

Lessons from the Storm: Case Studies on Economic Recovery and Resilience



*Cossatot River in southwest Arkansas.
Credit: Flickr user MyBiggestFan.*

Southwest Arkansas: Promoting Disaster Resilience and Recovery through Better Data

Thirteen Tornadoes in Three Days

In 2008, a series of storms—including Hurricanes Gustav and Ike and several tornadoes—swept across Arkansas. Seventy-two of the state's 75 counties were affected one or more times over the course of the year. Several counties experienced impacts from three or more natural disasters. Only three Arkansas counties escaped Federal Emergency Management Agency (FEMA) disaster declarations in 2008.²

Hurricane Gustav made landfall as only a Category 2 storm, but it hung over the south-central United States for days and inundated the region with tremendous amounts of water. Hurricane Ike, the third-costliest hurricane ever to make landfall in the U.S., followed just two weeks later, spawning severe weather with tornadic winds.³ Arkansas

experienced 13 tornadoes over a three-day period, two of which occurred within the Southwest Arkansas Planning and Development District's (SWAPDD) service area.

As the storms subsided and the floods receded, communities were left with the daunting tasks of cleaning up and repairing damaged infrastructure. Bridges and culverts needed replacing, roads needed resurfacing, and drainage ditches needed clearing. In parts of Arkansas, such as the economically distressed Mississippi River Delta region, these challenges came on top of the persistent poverty the area has grappled with for decades.

For state, regional, and local leaders, this series of natural disasters made it clear that businesses are tremendously vulnerable to extreme weather. They can suffer costly damage, be cut off from supply lines, lose sales, and experience interrupted operations. In some cases, they may even be forced to close permanently. When businesses and industries fail or falter, the communities they serve can feel serious impacts, ranging from the lack of access to goods and services to the loss of income and jobs. These impacts can be worsened if businesses are not adequately

This case study is part of a series produced by the NADO Research Foundation exploring how regional development organizations¹ have used 2008 disaster recovery funds from the U.S. Economic Development Administration (EDA) to address the impacts of natural disasters, become more resilient to future events, and increase long-term economic competitiveness and quality of life in their regions. This project is supported by EDA under Agreement No. 08-79-04379. Any opinions, findings, or recommendations expressed here are those of the author and do not necessarily reflect the views of EDA or the NADO Research Foundation.



prepared for disasters or lack continuity plans, and if local and regional government partners do not have readily available tools and information to assist them in recovery efforts.

“Ike and Gustav had huge effects on our infrastructure, our businesses, and the health of our state and regional economies,” says Renee Dycus, the executive director of SWAPDD. “After the storms, we were getting calls from some local elected officials, but in the chaos of the recovery process, they had so little time to figure out what assistance was available and ask for it. We would have liked to have had good baseline information to help us identify needs—especially the needs of the small businesses that play such an important role in the economy of rural Arkansas communities—and reach out proactively to local government and business partners.”⁴

Better Data, New Equipment, and Job Training—A Win-Win

Recognizing the need for better economic and infrastructure data that could be used for future disaster recovery efforts, SWAPDD worked with the Austin regional office of the U.S. Economic Development Administration (EDA) to develop a proposal to collect that information. SWAPDD is one of Arkansas’ eight regional planning and development districts. The organization provides economic and workforce development, community planning, transportation, and waste management services and expertise to Calhoun, Columbia, Dallas, Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Ouachita, Sevier, and Union counties. SWAPDD staff had not traditionally been engaged in disaster recovery efforts, but after the 2008 events, a report released by the University of Arkansas at Little Rock’s



Businesses across Arkansas were damaged or destroyed by the 2008 tornadoes. This boat building business in the city of Clinton, in north central Arkansas, was particularly hard-hit. Credit: Vaughan Wingfield, UALR Institute for Economic Advancement.

Key Facts

EDA Funding: \$150,000

Other Funding: \$81,000 in State General Improvement Funds from the Arkansas Economic Development Commission; \$150,000 from the Delta Regional Authority

Project Description: The Southwest Arkansas Planning and Development District used EDA disaster recovery funding to create a comprehensive database containing detailed geographic information about businesses and infrastructure that can be used to prepare for and rebound from natural disasters.

Key Outcomes: Increased economic resilience, faster recovery for businesses and infrastructure systems, streamlined application process for funding and technical assistance, more informed planning, stronger partnerships with local governments, potential replication around the state

Partners: Delta Regional Authority; Arkansas Economic Development Commission; Arkansas Secretary of State; City of Stamps and other municipalities, including local water and sewer departments and emergency managers

Website: www.swapdd.com

Institute for Economic Advancement highlighted the need to expand their services to address these challenges. The report detailed the vulnerability of Arkansas’ businesses to natural disasters, found that their needs are often overlooked during disaster planning and recovery, and identified strategies that local, regional, state, and federal agencies could use to help businesses cope more effectively with disasters.⁵ These recommendations motivated SWAPDD to take a more proactive role in preparing for future events.

SWAPDD received \$150,000 from EDA in 2009 to develop a comprehensive database of information on the employers and infrastructure in the region. For businesses, staff collected data on location, number of employees, and contact information when owners wished to provide it. For infrastructure, they gathered information on the locations of critical facilities and transportation infrastructure, as well as the service areas and customer base numbers of all public water and wastewater systems. All data was collected in a format that could be mapped using ArcGIS.

In many cases, the data SWAPDD needed was not readily available, and staff had to go door-to-door to collect it, which was a costly effort. Leveraging the EDA grant, SWAPDD partnered with the City of Stamps to obtain \$81,000 in State General Improvement Funds through the Arkansas Economic Development Commission. These funds were used to hire a temporary employee for a one-year period, purchase GPS mapping equipment, license GIS (geographic information system) software programs to SWAPDD, and buy a truck for use on the mapping project.



The 2008 tornadoes impacted critical community infrastructure and facilities across the state, like this hospital in the city of Mountain View, in north central Arkansas. Credit: Vaughan Wingfield, UALR Institute for Economic Advancement.

At the end of the year, the employee had gained work experience and had developed a network of contacts with utility system operators who use GIS services. As a result, he was able to get a job as a full-time GIS drafter at an engineering firm. The truck was signed over to the City of Stamps, which needed a new city vehicle, and SWAPDD was left in possession of high-quality GPS equipment and GIS software, which they are using to serve the needs of member communities.

“We are a small community, and a free, essentially new vehicle is a really big deal for us. We’ll probably get 10 to 12 years of use from that truck,” says Ian Ouei, mayor of Stamps.⁶

SWAPDD also leveraged the EDA grant to obtain \$150,000 from the Delta Regional Authority for additional employer and infrastructure mapping and economic resilience planning in four Delta counties within their region.⁷

“Responding Faster to Community Needs”

The benefits of the new database are already clear. First, it will help southwest Arkansas recover from future disasters much faster and more effectively. It establishes a baseline for the region’s economy which can be overlaid with geographic information about a disaster’s impacts—such as floods and tornado tracks—to immediately estimate the number of affected businesses and employees. Additionally, it will help government agencies quickly identify damage to infrastructure systems and mobilize repair efforts. “After an event, we will be able to determine immediately which businesses were affected and need assis-

tance, how many employees are out of work, where our infrastructure needs repairing, and other information that will help us get our economy back up and running,” says Dycus.⁸

The database will also be used to pre-fill applications for post-disaster funding and technical assistance. It allows SWAPDD staff to enter basic information about a community into an application form with a few keystrokes on the computer, instead of having to manually type it out. They have already made use of this function. “The database and the pre-filled applications have already saved us a phenomenal amount of time and allowed us to respond faster to community needs,” Dycus says. “After the 2008 floods, we were able to submit 40-50 applications instead of the ten our staff would be able to write without the database.”⁹

The database’s usefulness isn’t limited to disaster recovery. It provides SWAPDD and local governments with a comprehensive source of detailed and up-to-date information about the economy, physical infrastructure, and demographics that can be used for various planning activities. For example, SWAPDD is using the data to develop Hazard Mitigation Plans for two member counties. The database also helps SWAPDD respond to day-to-day requests from communities. “Recently, a stakeholder called and asked for information about the fire department locations in our region, and we were able to create a map right away,” notes Dycus.¹⁰

Additionally, with the database’s rich information about community characteristics and needs, it can help SWAPDD identify potential federal and state funding opportunities for local partners, submit applications, request letters of support for projects, and fill out environmental review and other forms with the touch of a button. “Southwest Ar-

REVISED_BE_File				
ID	BUS_NAME	BUS_COUNT	LONG	LAT
2458	Arkla Connections	Columbia	-93.243534397	33.26863
2459	At Your Service	Columbia	-93.244503701	33.28099
2460	Atwoods #33	Columbia	-93.217734207	33.26309
2461	auto sales	Columbia	-93.249548687	33.29280
2462	B & D Equipment Sales and Service	Columbia	-93.198465737	33.25896
2463	Bailey Funeral home	Columbia	-93.214865139	33.28104
2464	Bailey's Body Shop	Columbia	-93.248529306	33.29210
2465	Bayou Bistro	Columbia	-93.236788487	33.27757
2466	Beene Family Dentistry	Columbia	-93.23891081	33.27292
2467	Big Boy Toys the interior story dba	Columbia	-93.214502625	33.27167
2468	Big Worm Textbooks	Columbia	-93.235109406	33.28778
2469	Blue Moon Art Studio	Columbia	-93.242059745	33.26692
2470	Brittany's Holiday Shoppe	Columbia	-93.241848859	33.26755
2471	Brookshire's	Columbia	-93.218662432	33.26302
2472	Burke's Outlet	Columbia	-93.244309466	33.26773
2473	Car Mart	Columbia	-93.214254535	33.29307
2474	Carpet one	Columbia	-93.244686688	33.26712
2475	Carter Credit union	Columbia	-93.215333202	33.27594

The database includes information on business location, number of employees, and contact information. Credit: SWAPDD.

kansas Planning and Development District called us out of the blue and asked if we would like to apply for funds for a community center. We didn't have to call them—they knew the funding was available, they knew we needed a community center, and they called us," says Marion Hoosier, mayor of the Town of McCaskill. "We ended up getting a grant for \$208,000 that we didn't even know was out there."¹¹

The database is maintained by SWAPDD as an internal tool, and local governments pay a small monthly fee to keep their water and wastewater information current. SWAPDD's new GIS staff person uses those funds to constantly update the database. "This project will never end," says Dycus. "Our collection of information will be ongoing, and we will continue to update the database so we will always have the most accurate and useful data."¹²

This project has had the additional benefit of strengthening relationships with local water and sewer departments and emergency managers in the region. Previously, SWAPDD had only worked with local water and sewer staff on a limited basis and had never interacted with county emergency managers. These new partnerships help SWAPDD staff better understand community needs, keep them connected with local planning activities, and allow them to coordinate and prioritize District-wide activities.

"Major Players in Disaster Resilience and Recovery"

SWAPDD and its member communities have already received multiple benefits from EDA's investment of disaster recovery funds, but they are not stopping there. This project has shown staff the importance of being engaged in disaster-related issues. "I think planning and development

"After an event, we will be able to determine immediately which businesses were affected and need assistance, how many employees are out of work, where our infrastructure needs repairing, and other information that will help us get our economy back up and running."

-Renee Dycus, Executive Director, Southwest Arkansas Planning and Development District

districts are major players in disaster resilience and recovery," says Dycus. SWAPDD staff are exploring the possibility of incorporating disaster preparedness into their EDA-required Comprehensive Economic Development Strategy and looking at how they can become more active partners with communities to enhance local pre-disaster planning and preparation. Furthermore, as they continue to expand the database, they are considering adding information about flooding and other natural hazards that could help to inform future development decisions.¹³

The benefits of SWAPDD's work are also spreading outside of southwest Arkansas. Seeing how critical GIS information is to communities as they prepare for and recover from disasters, regional planning and development districts throughout the state are looking at how they can replicate this effort. SWAPDD has already shared its database with other regions so they can populate it with their own information. This project is showing that comprehensive, up-to-date data is a critical piece of disaster preparedness and recovery.

This case study was written by Megan McConville, NADO Program Manager.

¹ The term "regional development organization" refers to the multi-jurisdictional regional planning and development organizations that exist throughout the country and are known by various names in different states, including councils of government, regional councils, economic development districts, local development districts, and planning and development councils. These public-based entities play an invaluable role in fostering intergovernmental collaboration among federal, state, and local officials; deliver and manage federal and state programs; and work to solve area-wide issues and to address the fundamental building blocks required for competitive and sustainable communities and economies.

² EDA Disaster Response and Preparedness Plan. University of Arkansas at Little Rock Institute for Economic Advancement. 2010. http://iea.ualr.edu/pubs/2010/10-04%20EDA_DRPP.pdf.

³ Hurricane Ike Impact Report. Federal Emergency Management Agency. 2008. http://www.fema.gov/pdf/hazard/hurricane/2008/ike/impact_report.pdf.

⁴ Dycus, Renee. Personal interview. June 17, 2013.

⁵ EDA Disaster Response and Preparedness Plan. University of Arkansas at Little Rock Institute for Economic Advancement. 2010. http://iea.ualr.edu/pubs/2010/10-04%20EDA_DRPP.pdf.

⁶ Dycus, Renee. Personal communication. August 29, 2013.

⁷ Dycus, Renee. Personal interview. June 17, 2013.

⁸ Dycus, Renee. Personal interview. June 17, 2013.

⁹ Dycus, Renee. Personal interview. June 17, 2013.

¹⁰ Dycus, Renee. Personal interview. June 17, 2013.

¹¹ Dycus, Renee. Personal communication. August 29, 2013.

¹² Dycus, Renee. Personal interview. June 17, 2013.

¹³ Dycus, Renee. Personal interview. June 17, 2013.