SUCCESS STORIES:
STRONG PARTNERSHIPS FOR STRONGER COMMUNITY RESILIENCE

November, 2013
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OVERVIEW

“The first time we meet each other should not be during a disaster. Knowing the different partners, their missions, and the resources they can bring to the table is important for disaster planning efforts.” – Presentation by Mark Ashley, Operations Officer, Naval Construction Battalion Center, Gulfport, Mississippi

The enclosed collection of twelve community resilience success stories is the third in a series of three collections to be published by the Community Regional Resilience Institute (CARRI). These short stories share a common theme of partnerships formed that led to increased resilience. The stories were collected and crafted by CARRI from actual community experiences to help teach users of CARRI’s Community Resilience System (CRS) about fundamental characteristics of community resilience.

CARRI believes that a community’s resilience is measured by its sustained ability to prepare for, respond to, and fully bounce back from a variety of crises – in short, to effectively manage change in turbulence. The events of Hurricanes Katrina and Sandy, the 2012 wildfires, and the BP oil spill each posed unique challenges and exposed different areas of vulnerability in our communities and nation. CARRI strengthens our national resilience by assisting communities in understanding their vulnerabilities, taking positive collective actions to limit the impact of a disruptive crisis, and recovering rapidly from disasters of all kinds. The goal of CARRI and the CRS is to strengthen any community’s or region’s ability to prepare for, respond to, and rapidly recover from significant human caused or natural disasters with minimal downtime to basic community, government, and business services.

In this report, you will learn how different types of partnerships – formal and informal – contributed to community resilience. Harrison County, Mississippi gave non-profit and faith based organizations a seat at the table for emergency planning and response after recognizing their invaluable contributions during Hurricane Katrina. Also in the wake of Katrina, PPS Plus Software realized that having an established relationship with a local bank could increase the company’s ability to provide software support to its customers during an emergency. Harris County, Texas benefited from its long-term relationship with the U.S. Army Corps of Engineers, who provided access to economic and risk assessment data for the County’s evaluation of flood risk. New York City researchers worked in partnership to provide government officials with data to better understand how to mitigate or reduce the potential for risks in the event of an
earthquake. U.S. Navy’s Naval Construction Battalion Center’s 50-year history with community members in the Mississippi Gulf Coast allowed for the community’s fuel supply to be quickly re-established after Hurricane Katrina. In the Charleston/Tri-County Area, a competitive health care system coordinated on increasing resilience and the health care sector’s ability to respond to a disaster. In Bartlett, Tennessee, a small business suffering from a devastating fire received help from the local chamber of commerce.

You will also read about how Mississippi Power recruited over 11,000 retired and out-of-state workers from other companies to help with emergency response to Hurricane Katrina, returning power to all customers in half the time expected. Following Hurricane Hugo, a local church established a community outreach organization and partnered with the town of Mount Pleasant, South Carolina and other nearby communities to form a relief supplies distribution network. Pattonsburg, Missouri reached out to the U.S. Department of Energy for help in rebuilding on higher grounds after enduring numerous, massive floods. After the attacks of September 11, Seattle-King County, Washington undertook a process to forge partnerships between a wide range of stakeholders in strengthening the overall resiliency of the water resources sector in the region. Finally, you will learn about a nationwide initiative, called Project Impact: Building Disaster Resistant Communities, which encourages individuals, businesses, and communities to take steps to prevent or reduce damage before disaster strikes.
ABOUT CARRI AND THE COMMUNITY RESILIENCE SYSTEM

In 2010 CARRI, formerly housed at the Oak Ridge National Laboratory, began an 18-month effort to build a Community Resilience System (CRS), based on the needs identified by community members during a three-year research initiative in a number of US communities funded by the Department of Homeland Security. Working in partnership with Meridian Institute, CARRI convened working groups to gather input and advice from general community members, researchers, government officials, and private sector representatives to build the CRS. The CRS brings together the resources, tools, and processes needed to improve community resilience. The CRS consists of:

- A knowledge base of what community resilience is, what makes communities more resilient, what tools can help communities assess their resilience, and what resources can help communities take action to become more resilient.
- A process that helps communities use the knowledge base to become more resilient.
- A web-based set of tools and resources to make the process and knowledge base available to a wide array of communities.

The CRS helps communities create a vision for the future and establish the necessary actions to improve overall resilience to disasters and other disturbances. The information, the process, and the system will help them prepare for and recover from any challenge. The final CRS product and report summarizes the work of these groups and reflects a strong consensus of community, business, academic, and policy thought leaders who see a greater need for community resilience.

In 2011, CARRI was incorporated into Meridian Institute, a not-for-profit organization that helps people solve problems, make informed decisions, and craft solutions to address society’s most complex and controversial issues. That year, the U.S. Federal Emergency Management Agency (FEMA) tasked CARRI and Meridian to launch the CRS pilot program with these objectives:

- Test the CRS as a means of implementing the Whole Community philosophy and improving community resilience in at least five US communities;
- Understand community acceptance of the Whole Community philosophy and insights into what is required to implement that philosophy in US communities;
- Identify programs, processes and tools that best support the community leaders in adopting the Whole Community approach and improving resilience; and
- Understand how the CRS can be amplified into a nationwide effort to support FEMA’s implementation of the Whole Community approach.

The CRS was piloted in seven communities where leaders and citizens were committed to engaging the full fabric of their society to foster preparedness and resilience. These communities are Anaheim, California; Anne Arundel County and Annapolis, Maryland; Charleston and the Tri-County Area, South Carolina; Gadsden, Alabama; Greenwich, Connecticut; The Mississippi Gulf Coast; and Mount Juliet, Tennessee.
SUCCESS STORY | NON-PROFIT AND FAITH-BASED ORGANIZATIONS COMPLEMENT GOVERNMENT IN RESILIENCE EFFORTS

In the wake of Hurricane Katrina, Harrison County, Mississippi (Gulfport-Biloxi region) confronted an important shortcoming in the configuration of its Emergency Operations Center (EOC) and its overall disaster preparedness approach. Prior to Katrina, only government agencies were stationed at the EOC. During the response and recovery from the catastrophe, it became clear that non-profit and faith-based organizations were providing vital services and assistance, often filling gaps that government agencies were not able or expected to address. Child care, pet care, and transportation for evacuation were areas where non-profit and faith-based organizations stepped in to meet critical community needs. The local program director for a major foundation explained, "With the catastrophic impact of Katrina, the importance of non-profit and faith-based organizations was obvious very quickly. Katrina showed the need for collaboration and integration; key issues weren't being addressed."

After Katrina, leaders of several key agencies banded together to form South Mississippi Voluntary Organizations Active in Disaster (SMVOAD). At the state level, Mississippi VOAD formed as a chapter of the National VOAD network. SMVOAD members meet monthly to share news about member activities, discuss common concerns, identify gaps in services, minimize unnecessary duplication of services, promote better use of available resources, and manage disasters more efficiently and effectively. VOADs do not deliver services directly, but rather facilitate coordination, communication, cooperation, and collaboration among members, and with government and business partners.

Through SMVOAD, non-profit and faith-based organizations on the Mississippi Gulf Coast now have a seat at the Harrison County EOC and are active in local disaster preparedness. Similarly, Mississippi VOAD has an active role in the State EOC.
Resilience Insights

- Assess when and how non-profit and faith-based organizations complement and supplement government response and recovery operations. These organizations can serve critical roles not addressed by government agencies.
- Make sure that local government leaders are aware of and actively collaborate with non-profit and faith-based organizations and that these organizations are included in official disaster planning, response, and recovery operations.
- Many communities ask local chapters of VOAD to provide representatives as liaisons between the non-profit and faith-based sector and government emergency operations. VOAD chapters can be very effective in this role.
- VOAD representation may be appropriate on the Resilience Leadership Team, given their ability to work effectively across organizations and diverse sectors of the community.

References

SUCCESS STORY | PPS PLUS SOFTWARE RECOVERING FROM THE HURRICANE

“We’re proud to maintain ‘small company’ values where customers can always call and actually speak to a live person.” - PPS Plus Software Website

When Hurricane Katrina struck in 2005, the city of Gulfport, Mississippi, suffered severe damage, losing power and other essential utilities. PPS Plus Software, a local small business, was unable to deliver the software support and service its nation-wide customers demanded. While its customers were sympathetic, PPS Plus knew it must restore systems, operations, and services as quickly as possible.

Luckily for PPS Plus, the company’s computing equipment, located on the eighth floor of a storm-crippled downtown office building, was not damaged. Key staff members entered the building and moved the computer equipment to an inland location in Jackson, Mississippi, where the company set up temporary operations.

Once their community’s recovery from the storm was underway, PPS Plus Software returned to a new permanent location in the Gulfport-Biloxi area. Learning from the Katrina experience, PPS Plus implemented a number of company-wide changes to better prepare for and respond to a future natural disaster. All company information systems are now backed up online and accessible from any computer with internet access. The CEO keeps contact information for vendors and clients on his cell phone. The company maintains up-to-date records of employee contact information, which they update when a natural disaster is approaching. The company also provides guidance for employees about what to do, where to go, and how to respond in the case of a disaster.

PPS Plus also learned significant operational lessons from the experience such as the importance of having a local bank and that critical cash flows can be interrupted by delayed mail service. PPS Plus Software’s CEO now advocates that businesses of all size be prepared for disaster response and recovery.
Resilience Insights

- Organizational resilience, especially within the private sector, is an important component of community resilience. When you engage businesses and organizations, think about providing tools and lessons to help them increase their resilience.
- Think broadly about the effects of a potential disaster on your organization. All business processes and functions may be at risk.
- Prepare employees and members for a disaster by providing guidance on what to do and how to respond. Maintaining up-to-date contact information for employees can ensure that you are able to reach them with the latest news as a disaster unfolds.

References

Lessons from PPS Plus Software, collected by the Gulfport CARRI Team.
SUCCESS STORY | HARRIS COUNTY, TEXAS, ASSESSES ITS RISK FROM HURRICANES

Harris County, Texas is home to the major cities of Houston and Galveston and is the heart of one of the largest metro regions in the country. Sitting right on the Gulf of Mexico, the region has always been at risk for damage from hurricanes and tropical storms. In 2005, Harris County used one of Federal Emergency Management Agency’s (FEMA) hazard assessment tools to assess its risk for flooding and property loss in future hurricane scenarios.

Harris County had been collecting data for many years through the Tropical Storm Alison Recovery Project. This project provided up to date hydrologic and hydraulic data along with new mapping tools. Further, the County had a long relationship with the U.S. Army Corps of Engineers, who provided access to economic and risk assessment data from recent flood-control projects.

Harris County used FEMA’s HAZUS-MH tool. They ran two analyses; the first used county-wide data to assess the threat and potential losses from hurricane floods and winds. The second analysis used very specific local data to assess the damages within a watershed. In September of 2005, Hurricane Rita formed in the Gulf and took an erratic path towards Houston and Galveston. While the cities were spared a direct hit from the storm, local officials were able to use the data generated from the HAZUS-MH tool to assess the potential risk they were facing as the storm neared. The assessment helped officials to better understand potential risks to specific populations and critical infrastructure of the community, enabling them to make better preparations for future disasters.

Photo Credit: Imelda Bettinger

Resilience Insights

- Use hazard assessment tools to understand the risk your community faces from different hazards. This data can help inform disaster preparedness as well as disaster recovery. Some tools can provide very specific data that first responders can use in the immediate aftermath of a storm.
- Even if an anticipated disaster does not hit your community, the practice of assessing the hazard is beneficial to emergency, response, and recovery personnel. It allows them to develop scenarios to plan against and bolsters preparedness efforts. When implementing a community visioning process, engage as many community members as possible. Make sure all community interests are represented. Broad and diverse engagement leads to better results.
References

SUCCESS STORY | NEW YORK CITY ASSESSES RISK FROM EARTHQUAKES

Manhattan, one of the five boroughs in New York City, is a major population and economic center. It is home to millions of people, historical and cultural landmarks, and many of the country’s major corporations. The Federal Emergency Management Agency (FEMA), in cooperation with New York officials and researchers, recently undertook a study to determine the potential losses Manhattan could face if it were struck by an earthquake.

The study focused on Manhattan below 59th Street – the part of the city with the most economic activity – and describes the scale and extent of damages that could result from earthquakes in the City.

The study included the collection of detailed soil data for all of Manhattan and an inventory of all buildings and structures. By combining it with information about regional demographics and seismic risk, researchers were able to use this data determine which areas and structures were at greatest risk due to an earthquake.

Researchers then estimated the intensity of ground-shaking across Manhattan, predicted capital and dollar losses from seismic events, and potential income losses during the response and recovery periods. Officials can now use this data to understand what city services might be functional in the case of an earthquake and to mitigate or reduce the potential for the determined risks.

Resilience Insights

- View data about hazards in the context of regional demographic and economic characteristics to understand the potential losses your community may face.
- Use the data developed from a hazard assessment to predict your community’s functionality in the case of a disaster.
- Use the data developed from a hazard assessment to help identify actions to mitigate or otherwise reduce potential losses.

References

SUCCESS STORY | ESTABLISHED PARTNERSHIPS ENABLE IDENTIFICATION OF RECOVERY RESOURCES – GULFPORT’S NAVAL CONSTRUCTION BATTALION CENTER

The first time we meet each other should not be during a disaster. Knowing the different partners, their missions, and the resources they can bring to the table is important for disaster planning efforts. – Presentation by Mark Ashley, Operations Officer, Naval Construction Battalion Center, Gulfport, Mississippi

Identification of recovery resources in advance of a disaster contributes to community resilience. When Hurricane Katrina struck the Mississippi Gulf Coast in 2005, the degree of devastation made it challenging to know where to begin the recovery efforts. Fortunately, the U.S. Navy’s Naval Construction Battalion Center’s 50-year history in the community meant that local leaders were familiar with their resources and capabilities, which included 3,000 Seabees (this name derives from the initial letters of the institution: Construction Battalion) and a fuel distribution system in the area.

Through coordination among Seabee leadership, the county Emergency Operations Center (EOC), local school districts, the Federal Emergency Management Agency (FEMA), and others, it was determined that Seabee resources would be directed to repair sewer lift stations to maintain safe living conditions, removal of debris to enable schools to reopen and parents to return to work, and re-establishment of the fuel supply to the community. Seabee debris removal along the coast enabled 85 schools to reopen and 45,000 students to return to school. Thanks to lines of communication established well before the hurricane, NCBC-Gulfport and FEMA were able to combine FEMA’s fuel supply with the Center’s distribution system to re-establish the fuel supply to the community after the disaster.

Based on this experience, it was clear that the understanding of existing resources and how they could be utilized following a disaster enabled the community to execute priority recovery actions quickly and efficiently. Today, NCBC-Gulfport’s liaisons for each coastal county EOC help to identify community needs and the skills and capabilities that can be coordinated to meet them. Another lesson learned was that recovery workers are among the most crucial recovery
resources, and that provision of basic needs – such as food, clothing, shelter, and mental health – for these workers is also critical to effectively planning for and recovering from a disaster.

Resilience Insights

- Before a disaster strikes, establish partnerships and create an inventory of community resources and capabilities, including how they can best be utilized.
- Identify resources and plans to meet the basic needs of recovery workers, including safety and security for their families so they can help with the recovery effort.
- Understand interdependencies among partners in order to optimize assignment of responsibilities and resources.

References

From Mark Ashley, Operations Officer, Naval Construction Battalion Center, Gulfport, Mississippi at the first CARRI Community Resilience Forum held on April 28, 2009, in Charleston, South Carolina http://www.resilientus.org/library/Mark_Ashley_1246306792.pdf
SUCCESS STORY | COMPETING HOSPITAL SYSTEMS PREPARE TO COORDINATE RESOURCES IN A DISASTER

Effective communication of a shared community vision for resilience enabled Regional Health Director, John Simkovich, and the South Carolina Department of Health and Environmental Control to organize and coordinate a particularly competitive health care system in the Charleston/Tri-County Area, increasing resilience and the health care sector’s ability to respond to a disaster.

Response to the September 11th attacks accentuated the need for improved coordination among the hospitals serving a community. Without a regional central tracking system, massive confusion about where injured people were taken for treatment and how to keep family members informed created extra work and stress for all involved. While the hospitals in the Charleston/Tri-County Area recognized the need for coordination, they were traditionally competitive and operated independently.

The shift to working in coordination with each other would not come easily. To address this challenge, Simkovich engaged the hospitals with a vision for cooperative planning and response for disasters affecting the Charleston/Tri-County Area.

Simkovich nurtured a shared vision of a coordinated disaster response system by establishing and supporting a council of representatives from each of the region’s seven hospitals. Council members included emergency preparedness officials, a representative appointed by each hospital’s Chief Executive Officer, local Emergency Medical Service, other emergency management directors, and public health organization representatives. By sitting down together regularly, council members were able to identify weaknesses in the current system, and the collaborative process gave members a tool to address them. Strong leadership for the council proved critical to information sharing and fostering cooperation.

This council led to the creation of the Regional Hospital Coordinating Center. The Center provides a physical location from which to coordinate during a disaster as well as support for the development of a coordinated health and medical response system. When tested during Hurricane Katrina, the Center mobilized the hospital community, which was ready to receive incoming medical evacuees within 30 minutes.
Resilience Insights

- Be aware that disaster response and recovery require collaboration within the community that may run counter to normal business practices and operation. Engaging the community around a shared vision can help transcend these differences.

- Anticipate and utilize regular meetings engaging all affected parties to convey and develop support for the vision. Regular meetings contribute to developing trust among stakeholders. Use strong leadership to guide the visioning and implementation processes.

References

The Community and Regional Resilience Institute. “Regional Hospital Collaboration on Disaster-Related Medical Care Improves Overall Quality of Care.” Accessed April 14, 2011.
SUCCESS STORY | BUSINESS CONTINUITY PLANNING AND THE BARTLETT, TENNESSEE CHAMBER OF COMMERCE

“To advance the long-term prosperity of Bartlett and Northeast Shelby County by sustaining and growing its business community.” – Bartlett, Tennessee Chamber of Commerce Mission Statement

Chambers of Commerce have an important role to play in community resilience. They offer a support network to local businesses, technical assistance such as how to develop a business continuity plan, and a mechanism through which best practices can be shared.

In April 2006, a lightning storm rolled through Bartlett, Tennessee, causing a devastating fire at Dixie Floors, a small flooring company. While the Bartlett Fire Department responded quickly, firefighting operations had to be suspended due to safety concerns. Dixie Floors lost its entire inventory in the fire. Fortunately, the owner of the business had developed a continuity plan which he was able to immediately put into action. He started temporary business operations across the street while arranging for a new permanent location. All business and customer data was backed-up on off-site servers. The owner was able to use that information to contact suppliers and start rebuilding his inventory.

The one thing for which the company was not prepared was the total loss of its office equipment and supplies (computers, furniture, and office supplies). Leaders of the local chamber heard of the situation and sent out a distress call to their members. Within a day, the local business community responded, many stopping by in-person to drop off supplies. The network provided by the Chamber, and the goodwill and relationships it engendered provided critical assistance to Dixie as it struggled to recover from the fire.

Resilience Insights

- Business continuity plans prepared in advance of a disaster help businesses recover more quickly. Make developing a business continuity plan a priority.

- Learn about and take advantage of the information and opportunities provided by your local Chamber of Commerce. Chambers of Commerce provide critical networking support that can build and strengthen relationships within a community. These relationships can be the basis upon which knowledge and best practices can be shared and mutual aid partnerships can be developed.
References

SUCCESS STORY | MISSISSIPPI POWER AN EFFICIENT AND EFFECTIVE RESPONSE

“When a storm threatens, Mississippi Power readies its Emergency Management Center to support advance preparation, damage assessment, and power restoration.” – Mississippi Power Website

Disaster response and recovery efforts are more likely to be successful if responders are charged with a clear mission, given adequate training, and empowered to make critical decisions. In its response to Hurricane Katrina, Mississippi Power demonstrated a highly effective and efficient disaster response.

Hurricane Katrina wiped out power to 100 percent of Mississippi Power’s customer base – a total of 195,000 customers. The need for poles, wire, transformers, labor, and the resources needed to support response workers was beyond anything the company had anticipated in its emergency response plan.

However, utility companies have always had a clear mission in the face of disaster - restore power to as many households and businesses as quickly as possible. After all, no other recovery efforts could proceed until power was restored.

In addition to marshaling its 1,500 employees, Mississippi Power brought in over 11,000 retired and out-of-state workers from other companies to help with the response. They provisioned tents, food, water, and fuel to support this large workforce. At the height of activity, the company served 35,000 meals and used 40,000 gallons of fuel per day.

On the ground, expert field supervisors worked with highly trained crews to achieve their mission. The crews understood the ultimate goal of their work, while field supervisors felt empowered to “do what it takes” to get the job done.

Because of this increased effort, Mississippi Power was able to restore power to all customers that could accept it in 13 days – half the time that had been projected. Their response showcased the importance of training, mission clarity, and the appropriate delegation of decision-making in mounting an effective organizational response to a disaster.
Resilience Insights

- Identify the groups, entities, and organizations responsible for different aspects of disaster response and recovery.
- Develop a clear mission for each organization’s response and recovery effort.
- Train workers in advance of disasters to understand what is needed in stressful and challenging situations.
- Empower response workers with sufficient decision-making ability to allow their efforts to proceed as rapidly as possible.

References

Organizational Resilience: Mississippi Power as a Case Study, collected by the Gulfport CARRI Team.
SUCCESS STORY | MOUNT PLEASANT’S PARTNERSHIP TO DISTRIBUTE DONATED GOODS

Following Hurricane Hugo, a recognized need for the capacity to distribute relief supplies in the event of a disaster led to the founding of East Cooper Community Outreach (ECCO) and the establishment of a partnership between ECCO, the town of Mount Pleasant, South Carolina, and other communities in the area east of the Cooper River.

In the aftermath of the hurricane, Mount Pleasant received an abundance of clothing and supplies donated from around the country. Unfortunately, the town had no system or distribution infrastructure to connect these supplies with those most in need and many supplies were not utilized. According to a town administrator, “I hate to tell you that we had waste.”

During the same event, a Catholic church in the region established ECCO to assist with the emergency distribution of food throughout the East Cooper region. ECCO’s extensive distribution network uses local churches and church volunteers to coordinate outreach efforts and distribution of goods and services.

As Mount Pleasant recovered from Hugo, the town’s leadership recognized a need to develop a system for distributing donations and resources immediately after a disaster to those in greatest need. ECCO’s distribution network, with contacts and centers widely dispersed in the community, had many of the characteristics the town was looking for. In 2004, the town initiated a partnership with ECCO to serve as the distribution center for relief aid in the event of a disaster. As part of this new partnership, Mt. Pleasant helped upgrade ECCO’s distribution center, provided emergency generators, and established tax relief for faith-based organizations that partner with ECCO.

Now, in the event of a disaster, Mount Pleasant will still serve as a central point for receiving donations, but it will use ECCO’s network and distribution system to efficiently and effectively get the donated resources out to the community and in the hands of those who need them most.

Today, ECCO uses both direct aid and partnerships to distribute food, clothing, household furnishings, and other supplies. Because of their partnership with Mt. Pleasant, ECCO’s distribution system stands ready to serve a similar function for the East Cooper community region in the event of a disaster.
Resilience Insights

- As you are developing actions in your community, assess the skills and/or resources in your community that may be able to help you complete your actions. Remember that local organizations may have skills and/or resources that local governments may not possess. Many organizations in your community already have relationships, partnerships, and volunteer networks in place that can be leveraged in times of crisis and disaster.

- Develop partnerships prior to a disaster to help utilize a broader network of partners and resources in order to respond quickly in times of crisis.

- Identify or develop benefits for potential partners in your resilience activities. Long-lasting partnerships will develop where there are benefits for all interested parties.

References


*Outreach, Capacity Building, and Post-Disaster Distribution of Goods and Services to Low-Income Populations* Presented at the Community and Regional Resilience Institute Community Forum by Rev. Jack Little, East Cooper Community Outreach (Charleston/Tri-County Area, South Carolina), Spring 2009.
**SUCCESS STORY | PATTONSBURG, MISSOURI, IDENTIFIES RESOURCES TO RE-LOCATE AWAY FROM FLOODPLAIN**

For a century, the village of Pattonsburg, Missouri, was located at the confluence of Big Creek and the Grand River. During that time, the community was flooded 33 times. After experiencing two major floods in the summer of 1993, more than 90 percent of residents determined that sustaining their community would require a bold step – relocating their town and rebuilding it on higher ground.

To accomplish this, Pattonsburg Mayor David Warford asked the U.S. Department of Energy (DOE) to help the village make their new community a model of sustainable development. DOE and the Federal Emergency Management Agency awarded the town $12 million in federal disaster assistance and assembled a team of experts in sustainable development to assist the town. The team, with support from the Missouri Department of Natural Resources Division of Energy, worked closely with Pattonsburg residents to develop a plan for New Pattonsburg.

With current resources, the community has been able to design a new town site that is oriented from east to west to take advantage of solar gain, relocate 25 houses to the new town site, plan for affordable and senior housing, construct energy-efficient commercial space and schools that will be heated and cooled with ground-source heat pumps, and plant trees to provide shade and buffer against winds. With these changes, the town eliminated its vulnerability to flooding and established a community that is more resilient to other potential threats.

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**Resilience Insights**

- Mitigating against certain threats can require bold action and significant investment, but the process can offer robust and diverse benefits beyond reducing risk and impact.
- Clearly articulating vulnerabilities and threats and developing a broadly-supported plan of action will help you identify and secure funding.
- When re-building or re-locating, incorporating a sustainable development approach may make your plan more attractive to potential funders.

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**References**

Smart Communities Network, Success Stories
SUCCESS STORY | IDENTIFYING RESILIENT COMPONENTS OF THE SEATTLE-KING COUNTY WATER SUPPLY SYSTEM

The Seattle-King County region has a track record of successfully engaging in activities to ensure preparedness and the safety of citizens in the event of a disaster. In the mid-2000’s, following the attacks of September 11, and in accordance with new federal preparedness laws and regulations, Seattle-King County undertook a process to examine the multiple components of the water resources and utility system, identify best practices, forge partnerships, and work to strengthen the overall resiliency of the water resources sector in the region.

The process undertaken included two main forms of input, a Guidance Team and a broad-based stakeholder workshop. The Guidance Team comprised eleven utilities and five state and local agencies. Its role was to provide guidance on the overall process as well as to identify tangible benefits linked to the results of the process. A workshop, which included a wide range of stakeholders from throughout the area and the Guidance Team, identified and discussed good practices in the water sector and explored opportunities for collaboration and leveraging interdependencies in the case of a hazardous event.

The Guidance Team and the workshop helped generate a list of practices being undertaken throughout the community that met a number of criteria, such as being effective, current, active, and sustainable. In one example, it was noted that utilities that took the time to identify customers with special needs (such as dialysis patients) prior to an event were better able to respond to those customers’ specific needs during the response and recovery period. In another example, some utilities installed new meters for bulk-purchase customers, which not only allowed them to better understand the needs of some of their larger customers, but also helped them better track, and ultimately record and charge for, the water used by these entities.

Water utilities that implemented the practices identified in this process saw many benefits. In addition to being better prepared and able to respond in the case of a disaster, many utilities benefited from reduced operating costs and improved customer satisfaction after implementing these practices.
While the findings of the Guidance Team and workshop were informative, they also highlighted significant opportunities for improvement in the region. In order to broadly implement the identified practices throughout the region, it was suggested that communities focus on creating partnerships, thinking long-term, thinking broadly, and securing support from local leadership.

Overall, the list of good practices that the process developed is an important set of data that will help governments, utilities, and others actively engaged in preparedness in the Seattle-King County region. In addition, it provides a model for other jurisdictions and communities throughout the country to begin to think about how they can improve preparedness and increase resiliency within their utility sectors.

Resilience Insights

- Seattle-King County and other regions have well established best practices in their utility sectors. Case studies, such as this one from Washington (that informed this story; linked below) are a good place to learn about best practices.
- Improved practices offer many additional benefits beyond increased preparedness, such as cost savings and greater customer satisfaction.

References

**SUCCESS STORY | PLANNING BY PROJECT IMPACT COMMUNITIES**

*Project Impact: Building Disaster Resistant Communities* was a nationwide initiative to encourage individuals, businesses, and communities to take steps to prevent or reduce damage before a disaster strikes. Begun in 1997, *Project Impact* communities engaged in a four-step process:

1. Identify the community’s risks and vulnerabilities to disaster;
2. Build public-private partnerships to further the community’s disaster-resistance goals;
3. Take actions designed to reduce or prevent damage, and
4. Communicate the success of those efforts with the community at large.

Fargo, North Dakota’s largest community with a population of 77,000, became the state’s first *Project Impact* community in 1998. Fargo’s risks included flood events from the Red River, flash flooding, blizzards, and severe storms, including tornadoes and damaging straight-line winds. Through the *Project Impact* process, the city explored new options for mitigation; developed stronger, more integrated partnerships within the community; agreed on a wide range of disaster-resistance actions; and built ongoing public support for mitigation policies. Actions taken included:

- Developing and instituting educational campaigns for all ages on disaster risks and prevention measures.
- Conducting a citywide risk assessment and hazard analysis.
- Continuing a variety of mitigation efforts such as property acquisition and drainage improvements to minimize overland flooding throughout the city.
- Installing storm warning sirens.
- Building stormwater retention basins.
- Adding a stormwater lift station.
- Planting living snow fences or shelter belts to reduce the amount of blowing and drifting snow on key roadways.
- Incorporating Project Impact and other disaster-resistance principles in the city’s growth and land use plans.
- Helping to plan tornado storm shelters in mobile home parks to provide protection for residents in the event of a severe storm.
- Upgrading the city’s Emergency Operations Plan.

Photo Credit: Flickr User Zach Heller Photography
Valley City, with a population of 7,100, became the state’s second Project Impact community in 1999. Located in the Sheyenne River Valley in the plains of south-central North Dakota, Valley City had four floods in 10 years and was also at risk for blizzards and winter storms, hazardous materials accidents, dam failure, tornadoes, and other severe storms. The community’s Project Impact initiative fostered a new, high level of collaboration and networking among citizens. The community’s action plan included:

- Installing a permanent backup generator at the city’s water treatment plant to support continuous water service even during a disaster.
- Working with the city’s school system to add disaster-resistance education to its curriculum.
- Developing a community education program to provide citizens with how-to information on protecting their homes and businesses from disasters.
- Working with a local senior’s organization to help develop a neighborhood watch that would assist older residents during a disaster.
- Relocating police and fire radio systems to higher floors of buildings to make them less susceptible to flooding.
- Partnering with the county emergency management office on a local Emergency Plan and Resource List.

Resilience Insights

- Action plans may be expected to include a diverse mix of projects, including developing and delivering education, building new community programs, collaborative planning, infrastructure additions and changes, making facility improvements, instituting new land use practices, and more.
- Diverse projects will involve different groups and interests within the community and perhaps build support more grassroots support for the overall resilience building effort.
- Well supported action plans spread the work and the benefits across the community.

References

An Ounce of Prevention … Building Disaster-Resistant Communities in North Dakota, from FEMA, Journeys: North Dakota’s Trail Towards Disaster Resistance, 2001