes, some RLs
11. \$1,500,000 - Rear lots of Hillside drainage – overland flow needs to be in pipes

\$14,550,000 Available (everything above plus)

12. \$750,000 - Avon/Bristol area Storm Sewer Improvements – inadequate capacity
 13. \$2,000,000 - Skrivanek – creek capacity needs to be enlarged – overland flooding
 14. \$2,000,000 - Old Oaks / Valley Oaks Storm Sewers – add capacity and new installation locations to minimize lot to lot drainage
 15. \$3,000,000 - Oak Ridge Storm Sewers – enlarge existing storm sewers and expand locations of inlets
-
- I. \$650,000 Woodville Culvert – part of West Fork Still Creek – no flood complaints in May
 - J. \$650,000 Southside Culvert– part of West Fork Still Creek – no flood complaints in May

REPETITIVE LOSS AREAS WITHIN BRYAN



City of Bryan has 27 repetitive loss properties
(this may increase after recent storm)

- | | |
|------------------------------|-------------------------|
| 1. Mockingbird Street | 17. <u>Melba Circle</u> |
| 2. McHaney Drive | 18. Villa Maria |
| 3. McHaney Drive | 19. Villa Maria |
| 4. Louisiana Avenue | 20. Old Oaks Dr. |
| 5. Louisiana Avenue | 21. Oak Ridge Dr. |
| 6. Louisiana Avenue | 22. Valley Oaks Dr. |
| 7. Missouri Ave. | 23. Valley Oaks Dr. |
| 8. Laura Lane | 24. Apple Creek Cir |
| 9. Pleasant Rose Circle | 25. Apple Creek Cir |
| 10. Barak Lane | 26. Apple Creek Cir |
| 11. Sharon Drive | 27. Apple Creek Cir |
| 12. Wayside Drive | |
| 13. Esther Blvd. | |
| 14. Esther Blvd | |
| 15. <u>Willow Bend Drive</u> | |
| 16. <u>Willow Bend Drive</u> | |

SEVERE REPETITIVE LOSS

1. Mockingbird Street
2. McHaney Drive
3. Willow Bend Drive
4. Willow Bend Drive
5. Louisiana Avenue
6. Apple Creek

***International City/County Management Association
Public Management (PM) Magazine***

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COVER STORY

**Disaster Recovery: A Local Government
Responsibility**

by Christine Becker

Disasters happen. A massive flood inundates a central downtown. A tornado levels a small town in a matter of minutes. A hurricane ravages a community.

And, all disasters are local. They happen in cities and towns and counties of all sizes where citizens look to their local government managers and elected officials to lead the immediate response, guide the longer-term recovery, and reassure them that life will be normal again . . . someday.

Regardless of community size or the nature of the disaster, local government leaders are responsible for overseeing all four phases of emergency management—preparedness, response, recovery, and mitigation (see Figure 1). Federal and state governments play a supporting role in the immediate aftermath and in providing funding and guidance for long-term recovery and mitigation.

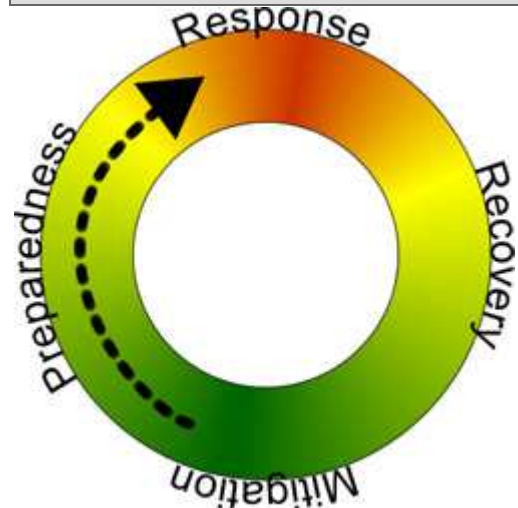
Preparation and response—half of the emergency management cycle—generally get the most attention, particularly in high-risk areas. Preparing to respond usually involves significant training and practice to ensure that key local employees and supporting resources are ready to jump into action quickly and that local residents understand their roles and responsibilities in preparing for and responding to disasters.

Local government leaders—particularly those who have been through a major community disaster—recognize that preparing for long-term disaster recovery demands as much attention as preparing for short-term response. After a major disaster, the recovery process takes months and even years to bring a community back to a "new normal" and as strong as or better than before the disaster.

Frances L. Edwards, associate director of the Collaboration for Disaster Mitigation in San Jose, California, and former director of emergency services in San Jose, California, says the recovery process begins "when the situation is no longer getting worse, all the living have been rescued, and the community has found the floor."

Brett Kriger, director of the Institute for Building Technology and Safety's (IBTS) Disaster Management Group, says the recovery process begins even before the response stage is complete because decisions made while responding to the emergency can affect the recovery process (see Figure 2). "There's usually a 30 percent overlap in the middle where the community is still responding while gearing up for recovery," Kriger says.

Figure 1. The Emergency Management Cycle.



Emergency Management is an ongoing process with four mutually dependent and overlapping components. Source: Institute for Building Technology and Safety Disaster Management Group.

Kruger, who has worked in numerous disaster response and recovery operations with and for the Federal Emergency Management Agency (FEMA), says actions taken during the response phase can have an impact on overall results once the community moves into recovery.

"Sometimes local officials become so wrapped up in the urgency of the response that they don't do the necessary documentation to qualify for reimbursements and longer-term recovery funds," Kruger says. "That's why planning for recovery is as important as planning for response."

And, according to Kruger, good work at the response stage supports recovery. "The four phases of emergency management produce the ebb and flow of a preparedness-based community life and define how the community perseveres before, through, and after times of crisis," he adds.

Marcy Douglas, city administrator of Northwood, North Dakota, a community of 1,000 that was leveled by a category 4 tornado on August 26, 2007, believes that a commitment to recovery from the first day of the emergency has helped that tiny community rebound.

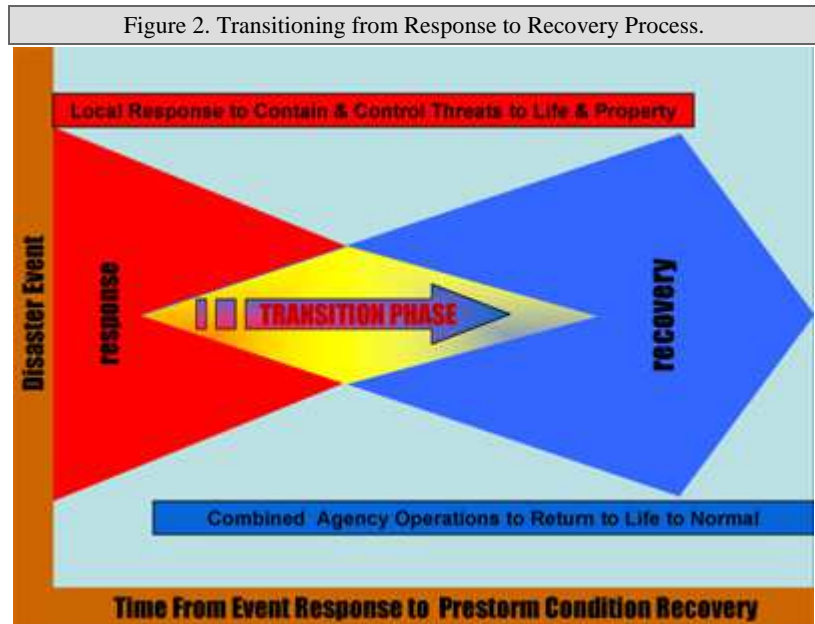
"If you respond to a disaster with recovery in mind, recovery will happen," Douglas says.

Focusing on Long-Term Recovery

Long-term recovery involves more than debris removal and restoring power, which are considered short-term recovery actions. According to FEMA, long-term recovery refers to the "need to re-establish a healthy, functioning community that will sustain itself over time." In its Long-Term Community Recovery Planning Process: A Self-Help Guide, FEMA outlines a

recovery approach that emphasizes a community-driven process with significant public involvement and local control. The process also emphasizes a "project-oriented" focus on actions that will have the greatest impact on community recovery.

In this guide, FEMA also urges a significant focus on mitigation as part of long-term recovery to prevent or at least minimize similar damage in the event of another disaster.



When a crisis occurs, the needs are vast and the humanitarian response relatively proportional. As the humanitarian community provides for the vulnerable population, the crisis fades away. But to establish good foundations and effective linkages to longer-term development, the recovery from the crisis needs to start as early as possible. As can be seen from the diagram, the transition phase overlaps both the relief and development phases. Recovery is the process of transformation from relief to development. Source: Institute for Building Technology and Safety, Disaster Management Group.

The Association of Bay Area Governments (ABAG), which serves 109 cities and counties in the San Francisco, California, area, has developed a program designed to help cities and counties be better prepared for long-term recovery in the event of a disaster. Based on a survey and a series of meetings and workshops, ABAG identified four areas that cities and counties should address to prepare for long-term disaster recovery:

- Financing.
- Expediting long-term housing recovery.
- Supporting recovery of downtown businesses and the local economy.
- Ensuring local government facilities and services recover smoothly.²

Long-term recovery strategies and needs will vary depending on the scope of the disaster. In small communities like Northwood, North Dakota, and Greensburg, Kansas, tornadoes damaged or destroyed everything—homes, businesses, municipal buildings, schools, recreation facilities, and more. For those communities, deciding to rebuild was a first step, followed quickly by engaging the entire community to ensure that their hometowns would come back, and then bringing other resources to the table.

In other communities, when significant damage is confined to one area, local leaders must balance ongoing public service expectations with urgent long-term recovery needs while ensuring that the vision for "new normal" keeps the community together.

The following sections highlight long-term recovery approaches and lessons; they draw on the direct experience of managers who have been there.

Economic Recovery

Most managers who have experienced disasters recently say getting the local economy working again is vital to launching a successful comeback. Restarting the economic engine depends on a number of factors:

- A willingness and capacity of business to reopen quickly if facilities aren't severely damaged or to rebuild in the community.
- Affordable and available housing for workers.
- Large employers with business continuity plans who can get up and running quickly to launch the economic comeback.
- Strong connections between government and business to facilitate a recovery partnership.

Bruce Moeller, city manager of Sunrise, Florida, says open communication with the business community is essential.

"The city manager needs to have a frank discussion with the business community regarding the importance of business continuity plans in the event of a disaster," Moeller says. "This is particularly true with small businesses to help them understand how to prepare to recover quickly after a disaster."

Because Florida experiences frequent hurricanes, Moeller says both government and businesses learn with each disaster and get better prepared for the next one.

Kyle Hayes, city manager of Beaumont, Texas, which was hit by Hurricane Rita in 2005 and more recently by Hurricane Ike, notes that businesses ramped up quickly in both cases, which helped sustain the local economy. Because 35 percent of Beaumont's revenue comes from sales tax, the rapid recovery of retail businesses was essential to community recovery.

Hayes explains that the massive devastation sustained in Louisiana and Mississippi from Hurricane Katrina only a few weeks before Hurricane Rita occurred helped Beaumont and other cities in Texas get ready. "We hadn't had a hurricane in decades, and when we saw what happened from Katrina, we started getting ready," Hayes says.

In Biloxi, Mississippi, where 35 percent of city operating revenue comes from taxes on the gaming industry, the city had purchased a business interruption insurance policy at the beginning of the 2005 hurricane season. The policy guaranteed \$10 million in income if the gaming industry were shut down because of a disaster. Hurricane Katrina shut down the gaming industry, but the payment from the business continuity insurance policy provided some financial breathing space as city leaders launched the city's recovery.

In Northwood, North Dakota, city officials met with all the local businesses right after the tornado to identify needs and figure out how to encourage local rebuilding. "They all had a scared, stoic look but eventually we talked about plans to rebuild," says City Administrator Marcy Douglas. "In a small town like Northwood, buying local is a way of life, and everyone wants everyone else to survive. But the local government is an essential spark to encourage small businesses to stay."

A 2001 study published by the Public Entity Risk Institute (PERI) looked at factors that affected the ability of small businesses and not-for-profits to recover from natural disasters and thus contribute to long-term local economic health. The study found these five factors that were critical to long-term survival:

- The disaster's impact on the organization's clientele.
- The availability of convenient substitute goods and services that can replace the business while it is trying to rebuild.
- The status of the business before the disaster.
- Financial resources lost by the business.
- The owner's ability to adapt to the new, post-disaster environment.³

Leading the Recovery

Most agree that the key factor in successful long-term recovery is local leadership. A clear vision, a well-defined plan, broad and diverse funding to finance the recovery, a supportive and involved business community, and effective partnerships at the federal, state, and local levels all contribute to successful long-term recovery. The biggest difference, however, is effective leadership.

In Greensburg, Kansas, where recovery was difficult to envision on May 5, 2007, the day after one of the strongest tornadoes on record leveled the town, City Administrator Steve Hewitt led the immediate response and helped coordinate development of an ambitious recovery plan. Hewitt was recently named American City & County magazine's municipal leader of the year for "creating a vision for a better Greensburg and leading his town toward it."⁴

Cedar Rapids, Iowa, is still in the early stages of recovering from massive flooding in June 2008 that completely submerged the downtown. With floodwaters still rising, City Manager Jim Prosser created a recovery and investment coordinating team that has led the charge from immediately after the flooding, beginning with response and moving now to recovery. The team includes representatives of every sector of the community and has met regularly to guide long-term recovery.

The team wasn't part of the city's response and recovery plan. It was just something Prosser knew he needed to do quickly to bring the community together. He says the broad team has been an effective resource for leading the recovery and coordinating diverse activities.

But the role of the manager in sustaining the momentum and helping the community weather the ups and downs of long-term recovery is essential. "There's a delicate balance between acting fast to meet the community's need to see progress and

Guidelines for Employee Support and Continuity of Service

Here are guidelines that can be useful for maintaining local government service levels:

- Prepare a clear plan for enabling employees to participate in response and recovery by helping them meet family needs in advance.
- Establish a disaster housing plan for essential first responder employees—police, fire, emergency operations center staff, shelter workers, and damage assessment and repair teams.
- Maintain the necessary financial relationships to ensure that employees' paychecks are issued and a backup plan for delivery when direct deposit is not used.
- Ensure that employees and their families have guidance on developing a personal support kit and family disaster plan.
- Establish expectations of all employees—both essential first responders and all other employees—in personnel policy and labor agreements, with options for dealing with failure to meet those expectations.
- Establish a clear communication method for employees only—an 800 number, a radio station, an e-mail system, a meeting place for information, or other means—to provide up-to-date information about employee expectations and public service needs.

Source: Adapted from Frances L. Edwards, "Businesses Prepare Their Employees for Disaster Recovery," *The Public Manager*, Winter 2006.

waiting for better information, a better plan, a solid response," Prosser observes.

"There's a big push to do something now. But if you don't have a good plan and you can't get the resources, you're setting up people for more disappointment. Overpromising can be fatal in long-term recovery."

Prosser points out that Cedar Rapids was lucky to have already carried out a visioning process well before the flood as part of a change in government structure.

"Pre-flood, we had a clear sense of where we were going as a community," he says. "If you don't have that vision in the aftermath of a disaster, you'll lose the community's confidence."

Disaster Management: An International Scenario

After the devastating tsunami of December 2004, ICMA's CityLinks program provided disaster recovery, mitigation, and preparedness assistance to two coastal cities in southern India. The Post Tsunami Recovery Program, funded by the U.S. Agency for International Development, created a partnership between Cuddalore and Nagapattinam in Tamil Nadu state and three hurricane-prone Florida cities—Palm Bay, Oldsmar, and Port Orange.

A team made up of ICMA staff, officials from the three Florida cities, and representatives of the India-based Urban Management Centre provided pro bono, hands-on technical assistance, capacity building, and focused exchanges. The CityLinks team helped the cities rebuild damaged parks and playgrounds and improve municipal services. They undertook flood mitigation projects to improve the cities' ability to respond to natural disasters, plan for seasonal weather, and mitigate recurring flooding in low-lying areas through improved drainage systems.

Because mapping is a crucial element in disaster preparedness and planning, the team also completed computer-aided design (CAD) base maps for the two Indian cities and showed municipal staff how to update them. The maps identify geographic features, low-lying areas vulnerable to flooding, public infrastructure systems and facilities,

Financing the Recovery

Financing long-term disaster recovery poses significant and often frustrating challenges for local leaders who must rely on the state and federal government as major sources of disaster recovery funds. Those challenges are exacerbated in the heat of a crisis when funding is urgent, not optional or negotiable. That's why incorporating a framework for financing long-term recovery improves the odds of success when disaster strikes.

Strategies that can be put in place well before a disaster include (1) understanding all federal requirements for response and recovery grants, including required documentation for reimbursements; (2) identifying all potential sources of funding for long-term recovery; (3) establishing lines of credit to provide cash flow for direct expenses and matches while waiting for federal funds; and (4) identifying internal staff, or external resources, or both, to manage the financial side of recovery.

Knowledge of federal resources and the rules governing access to those resources is essential to maximize funds to support long-term recovery.

ABAG offers these pre-disaster financial recovery action steps for local governments:

- Modify purchasing and contracting procedures to expedite emergency purchases.
- Adopt a repair and reconstruction ordinance to facilitate use of FEMA public assistance dollars.
- Establish an internal claims reimbursement process for FEMA funds.
- Adopt a local hazard mitigation plan as part of the general plan to facilitate access to additional FEMA funds.⁵

In Cedar Rapids, financing recovery remains a major challenge. Lower than expected allocation of community development block grant (CDBG) funding to the state has left the city far short of the federal funding it had hoped for.

"CDBG is a primary source of funding for our recovery plans, and it is coming a lot slower than expected and at lower levels," Prosser says. "That adds complexity to what we're doing. We could move much quicker if more resources were available sooner."

But, he remains optimistic, which is essential for his community's recovery. "Cedar Rapids is still Cedar Rapids despite the devastation, and we will emerge as a better, greater community—our new normal," he says. "But that process will take three to five years, and the community needs to understand that."

land uses, and important structures. Later the Tamil Nadu state government purchased CAD mapping software for cities in the state to sustain the commitment to mapping as a vital disaster preparedness and planning tool.

Although the CityLinks program came to an end, it left in place sustainable improvements—and an international partnership between local government professionals in Florida and in India—that will continue for years to come.

For more details about the program, visit the ICMA Web page at <http://icma.org/inter/ns.asp?nsid=3925>.

Community Care

Long-term recovery from a major disaster can be a long, slow process. In Grand Forks, North Dakota, it took more than 10 years. On the Gulf Coast, since Hurricanes Katrina and Rita and, more recently, Ike and Gustav, recovery has been an ongoing process—almost a way of life.

Constant information and community connections are vital. Even when there's no real news, having some news is important to assure a tired community that there is a light at the end of the tunnel.

Frances Edwards says a long-term recovery plan should include strategies for dealing with the psychological impact of a disaster and the pace of recovery. "It is important to know your community and how segments will be affected by the disaster and the recovery process," Edwards says. During a recovery from a major flood in San Jose, Edwards explains that the city's large Cambodian community was particularly affected because the flood brought back memories of traumas in their home country.

"Once traumatized, individuals relive the first trauma while going through the second, and the city needs to be prepared to deal with that," Edwards says.

Trees became a focal point in Northwood, North Dakota, after the tornado. "People didn't have roofs over their heads, but they wanted to plant trees because Northwood was always known for its tree-lined streets," City Administrator Douglas says.

"They wanted that normalcy instantly, and we had to manage that need carefully." The city eventually developed a tree recovery program as part of its plan that led to the planting of 1,000 new trees.

In Florida, with each hurricane, local leaders focus on refining their long-term recovery processes. Broward County, for example, has created a "vulnerable population registry" to help local leaders pinpoint those most in need after a disaster.

"There are so many people who are just getting by," says City Manager Bruce Moeller. "A significant event that interrupts normal life will push them over the edge. This registry helps all the local governments in Broward County anticipate those special needs."

Keeping an eye on the pulse of the community—and on the pulse of local government employees who are leading the recovery process—is important for sustaining the momentum and preserving the community spirit.

"We were blessed with strong people who, in many ways, started the road to recovery before the city could do it," says John Schmisek, director of finance and administrative services in Grand Forks. "Their attitude was 'we know we need to recover and we can do it.' Ten years after the flood, I'm here to tell you—don't ever say never."

¹Long-Term Community Recovery: A Self-Help Guide (Washington, D.C.: Federal Emergency Management Agency, December 2005), www.fema.gov/library/viewRecord.do?id=2151.

²Linda Min and Jeanne Perkins, "Summary: Long-Term Disaster Recovery Planning by Local Governments in the San Francisco Bay Area" (Oakland, Calif.: Association of Bay Area Governments, October 2008), 1, <http://quake.abag.ca.gov/recovery/SURVEYresult2008.pdf>. Visit the Web site for the Regional Long-Term Disaster Recovery Initiative at <http://quake.abag.ca.gov/recovery/> for additional information and available resources.

³Daniel J. Alesch, James N. Holly, Elliott Mittler, and Robert Nagy, Organizations at Risk: What Happens When Small Businesses and Not-for-Profits Encounter Natural Disasters (Fairfax, Va.: Public Entity Risk Institute, October 2001), https://www.riskinstitute.org/peri/images/file/Organizations_at_Risk.pdf.

⁴"Municipal Leader of the Year: Come-back Kid," American City & County, November 2008.

⁵"Financing Disaster Recovery," Local and Regional Disaster Recovery Planning Issues Paper (Oakland, Calif.: Association of Bay Area Governments, July 8, 2008), <http://quake.abag.ca.gov/recovery/PR-Recovery-Finance.pdf>.

Christine Becker is president, Christine Becker Associates, Washington, D.C., and coordinates association relations for the Institute for Building Technology and Safety (IBTS), Ashburn, Virginia (csbecker11@gmail.com). IBTS is an ICMA strategic partner.