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Oklahoma Economic Resilience Strategic Report

August 2014

IN COLLABORATION WITH:

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Oklahoma Insurance Department, and the Greater Oklahoma City Partnership

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OKLAHOMA ECONOMIC RESILIENCE STRATEGY STEERING COMMITTEE:

The Steering Committee was formed in March 2014 with the express purpose of guiding the development of a resilience strategic report detailing meaningful and relevant resilience efforts and supporting those in addition to new stakeholder-based resilience strategies to be carried forward.

STEERING COMMITTEE CHAIR:

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Oklahoma State University
Associated Council of Governments
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Shawnee Economic Development Corporation
Norman Economic Development Coalition
Cleveland County Commissioners
Central Oklahoma Regional Development
Oklahoma Insurance Department

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1.0 INTRODUCTION

This strategic report captures the relevant assets and practices of economic resilience and recovery coordination currently underway in Oklahoma. These practices, integrated into a singular effort, serve as a strong foundation for the state to support additional initiatives that, based on worldwide lessons learned, seek to build the capacity of Oklahoma's economy.

Following the severe storms of May 2013 a recovery process was initiated. One outcome of that process was the desire of local, regional, and state economic development practitioners to build capacity for proactively addressing economic development challenges in Oklahoma. In undertaking the recovery efforts, many local, regional, and state leaders made a few key observations:

- There are regional and state assets that could be more fully utilized and networked, as the foundation for increasing resilience capacity.
- There is a strong capacity for resilience; however, there is the need to build on that capacity, with the ultimate goal of becoming a more resilient region, and state.

This strategic report serves as a first step in building that capacity by convening key stakeholders to integrate and leverage existing efforts that make Oklahoma more economically resilient. The objective of this effort is to identify and integrate these initiatives, build on international best practices, and create proactive initiatives that deliberately build Oklahoma's capacity for economic resilience.

The findings and recommendations in this report do not represent the positions of the US Economic Development Administration or Federal Emergency Management Agency. Instead, they reflect industry practices and the opinions and strategies of the Oklahoma Strong Steering Committee.

2.0 OBJECTIVES

This effort was initiated by the Oklahoma Secretary of Commerce and the Director of Oklahoma Office of Emergency Management with support from the US Economic Development Administration and the Federal Emergency Management Agency. This strategic report lays out an approach to integrate Oklahoma's capabilities and resources to adapt and respond to sudden and severe incidents that impact the economy. Specific goals include, but are not limited to:

- Identify potential economic resilience policy priorities for Oklahoma stakeholders
- Identify existing initiatives underway at the local, regional, and state-wide level that build economic resilience capacity
- Highlight best practices and new opportunities to build economic resilience through collaboration and better information sharing
- Integrate the efforts of the private sector, public sector, and not for profits who have a common interest in meeting the needs of the business community after a disaster or other economically disruptive incident

3.0 OKLAHOMA ECONOMIC RESILIENCE STRATEGIC REPORT

Within the objectives, an overall mission statement can be extracted that captures the relevant and aspirational needs and desires of stakeholders creating and implementing a resilience strategy:

To build capacity among Oklahoma leaders to more effectively....

...Integrate their efforts to support communities and business before, during, and after an incident

...Leverage existing resources to more effectively match need with assets

...Build on existing assets to promote industry diversification, business adaptability, and promote innovation and entrepreneurship

In considering the spectrum of capacity building efforts already underway in Oklahoma, this strategic report puts forth eleven (11) core resilience factors. These factors are derived from a thorough review of state-level resilience initiatives, the priorities of the Governor, and the guidance of the Steering Committee. For each factor, a description of the factor itself is followed by current efforts underway to advance that in Oklahoma, best practices examples, and implementation opportunities. Future efforts on this topic could include subsequent planning efforts with the relevant and timely developments as the state's resilience leaders further opportunities over time.

These resilience factors represent decades of disaster recovery experience, and is informed by a wide array of research on economic recoveries. Each factor represents an aspect of economic mitigation, preparedness, or recovery that could find expression in an economic development program. This list is not exhaustive, but provides a number of best practices that can be used as a checklist for resiliency, as well as a starting point for further resiliency endeavors.

The importance of economic resilience is often cited by national and international sources, and the latest bi-annual Global Risk Assessment produced by the United Nations' International Strategy for Disaster Reduction (UNISDR) is titled "From Shared Risk to Shared Value: The Business Case for Disaster Reduction." It makes the case that, at its core, disaster resilience is an economic issue, and that private and public sectors should work together to address risk. As the world becomes more economically interdependent, the impacts of disasters in one global region can have significant negative impact on businesses in another. It also makes the case that both resilience and recovery are investment opportunities that can produce significant returns in increased competitiveness and sustainability.¹

The June 2014 issue of *Risk and Insurance* magazine devotes its cover story to resilience. In the article, emphasis is placed by leading experts in the insurance and reinsurance industries on the interconnectivity and interdependence of companies and communities in increasing resilience. The article states that a dialogue has begun among both corporations and public entities on the concept of resilience and how to achieve it. "What we're finally starting to notice is a shift towards the idea of comprehensive risk management," said Alex Kaplan, vice president for

Global Partnerships at reinsurance leader Swiss Re in the article. “It’s not just about your own resilience, but it’s about the community around you.”¹

From these sources, it becomes apparent that resilience is becoming a factor in business investment decision-making. According to an official with the Oklahoma Department of Commerce, over 80% of industrial prospects ask about the state’s ability to deal with disaster events and their impact on business activity. An informal survey of national site location consultants at a national corporate site investment event (Roundtable in the High Desert, February 3-6, 2014) indicated a similar result that are being asked to determine risk from disasters as a factor in the investment decisions of their corporate clients. Economic resilience also includes building capacity and diversification initiatives. Capacity is fostered by policies that encourage greater competitiveness, such as counseling and technical assistance, and research that may lead to innovation in products and services. Collaboration also may contribute to economic capacity via ability of firms to work with each other in solving competitive issues or pursuing business opportunities. Diversification includes fostering entrepreneurship, recruiting new firms and creating an environment conducive to new types of industries, and assisting existing companies in innovating their products and entering new markets.

In the Tulsa, OK region, the importance of resilience has been recognized and addressed with success. Major floods had impacted the area for years. The Memorial Day flood of 1984, the city’s worst ever, led city leaders to make a commitment to mitigating rather than continuing to rebuild over and over. The Project Impact program, launched in the aftermath of the flood, led to the formation of a non-profit organization titled Tulsa Partners, Inc. whose mission is to developing partnerships to create and administer high-impact resilience programs that better prepare the Tulsa region for disasters. By building public/private partnerships, Tulsa Partners, Inc. aspires to:

- Promote and advocate for sustainability and disaster resistance;
- Provide education programs;
- Develop mentoring relationships;
- Recognize and celebrate community efforts; and
- Act as a clearing house for expertise and information.

In addition, the Partnership teamed with the Tulsa Chamber of Commerce to create a forum specifically to meet resilience and recovery needs of the area’s small business community. The Disaster Resistant Business Council, or DRBC, provides information on latest best practices in business continuity, serves as an information and communication portal for areas businesses, and links small businesses to larger mentor businesses who can help them become more prepared. Tulsa Partners and the Tulsa Chamber of Commerce are both represented on the Steering Committee, and stakeholders both regions are committed to a statewide focus on resilience.

3.1 RESEARCH AND KNOWLEDGE BUILDING

3.1.1 DESCRIPTION

Research is defined as “studious inquiry or examination; *especially*: investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws.”¹ From that definition, it may be inferred that research consists of revising or creating new theories regarding a particular subject. Research is the heart of innovation, and the fundamental ingredient for building knowledge and expertise. Building a knowledge base on resilience, best practices, and innovations is vital to foster new discoveries that may give a state a competitive edge. Through research a state can develop a best practice model that will help the state gain recognition. The continued development and knowledge transfer around the most effective methodologies and practices is critical when building a resilient economy. In Oklahoma, there are existing efforts in research and knowledge building that may be leveraged to provide the foundation for greater economic resilience throughout the state. Research and knowledge building includes the following sub-factors:

- a. Identifies robust data system concerning the local economy and local firms. Publically accessible, multi-faceted data sources such as www.statsamerica.org or cluster-specific in-depth data such as that found on www.clustermapping.us can provide a solid foundation for evaluation of economic resilience in the state.
- b. Includes SWOT (strengths, weaknesses, opportunities, threats) analysis or other evaluation of economic and industry-specific vulnerabilities, including vulnerability to disasters, or opportunities for growth. This applies to all industry sectors, with more emphasis on those with a significant presence in the region or state, including those involved in preparedness, response, or recovery from disruptive incidents.
- c. Demonstrates understanding of best practices in preparedness and recovery for key industries. Preparedness encompasses business continuity and recovery planning, but also involves engaging key outside sources of response and collaborating with other local businesses, employees, suppliers, and customers to strengthen all aspects of operational resilience.

3.1.2 OKLAHOMA APPLICATION

Research institutions in Oklahoma feature world-class inquiry and investigate a wide variety of fields, including resilience, which contribute to the development of new technologies and risk management. Some of the key players include the University of Oklahoma (OU), Oklahoma State University (OSU), the National Severe Storms Prediction Center (NSSPC), and the National Severe Storms Research Center (NSSRC).

¹ <http://www.merriam-webster.com/dictionary/research>

Information that contributes to building a knowledge base stems from sources such as insurance companies, non-profit organizations such as the Red Cross, and businesses that work in the preparedness and recovery sector. Local successful efforts led by interested parties in Oklahoma set an example and precedent of the type of programs that may be replicated as they have previously had a positive impact on the business sector. In addition, this collection of information allows performing an analysis to identify areas for growth and unmet needs. Both successful and unsuccessful efforts are valuable as lessons learned, and contribute to building a knowledge base that serves as a resource to identify best practices.

The priority of the research and knowledge building factor is to develop new technologies and successful methods that contribute to preparedness and recovery, reduce damage to infrastructure, protect against loss of life, and strengthen the economic sector. Research and knowledge of the resilience factors is important because the collection of information informs policy through identification of best practices for economic capacity. There are efforts underway at many Oklahoma universities.

Some of the leading research projects and assets of the University of Oklahoma include:

- Center for Risk and Crisis Management (CRCM): This research addresses how societies approach emergency management in different stages including preparation, response, and recovery.
- Department of Civil Engineering and Environmental Sciences: Researchers are conducting experiments that address infrastructure and explore how to strengthen structures such as bridges and buildings to withstand severe weather.
- College of Architecture: focused on the Compressed Earth Blocks (CEB) project that seeks to compare the sustainability of conventional wood frame homes to compressed earth block homes. The goal is to determine if the CEB system is more resistant to wind damage.
- College of Continuing Studies: established the Resilience Development Institute (ReDI) which is focusing professional development and certification efforts to enable local government leaders and private sector practitioners with practical and actionable recovery and resilience-building skills.

The economic development community expressed concern regarding the vulnerability and risk for structural damage by extreme weather. The work of the Department of Civil Engineering and Environmental Sciences and College of Architecture contribute with innovations that can lead to more effective hazard mitigation, increasing resilience of structures, and strengthening infrastructure in Oklahoma. Innovations in communication are being developed by the Center for Risk and Crisis Management that with increased collaboration between businesses, communities, and the emergency management field can continue to expand Oklahoma's resilience capacity. Innovations may benefit the economy and give businesses a competitive advantage.

Research labs can provide a good foundation for innovation and commercialization opportunities. The University of Oklahoma also houses the National Weather Service's National Severe Storm Research Lab, which has four research projects currently underway in Oklahoma. They are:

- Flooded Location and Simulated Hydrographs Project (FLASH): Focuses on the study of flash floods or rapid increases of water resulting from intense rainfall that pose significant threats to infrastructure. The FLASH project was born in 2012 and its primary goal is to improve accuracy, timing and specificity of flash flood warnings in the US. FLASH is designed to have multiple observations of rainfall and to yield probabilistic output.²
- NOAA Hazardous Weather Testbed (HWT): managed by the NSSRC, the National Severe Storm Prediction Center (NSSPC), the National Weather Service center of Oklahoma City/Norman, and the Weather Forecast Office. Researchers and forecasters work side by side to evaluate emerging research concepts and tools in simulations. This includes experimental forecast and warning generation exercises. They develop application, and transmission of advance science and technology to increase lead-time and accuracy for weather and water warnings and forecasts. There are several programs under the HWT including HWT Experimental Forecast Program (EFP), HWT Experimental Warning Program (EWP), and Annual Spring Experiment (SPC).³
- Multi-Function Phased Array Radar (MPAR) Project: This project was established to prove that by utilizing a single weather radar, it was possible to perform aircraft tracking, wind profiling, and weather surveillance. This radar is tested in Norman.⁴
- 3DVAR: This system automatically detects and analyzes supercell thunderstorms. The 3DVAR system uses data from the national WSR-88D radar network and computer models to automatically locate regions of thunderstorm activity. It is able to identify deep rotating updrafts that indicate a supercell thunderstorm every five minutes.⁵

According to Dr. James Kimpel, Scientist Emeritus of the National Severe Storms Laboratory, the development of Phased Array Radar may be the most significant improvement in radars since the development of Doppler radar. Dr. Kimpel believes that the Array radar may eventually replace the Doppler system worldwide. The Array radar has no moving parts, so it can withstand harsh climates and may find its greatest potential in developing nations. This scientific discovery holds promise for increasing resilience in Oklahoma, and for developing potential economic opportunities in the development, manufacturing, and maintenance of this system.

Oklahoma State University is also engaged in research and knowledge building efforts.

² <http://blog.nssl.noaa.gov/flash/>

³ <http://hwt.nssl.noaa.gov/>

⁴ <https://www.nssl.noaa.gov/projects/mpar/>

⁵ https://www.nssl.noaa.gov/users/jgao/public_html/analysis/RealtimeAnalysis.htm

- OSU is conducting research; the office of Environmental Health and Safety provides comprehensive training on fire safety, hazard communication, and several other disaster-related programs.
- OSU is leading continuity efforts in the rural and agribusiness sectors by encouraging collaboration of relevant stakeholders and participation in the national Extension Disaster Education Network. Furthermore, they have recognized that among the overall economic and business community there is a lack of awareness of the importance of rural areas and agribusiness, the interdependence of industries, and that other economic sectors are dependent on them. OSU is looking to champion these efforts by educating them, highlighting interdependence, and encourage relationship building.

Creating awareness on the agribusinesses and rural areas can increase resilience in one of the states' most important industries. This step may position Oklahoma as a leader in innovation when it comes to protecting crops, livestock, and companies that manufacture food products for the market. As the global population increases an adequate supply of food is critical, Oklahoma could become a leader on agricultural resilience worldwide. As disaster risk reduction becomes more critical to companies, leveraging research assets may turn Oklahoma into an attractive place to invest as efforts to mitigate risk disaster are implemented. Companies worldwide may benefit through the growth of a new industry sector based on resilience.

Integrating these assets into recovery will require development of comprehensive pre-disaster recovery planning policies. Providing a directory of assets with descriptions and contact information for stakeholders engaged in planning can provide a bridge towards integration of assets. In addition, connecting these assets with companies engaged in resilience activities can build their own resilience and lower disaster risk. Finally, providing linkages between these and companies directly involved in the resilience industry can provide technology transfer and commercialization opportunities that may give them a competitive edge in the marketplace and position Oklahoma as a hub for the resilience industry.

3.1.3 BEST PRACTICES

Though preparedness for disaster is not a new notion, recognition for the importance of developing and building resilience is. For instance, education and awareness are integral in preparing for disasters in Japan. The Japanese government teaches survival skills to children as young as elementary school age, which was credited with saving lives during the 2011 tsunami.⁶

According to Dr. Juan Pablo Sarmiento of Florida International University, the academic community, private sector, and governments need to work together to share information on risk assessment. Data should be able to be accessed by interested parties who are looking to build resilient human, digital, and physical infrastructure. In addition, advances made in construction and engineering by leading institutions contribute to ensuring repair and reconstruction work is

⁶ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

seismic resistant, and that it can withstand severe weather.⁷ Aris Papadopoulos, CEO of Titan America, stated that the best way to effect change in public opinion and public policy is through education. Without educating the community, recovery will not be smarter and will not contribute to building resilience for future incidents. Mr. Papadopoulos shared that after Hurricane Katrina he noticed that lack of public education was evident as the coastline was being rebuilt the same way it had been before. No measures were taken in construction to strengthen the infrastructure and prepare for future disasters—“people have short memories,” he said.⁸

3.1.4 IMPLEMENTATION OPPORTUNITIES

- Coordinating and integrating research and knowledge-building activities could increase the effectiveness of resilience efforts and lead to more opportunities in the development of new resilience investments.
- The Steering Committee should consider creating a research and knowledge building council, with representatives from all educational institutions engaged in research and learning statewide, with the mission of coordinating and leveraging these assets.
- The Council could work under the existing Oklahoma State Regents for Higher Education Board economic development committee, which has been active in promoting linkages between institutions of higher learning and economic development. This group has capacity to undertake such an initiative and could work with the Steering Committee to develop protocol for inter-institutional collaboration on resilience and resilience education.

3.2 PLANNING

3.2.1 DESCRIPTION

Resilience and recovery planning is defined as developing a set of strategies to assist a community in becoming more resistant to the effects of an incident, and to be more effective in rebuilding after an incident. Pre-incident resilience and recovery planning can also be thought of as creating a blueprint for effective reconstruction of the community after a disaster. There are a number of activities that communities can engage in to address post-incident recovery. Resilience and recovery planning is a shared responsibility between individuals, private businesses and industries, and local, state, and federal government. Prevention, mitigation, or loss reduction activities such as relocating critical facilities out of harm’s way, can also help communities become more resilient by addressing possible damage before an event occurs.⁹

Resilience planning should be integrated with other planning efforts in the community such as land use plans and hazard mitigation plans, to leverage efforts, ensure effective response and recovery, and avoid duplication of efforts. Key elements of resilience planning should be

⁷ Ibid

⁸ Ibid

⁹ University of Oregon Partnership for Disaster Resilience, Post-Disaster Recovery Planning Forum: How-To Guide, 2007, p. 4

included in regional and state planning processes for economic resilience, as part of an economic planning initiative or mitigation planning effort.¹⁰ Comprehensive resilience planning should also have stakeholder engagement including, but not limited to, chambers of commerce, industry organizations, and workforce groups.

When planning, pay close attention to vulnerable populations because they are often affected the most. In many societies there can be an unequal distribution of risks, and recovery plans should allocate resources where they are most needed to promote economic equity.¹¹ Finally, resilience planning should record and report on implementation and status of projects. Flexibility should exist to allow for periodic modifications that result from changing circumstances in the community, region, or state.

Planning includes the following sub-factors:

- a. Includes or references local plans for mitigation, preparedness, response, and recovery. Current resilience-oriented planning efforts should always be investigated and included as a basis for additional planning.
- b. Identifies points of integration with other planning efforts in the community (i.e., land use plans, hazard mitigation plans, etc.). Successful resilience efforts build on the foundation of existing and prior planning efforts, incorporating resilience into planning efforts as they may be updated or recast. Ideally, resilience would be a cornerstone of any planning effort.
- c. Demonstrates participation in regional or state planning processes for economic resilience, as part of a separate economic planning initiative, or as part of mitigation or preparedness planning efforts. Resilience planning should encompass all levels from neighborhood to community to regional to state. It should be noted that regional economies do not necessarily follow political boundaries.
- d. Exhibits evidence of broad or significant stakeholder engagement (including Chambers of Commerce, industry organizations, workforce groups, etc.). Resilience should involve stakeholders representing the entire community, including nonprofit and social-service organizations.
- e. Provides evidence that vulnerable populations have been adequately engaged and represented in plans. Successful economic resilience planning takes into account those most affected and attempts to minimize negative economic consequences by addressing their specific needs.
- f. Tracks the extent to which plans have been implemented or active projects have been initiated /completed. Metrics provide both accountability and recognition for accomplishments. Tracking progress is critical to maintaining momentum.

¹⁰ Ibid, p. 4-5

¹¹ Godschalk, D. Natural Hazard Review. Urban Hazard Mitigation: Creating Resilient Cities. August 2003: 136-143.

3.2.2 OKLAHOMA APPLICATION

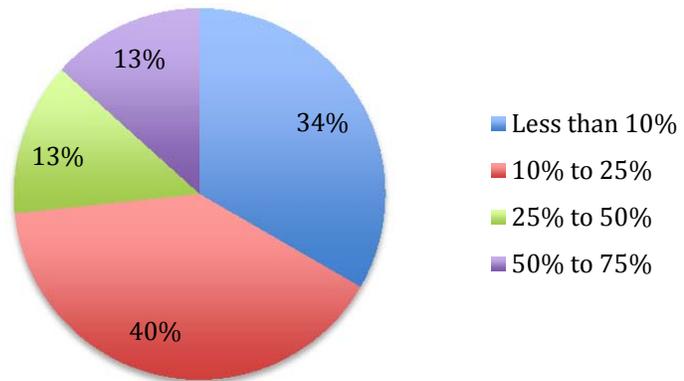
In Oklahoma, several resilience and recovery planning efforts are underway. According to the community and economic development surveys conducted by Oklahoma Business Roundtable between May 1-15, 2014, two-thirds (66.6%) of respondents indicated that their community has a plan in place to respond to the economic impact of incidents. Also, 96% of the respondents indicated that their citizens were prepared for disasters. However, only one-third (33.3%) of economic development professionals responding indicated that more than 25% of their stakeholders have resilience and/or continuity plans in place and are ready for disasters, even though 73.3% said that such efforts were underway.

This indicates that businesses are not engaged in resilience planning, and that many communities are better prepared than businesses to withstand incidents and their effects. There is an opportunity to incorporate resilience planning in the economic and business sectors in Oklahoma. Complete survey results and analysis can be found in Attachment A.

Resilience planning should address the physical and social aspects of incidents, since focusing on just one will yield a one-sided perspective for recovery. Some of the physical planning steps communities may take to build resilience include identifying hazardous areas and moving new developments and businesses elsewhere. Building connected, resilient neighborhoods is equally important—a city without resilient neighborhoods will be extremely vulnerable to disasters thus

planning should include both aspects.¹² For Oklahoma’s economy, resilience planning is becoming more important for corporate risk management executives and senior management. A recent article in *Risk and Insurance* magazine highlighted the importance of planning for corporate investment and competitiveness. Alex Kaplan, Vice President of Global Partnerships for Leading Reinsurer Swiss Re, said “It’s not just about your own resilience but it’s also about the community around you. For instance, if you have, say, a corporation that’s based in a city. They could have state-of-the-art technology and could be insured to the teeth, but the city around them ends up collapsing.” Bob Petrilli, Head of North America Corporate solutions for

In your estimation, what percentage of your stakeholders (e.g. businesses, members, constituents, etc.) have continuity/preparedness plans and are ready for disasters?



¹² Godschalk, D. Natural Hazard Review. Urban Hazard Mitigation: Creating Resilient Cities. August 2003: 136-143.

Swiss Re added “A corporation can’t really survive and thrive unless it’s in a location that has a resiliency plan, and if you’re not talking about that together, then you’re never going to get there”, he said. “This public-private partnership type of approach and thought process...is critically important.”¹³

3.2.3 BEST PRACTICES

The New Orleans Louisiana Unified Master Plan is an example of a best practice in resilience planning after a major disaster. This recovery and resilience planning effort was implemented in New Orleans following hurricanes Katrina and Rita. Catastrophic effects of the hurricanes forced rebuilding of all aspects of society and governing—efforts going beyond repairing infrastructure. Katrina exposed many societal and economic gaps, along with pre-existing physical conditions in New Orleans that contributed to a daunting recovery agenda.¹⁴ After a disjointed start, the state of Louisiana stepped in and called for a single comprehensive recovery and resilience plan known as the Unified Master Plan, which continues to lead recovery today. Katrina set the stage for residents to become citizen leaders, who became fueled with a deep desire to rebuild their home and city. There was an unprecedented level of citizen participation in public meetings, sophisticated requests by the public on civic issues, and new coalitions that called to end government corruption, violent crime, and poor health outcomes. The urgency to fix neighborhoods more equitably led to the rise of new community organizations and non-profit housing developers. Some of the positive results include a series of new charter schools, a network of community-based primary care centers for low-income patients, a more efficient criminal justice system, and new ethics reforms to make local government more accountable to taxpayers. Some of the hard-hit neighborhoods are being rebuilt with a focus on sustainability.¹⁵

The remaking of New Orleans and the Gulf Coast is inspirational as it shows the power of national organizations and building partnerships between state and local leaders. The recovery efforts underway in New Orleans and parts of Mississippi were not possible without the input of local communities. Local philanthropies and non-profits are championing reforms in education, planning, housing, and coastal restoration. National experts provided direct assistance in criminal justice reform, economic development, and neighborhood revitalization. Federal agencies have been credited for their constructive working relationship with the state and city.¹⁶

This example of recovery and resilience planning succeeding under very difficult circumstances serves as evidence of the value and power of collaborative action. The unification of planning efforts and building partnerships between non-profit and philanthropic organizations with local,

¹³ Kerr, M. “Building Resiliency in the Face of Climate Change”, Risk and Insurance, June 2014, p. 26

¹⁴ Liu, Amy, “Rebirth on the Bayou—Lessons from the New Orleans and the Gulf Coast”, The Brookings Institution, August 29, 2011

¹⁵ *Ibid*, p. 2

¹⁶ *Ibid*, p. 3

state, and federal resources resulted in a more economically, physically, and socially resilient city. Although the recovery is not complete, progress has been remarkable.¹⁷

Another best practice example was set by Alabama as they suffered through a series of deadly tornados in April 2011. Experts shared some of the lessons they learned and recommendations for planning for future disasters. Their primary recommendations were:

1. Plan to increase the number of storm shelters and engage in campaigns that publicize their location. After the Alabama tornados, it became evident that there were not enough shelters and that people did not know their locations. Though compiling an inventory of shelters may not be feasible, efforts to identify potential shelters should be implemented. Local emergency management agencies should have a list of suitable shelters, as well as potential substitutes including public buildings, private businesses, churches and other sturdy structures. Authorities should be prepared and able to answer the public with information on safe places to go during disasters.¹⁸
2. Offer incentives to add safe rooms to homes and businesses. Safe rooms offer short-term refuge for a few people during tornados or hurricanes. They can withstand severe weather, even if surrounding structures are destroyed. Financial incentives exist that can help with the cost. FEMA offers grants for reimbursement up to 75% of the costs to homeowners using disaster assistance funding.¹⁹
3. Establish building codes and statewide fortification standards for construction of new homes. Experts agree that homes that are in the center path of E-4 and E-5 tornados cannot generally withstand the winds. However, those on the edges might if dramatic improvements in safety and construction are implemented. Alabama currently does not have a statewide safety standard, but is working to adopt one. Another measure that can contribute to resilience is a statewide inspection and compliance process to ensure that homes are built to the highest resistance safety standards. This would be very difficult to implement because of limited funding, but a pilot project could be launched in some locations as a start.²⁰
4. Work towards power continuity by establishing the Alabama Utility Workgroup for Disaster Response, which is to be composed of representatives from water, telecommunications, natural gas and electricity providers. Their purpose is to share best practices and improve planning and preparedness.²¹
5. Ensuring that there is power is essential, as both businesses and homes are unable to function without power. This can be achieved through having emergency standby generators in place. After the tornados hit Alabama, people, businesses, and the public sector all realized that they needed more generators. One idea was to extend tax incentives to businesses that offer services during power outages. Rapid response and recovery may be negatively impacted when essential services are lacking. Gas stations

¹⁷ "New Study Outlines Strategies for Sustaining New Orleans Region's Growth", Sundra Foundation Press Release, 2014

¹⁸ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

- need to provide fuel, pharmacies provide needed medicines, groceries stores need to preserve refrigerated goods, and banks allow people to access funds they need to acquire much-needed goods during disasters.²²
6. Develop ongoing awareness campaigns and communication methods to ensure that the community is always prepared. Some of the methods that can be developed include educating students about storms and shelters and make it part of their curriculum. Offer checklists for emergency tool kits to the population. Encourage people to sign up for emergency alerts delivered through text messages and social media.²³

These best practice examples are relevant to Oklahoma because they highlight the specific actions communities need to take to minimize damage. Engaging in recovery planning that focuses on building resilience in pre-disaster recovery, incorporates recovery strategies before a disaster strikes, and mitigates risk to make communities more resistant to disruptive incidents are investments that can produce significant returns for communities in Oklahoma.

3.2.4 IMPLEMENTATION OPPORTUNITIES

An initiative that is now in the early planning stages may capitalize on those opportunities. The University Baptist Church in Shawnee has engaged in a neighborhood relationship rebuilding process based on the model created by a foundation in Louisiana called Community Renewal International (CRI). An associated group at the University of Oklahoma Center for Terrorism and Disaster (OUCTD) has used this model to develop a relational-based framework for resilience called Communities Achieving Resilience Together (CART) Toolkit. The CART toolkit and CRI's models include provisions specifically for economic resilience.

The Shawnee Economic Development Corporation is supportive of this combined effort. The intent is to achieve greater connectivity, improve communication, and build trust between businesses, the community, and support organizations. This could lead to greater capacity to effectively implement community and economic resilience. The Oklahoma Strong Steering Committee has adopted community-based economic resilience as a core strategy.

In order to facilitate and encourage integration of planning efforts for increased effectiveness, the Steering Committee may consider establishing a Resilience Planning Consortium. The consortium could affiliate with both the Oklahoma chapter of the American Planning Association and the Oklahoma Urban Land Institute chapter, and could encourage pilot projects like the Shawnee effort. through assistance in obtaining funding and other resources. The goal would be for Oklahoma to be a resilience planning "living laboratory", producing innovations in resilience that could be exported worldwide, bringing positive attention, and revenue, back to the state.

²² Ibid.

²³ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

3.3 GOVERNANCE

3.3.1 DESCRIPTION

Governance within the context of an economic resilience strategy is considered to be at a higher level as it encompasses the processes by which the strategies and subsequent initiatives are managed. The concepts of leadership, authority, accountability, transparency and stewardship are critical to strategic governance.²⁴ In the realm of public-private partnerships these concepts are based around three objectives:²⁵

- Establish a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities.
- Ground the selection of strategies in value for money.
- Use the budgetary process transparently to minimize fiscal risks and ensure the integrity of the process.

In pursuit of those concepts, the governance structure of such a partnership should reflect diversity in both geographic terms and in size and economic composition of communities, counties, and regions represented. It should also provide representation from the private, non-profit, and public sectors. The structure would encompass expertise in a majority of the strategies and provide opportunities for leadership development and continuous practice of governance principles.

Governance includes the following sub-factors:

- a. Identifies an office or team tasked with responding to economic incident response and/or recovery. Organizational management is critical in minimizing economic shocks and speeding the process of assessing economic damage and taking action to repair and restore.
- b. Demonstrates integration with other relevant regional, state, and federal economic response and recovery entities. Effective partnerships are essential to meet the complex requirements of rebuilding economic capacity after a disruption.
- c. Includes or acknowledges the role of non-profit organizations, volunteer organizations, community foundations, and non-traditional lenders to support resiliency building and recovery efforts. Leveraging resilience-oriented assets may provide new and unexpected opportunities for developing economic capacity.
- d. Includes an assessment of community organizations and their ability to manage and contribute to post-disaster recovery programming.

²⁴ <http://www.enterprise-architecture.info/Images/Documents/mfo-governance.pdf>

²⁵ <http://www.oecd.org/governance/oecdprinciplesforpublicgovernanceofpublic-privatepartnerships.htm>

- e. Cultivates public-private partnerships to foster mutual support for economic development goals. Resources are available to establish and manage PPPs for more effective resilience.

3.3.2 OKLAHOMA APPLICATION

The Steering Committee formed to guide development and implementation of this strategic report serves as a strong, diverse basis for promulgating long term economic resilience initiatives. This group of interested stakeholders has been working on economic resilience capacity since September 2013. The Steering Committee is currently meeting bi-weekly, and discusses plans to strengthen the economy, business, economic assets and resources through strategies and outreach. The intent is to lead statewide efforts to strengthen economic resilience by utilizing the available assets and resources. In addition, the existing public-private partnership arrangements the Oklahoma economic development community have employed serve as a strong foundation for carrying resilience initiatives forward. Some examples like the Oklahoma Business Roundtable, Greater Oklahoma City Chamber of Commerce, and the regional economic development partnerships focus much of their energies on harvesting positive economic growth outcomes through deliberate organizational efforts.

3.3.3 BEST PRACTICES

Advocates note that collaboration between the private and public sectors is invaluable in building resilience. Learning from failure is a very expensive, and one way to make progress is by building strong relationships before disasters. Working in isolation is not very effective; rather, through collaboration redundancies can be avoided while building comprehensive risk resilience across economies and societies. Building relationships between the private and public sector can be extremely helpful. For instance, in Mississippi, Wal-Mart made efforts to build relationships with state emergency managers, which allowed them to bypass some transportation restrictions post-incident, and enabled them to get necessary equipment to affected areas so Wal-Mart stores could open to the public. Existing restrictions, such as weight limits on highways, would have hindered the delivery of generators, which were key in the recovery process.²⁶

In Japan, the Mayor of the city of Sendai, Emiko Okuyama, argues that building relationships between the private and public sector is vital for recovery because preparedness and recovery are shared responsibilities of the community. She argues that after the earthquake and tsunami of March 2011, Japan learned the importance of sharing information between government and the private sector. However, Mayor Okuyama noted the importance of self-efficacy as well. In Japan, local governments have authority over their infrastructure, which allowed Sendai to engage in rapid response and to address the acute needs of the community.²⁷

²⁶ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

²⁷ Ibid.

3.3.4 POTENTIAL ACTIONS

In today's world of instant mobile communications, private telecommunication companies play a key role. In the U.S., the private sector operates and owns 85% of telecommunication infrastructure. Failure to build these relationships could have a negative impact on disaster recovery efforts. In order to build strong relationships, trust must be established ahead of time. That is why it is important to invest in those efforts before a disaster strikes. A model that may contribute to building trust is co-design, or disaster planning that is designed by the private and public sector and incorporates their views, interests, and strengths. It is also important to be patient and be courageous when investing in building relationships that will likely take a long time to develop.²⁸

Co-designing recovery is an important next step. Yutaka Saito, President and CEO of Hitachi, argues that the relationship between private and public sector is symbiotic. They should have a collective vision for reconstruction because they complement each other. The public sector tends to the needs of the population, while the private sector provides needed resources and skills.²⁹

The Steering Committee has begun discussing the possible creation of a 501(c)3 to formalize their efforts into an organization that can launch initiatives pre and post incident. The Steering Committee has also recognized the contributions and vital role that non-profit organizations, such as the Red Cross and Tulsa Partners, have had in preparedness and recovery, and are working to bring them into the table. Moreover, they hope to partner with other community organizations that are contributing to the overall economic recovery and building resilience, namely the Volunteer Organizations Active in Disasters (VOAD) that are based in Oklahoma. The Steering Committee has already discussed the possibility of pursuing grants to support their efforts from sources such as the Rockefeller Foundation's "100 Resilient Cities" initiative, or the Gates Foundation's rural resilience grant program.

Pre-Disaster Recovery Planning (PDRP)

Within the governance activities, there is a need for an initiative that builds recovery capacity to be responsive to economic incidents. Within the resilience spectrum, one of the most critical component is pre-disaster planning for post-disaster recovery efforts, known as Pre-Disaster Recovery Planning, or PDRP. The PDRP is used by economic development practitioners to prioritize economic needs and plan/coordinate with stakeholders prior to disruptive incidents, so that in the event they occur, recovery efforts could be more effective.

A PDRP could operationalize a multi-organizational team of Oklahoma stakeholders whose focus is the economic impacts, relief, and subsequent recovery after a major incident. This becomes a practical application of resilience—and in the process build capacity for recovery through development and deployment of the Steering Committee members as a well-trained and prepared economic recovery team.

²⁸ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

²⁹ Ibid.

Within the economic PDRP, nine specific recovery areas should be addressed. A brief description, potential resources for implementation and possible actions are given for each. The nine recovery areas are as follows:

1. Community Planning Capabilities

Description: There are often many “good ideas” for what the economic recovery should look like. If these ideas aren’t deeply integrated in the community planning process they are likely not sustainable. Uncertainty will be pervasive for why will constitute the “new normal.” This uncertainty can be better informed by the planning process.

Actions: Actions include conducting an inventory of local recovery plans and building an overall framework focused on economic recovery. The overall plan should be developed with input from the Steering Committee through a task force composed of planning, economic development, and business leadership.

2. Cash Flow Capabilities

Description: Because of the likelihood of communication breakdowns, cash on hand is vital. Post-Katrina, access to money from local banks was limited if not shut down altogether in the Greater New Orleans area. The availability of physical cash to conduct basic business transactions post-incident is often the most immediate short-term recovery challenge, and should be prepared for. In addition, catastrophic damage to commercial centers can restrict or even eliminate commercial activity. The lack of commercial activity could provide significant harm to businesses not physically impacted by the incident, but their lack of cash flow could be just as damaging to the firm.

Actions: Potential actions to prepare for cash flow challenges would be keeping an updated list of local and national Potential Resources programs to tap into when an incident strikes. This list would ideally exist in Cloud storage or online as well as on portable hard drives to increase accessibility if communications are affected. It would be updated periodically to account for new programs or entities and keep the point-person’s contact information current.

3. Business Resumption Capabilities

Description: Resuming normal operations post-disaster will differ by industry, but physical/employee losses can be devastating. Business-level risk/opportunity decisions may prohibit rebuilding and departure of businesses may cause significant (but highly localized) economic impact. However, planning for disasters can increase the chances that a business will survive them – often a positive business environment pre-disaster will be an indicator of the outcome post-disaster.

Actions: Potential actions to increase the chance of resuming normal business operations are having strong ties to the business community and a direct line of communication to aid. If businesses fail after an incident, it will have a ripple effect in the community: loss of jobs, loss of

economic growth, loss of variety, loss of activity, loss of community engagement. The above agencies should be researched and contacted prior to an incident and there could be an online portal for business owners to see options for aid when disaster hits.

4. Finance and Insurance Capabilities

Description: Availability of capital/credit can be a “make or break” issue for many businesses. Disasters introduce risk into the market place, that risk can tighten lending practices. To plan for this, businesses should know their options and organizations should be prepared to act quickly-timing is critical.

Actions: After a disaster, when businesses may need an advance to recover from losses, there is risk of becoming discouraged after looking to usual market lenders for capital. Instead, businesses can explore the above options for a more stable solution in times of need.

5. Workforce Development Capabilities

Description: Workforce dynamics change post-disaster. There can be shifts in surplus of retail workers, but a deficit in construction trades. Unemployment caused by the disaster can create workforce-retraining opportunities, especially for local workers.

Actions: Actions to prepare for an idle workforce would be to have retraining programs poised to accept an influx of workers in construction and other disaster recovery industries. Their skills can be appropriated to more long-term trades in the community and avoid an increase of unemployment.

6. Economic Development Capabilities

Description: Generally, economic development projects are designed to create jobs and promote private investment. If still relevant post-disaster, those projects should be accelerated. Economic development initiatives should focus on not just replacing what was lost but on being “entrepreneurial” with the disaster. It should ask the community, what are our opportunities for rebuilding better than before?

Actions: Potential actions to take are to enable communities’ economic development organizations and task them with creating innovative possibilities pre-disaster. They should take into account local resources and strengths along with the communities’ weaker points. Once the need for rebuilding arises, there will be an arsenal of data and ideas to draw on moving forward.

7. Small Business Capabilities

Description: Small businesses are disproportionately impacted by disasters (approx. 40% of all small businesses impacted by disasters fail within 2 years). Insufficient capital access, cash flow, and business management skills are common vulnerabilities.

Actions: Actions that would increase the potential for small businesses to survive disaster include: ensuring all businesses have a contingency plan in place for their physical assets and

staff; creating an online portal for easy access to aid and Potential Resources; and having staff in place to run a marketing campaign that will involve small business owners in government aid.

8. Marketing and Communications Capabilities

Description: Disaster-impacted markets tend to have more uncertainty and attraction issues – branding and regionalized business attraction can become an anchor recovery tactic. Open, frequent, and meaningful communication with business community throughout response and recovery will improve business “up-time” and their likelihood to stay.

Actions: It is critical for the state’s recovery to show they can bounce back after a disaster and highlight what it has to offer. A sub-committee should be designated with securing a marketing company ahead of time to work on image and branding, and then to release a targeted marketing campaign after a disaster.

9. Assessment and Evaluation Capabilities

Description: Communities may lack the technical expertise to conduct economic or demographic analyses to assess the impact of the disaster on their local economy.

Actions: Potential actions to prepare for assessment and evaluation include forming a record-keeping and data collection sub-committee of the Steering Committee. The sub-committee will keep track of national surveys and collect data on the local level as well. Afterward, even if there aren’t already capable analysts on the team, the data will be available for an outside consultant to make recommendations.

Providing for recovery actions prior to the pressures and chaos of a disaster may greatly enhance Oklahoma’s ability to provide effective, efficient economic recovery. Creating pre-planned actions to address each of the nine major recovery areas should increase economic capacity and solidify the state’s reputation for resilience in a very palpable way.

3.4 FINANCING

3.4.1 DESCRIPTION

Financing is a broad area that covers many facets of disaster resilience, response, and recovery. From the onset of disruptive incident financial resources are essential to complete recovery. At each stage there are acute needs:

- Pre-incident economic mitigation and resilience planning needs to be incentivized via tax breaks, low cost financing, and credits toward saving public expenditures. These incentives may apply to both the public and private sectors, and encompass a wide array of formats.
- During the incident, rapid access and availability of resources is critical for vital public and private sector services.

- In post-incident recovery it is critical to have funding for small businesses, as they are the most vulnerable. In addition, promoting and educating businesses and com on how to secure adequate financing, the right types and amounts of insurance and basic risk management strategies are all critical elements for businesses to withstand incidents.

Financing includes the following sub-factors:

- a. Identifies resources to incentivize economic disaster mitigation planning and preparedness. Co-investment is critical to entice stakeholders to realize the value of implementing economic resilience.
- b. Identifies resources for economic disaster response and recovery for public and private sector services. Developments of public-private partnerships have been utilized worldwide as an effective use of resources for preparedness and recovery.
- c. Identifies local funding or grant-making mechanisms for post-disaster small business financing and financial program management. Small businesses often have acute financial issues after disasters; these mechanisms may make the difference between their success or failure.
- d. Maintains a program to promote adequate private insurance coverage for local businesses. Many businesses still do not consider insurance, such as business interruption policies that may be invaluable to their ability to continue operating.
- e. Identifies processes and/or capabilities for securing a grant to finance resilience initiatives. Public and private resources are available for resilience, but must be identified and pursued through concerted, unified efforts.

3.4.2 OKLAHOMA APPLICATION

Oklahoma has capacity for small business financing, which includes several programs supported by the Oklahoma Department of Commerce (ODOC). These programs can be utilized to assist businesses in recovery by strengthening them through expansion, adoption of new facilities, equipment, or processes. The Innovation to Entrepreneurship (i2E) funds provides funding and fund management assistance through a variety of programs. Both the ODOC and i2E programs are designed to assist businesses in growth, diversification, and becoming more resilient. Information about the programs is available on the Oklahoma Department of Commerce website at <http://okcommerce.gov/new-and-existing-business/tools-and-assistance-for-existing-businesses/financing-resources/>

3.4.3 BEST PRACTICES

The use of incentives for mitigation and resilience planning has been primarily borne by the public sector, which has been provided by the Department of Homeland Security through Federal Emergency Management Agency hazard mitigation grant programs and Department of Housing and Urban Development Community Development Block Grant (CDBG) funding. For example,

CDBG funds were repurposed to support the Louisiana Speaks multi-parish comprehensive recovery planning process.³⁰ Unused portions of those funds were transferred into the Louisiana Economic Development Community Development Division, which launched the Louisiana Development Ready Communities program to build development capacity in Louisiana parishes.³¹ Both efforts were supported by private sector interests and foundations.

The National Association of Development Organizations (NADO) has developed a video presentation and free downloadable workbook on financial preparedness for communities and counties, which includes the use of specialized financial risk management tools. These are available at <http://www.nado.org/financial-resiliency-in-the-face-of-disasters-webinar-now-available-for-download/>.

For small businesses there are a variety of federal and state government resources available. At the federal level, SBA disaster loans, CDBG-funded revolving loan funds, and targeted investment programs such as New Markets Tax Credits and Community Development Financial Institution funds may be available. At the state level, revolving loan funds, investment funds, and significant tax credit programs for new investment and job creation that may include provisions for disaster recovery may be available.³² These financial incentives could help businesses recover faster if presented as an incentive to rebuild. A compilation of case studies on small business financing for recovery has been published by the International Economic Development Council (IEDC), which provides financial support from the Economic Development Administration (EDA). The case study summaries are available at <http://restoreyoureconomy.org/case-studies-small-business-finance-following-disaster/>

IEDC, with support from the EDA, offers a comprehensive guide to community financing for recovery post-incident that provides guidance and information on financial assistance available to communities. The guide is available at http://www.iedconline.org/clientuploads/Downloads/IEDC_Minimizing_Roadblocks.pdf.

Disasters can have a significant impact on a community's finances. The economic wellbeing of a community depends on preparation pre-incident, timely response and deployment of resources, and repair of vital infrastructure and restoration of services. The health of the community and business finances is critical to resilience and recovery. The most critical component of a city's financial health is the ability of its businesses to produce revenue and pay taxes. Subsequently, businesses must have confidence in the ability of the communities they are located in to provide basic services at a reasonable cost. Addressing both business and community financial resilience in recovery is a vitally important strategy.

Disasters can have a significant impact on a community's finances. The economic wellbeing of a community depends on preparation pre-incident, timely response and deployment of resources, and repair of vital infrastructure and restoration of services. Best practices in community finance

³⁰ http://www.louisianaspeaks-parishplans.org/PlanningProcess_LouisianaSpeaks.cfm

³¹ <https://opportunitylouisiana.com/page/louisiana-development-ready-communities-program>

³² <http://www.governing.com/topics/transportation-infrastructure/gov-cities-that-used-disasters-to-revitalize-their-futures.html>

have been identified and may be considered by Oklahoma's communities. To strengthen financial resilience, the Oklahoma Strong Steering Committee may consider:

- Developing a set of financial incentives to encourage investment in resilience.
- Supporting financial incentives geared specifically for economic resilience and recovery.
- Undertaking an educational program for community and county officials on the latest tools for financial risk management and recovery, which may be conducted in partnership with the Oklahoma Insurance Department.

3.4.4 IMPLEMENTATION OPPORTUNITIES

Best practices in community finance have been identified and may be considered by Oklahoma's communities. To strengthen financial resilience, the Oklahoma Strong Steering Committee may consider:

- Developing a set of financial incentives to encourage investment in resilience.
- Supporting financial incentives geared specifically for economic resilience and recovery.
- Undertaking an educational program for community and county officials on the latest tools for financial risk management and recovery, which may be conducted in

The Steering Committee may consider forming a Resilience Financing Task Force to evaluate Oklahoma's existing financing programs in light of the specific needs for recovery of both businesses and communities after disasters. Examining how current financing programs fit within the context of both disaster resilience and recovery financial needs may provide significant information on how to best meet needs of businesses in Oklahoma both pre and post-incident and again place Oklahoma in a position of being a best practices state in resilience efforts.

3.5 INFRASTRUCTURE

3.5.1 DESCRIPTION

Infrastructure issues are generally most evident in incident response and recovery. In particular, damage from incidents can cause both community and economic dysfunction if essential elements such as power, water and sewage, and transportation infrastructure are damaged. Those issues require immediate attention, especially when preparedness and mitigation planning is weak. Lack of effective planning for maintaining, adopting mitigating measures, and upgrading critical infrastructures may have a profound negative impact on businesses.³³

³³ Chang, Stephanie E. "Infrastructure Resilience to Disasters", The Bridge, NAE, Winter 2009, p. 37

When strong relationships between critical infrastructure organizations such as water systems, electricity providers, and economic development organizations exist, the positive impact can also be significant in recovery efforts. Failure to build communication channels between organizations may lead to poor distribution of vital information for restoration, and impact understanding of priorities post-incident.³⁴

Provision of power and secure communication channels are important for response and recovery functions. The provision of alternative sources of energy and services may allow businesses and employees to restore functions and return to normalcy rapidly. Recovery efforts may be improved through systems such as electric generators; many of these measures may be relatively inexpensive and can help minimize recovery spending. Logistics are also critical for restoration of economic activity including adequate storage, transportation, and distribution of goods, access to raw materials, and the ability of workers to return to their jobs. Roads, waterways, airports, and railroads should all be considered a priority and their restoration essential to recovery.

Infrastructure includes the following sub-factors:

- a. Includes a plan for maintaining/upgrading critical infrastructure and the resulting impact on the business community. This includes communications infrastructure.
- b. Identifies interface between critical infrastructure organizations (e.g., water boards, departments of streets and drainage) and economic development organization.
- c. Provides alternatives or backups for loss of infrastructure during a hazard event. Generators may provide electricity to a specific business, but all infrastructure necessary for continued operations (water, transportation) must be considered.
- d. Contains a strategy or plan for rapid return of utilities following a disaster. Creating partnerships with utility providers is critical to leverage restoration efforts.
- e. Includes a strategy for alternate transportation routes and logistics for economic activity. Develops comprehensive, scenario-based planning for both in-bound and out-bound transport of goods and people utilizing public and private resources.

3.5.2 OKLAHOMA APPLICATION

The *2013 Report Card for Oklahoma's Infrastructure* was the first report ever created by the Oklahoma Section of the American Society of Civil Engineers (ASCE), and it concluded that Oklahoma's infrastructure needs immediate attention. The report card is meant to assess the overall performance of infrastructure. An expert team of more than twenty civil engineers researched the major components of Oklahoma's infrastructure for more than 18 months to arrive at the report card's grades. The purpose is for the public to understand how their state's infrastructure is functioning and how it is being maintained. While aviation and rail scored above the national average; dams, levees, and bridges scored lowest of the nine infrastructure categories. They are critical to prevent severe flood damage and disruption. Dams, levees, bridges and roads

³⁴ Ibid, p. 38

all received the lowest score of a D. The oversight of Oklahoma’s 848 dams is the responsibility of five full-time staff, and although 95% of dams have an Emergency Action Plan, Oklahoma has 364 “high hazard” dams.³⁵

Structural integrity is especially important in Oklahoma, to protect against common flooding, hail, and ice storms; not just tornados. The University of Oklahoma’s work with Architecture for Humanity, a foundation sponsored by the American Institute of Architects and Cargill Corporation, promises to provide more resilient structures at an affordable cost. Oklahoma-based electric providers are also searching for more resilient transmission systems and techniques for rapid recovery.

3.5.3 BEST PRACTICES

Due to their essential nature, pre-incident planning and mitigation measures for infrastructure are most essential and effective.³⁶ For instance, after Hurricane Katrina several hospitals were left without power, water, sewage system, or communication capability thus putting the patients’ life at risk and compromising the quality of services. A modern hospital building without these resources ceases to be a hospital—it’s just a building.³⁷ Taking steps towards preparedness may enable basic functions and allow hospitals and other essential providers to continue working.

There is also a critical need to map infrastructure systems, understand intersystem dependencies, and consider the implications associated with losing function in one or more systems. For example, if an electric power system loses a substation, the implications of that substation loss may affect or disrupt other infrastructure functions. It may even affect service to a critical pump in the water system, a critical lift station in the sewer system, or a critical cellular communications system component. These interdependencies should be mapped as part of a comprehensive infrastructure resilience plan.³⁸

Japan has been known for their resilient buildings and investment in infrastructure that is disaster resistant. In March 2011 everything was put to the test. Sendai Mayor Okuyama shares some of the steps that Japan has taken to build resilient and flexible infrastructure that can withstand disasters and maintain constant flow of services, which is essential to overall disaster risk resilience. After the 1978 earthquake Japan understood that “when it comes to disaster management you only get back what you put in.” Thus, investing in resilient infrastructure is a priority to the Japanese. After the 2011 east coast earthquake and tsunami, many of Japan’s bridges and reinforced shoreline held up. In fact, the seawall facilities acted as a barrier against the intensity and speed of the tsunami. Even though the damages are expensive, they were far less than what they would have been if the tsunami had hit elsewhere.³⁹ Since 1978, Japan has

³⁵ <http://www.infrastructurereportcard.org/oklahoma/oklahoma-overview/>

³⁶ http://www.pwc.com/en_GX/gx/capital-projects-infrastructure/disaster-resilience/assets/pdf/interview-frederick-krimgold.pdf

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ http://www.pwc.com/en_GX/gx/capital-projects-infrastructure/disaster-resilience/assets/pdf/interview-frederick-krimgold.pdf

replaced old pipes for natural gas and water with highly elastic ones, which don't break, but bend and stay intact, after being hit by an earthquake. In addition, the pipes are segmented, making repairs much easier. After the earthquake and tsunami hit Japan, the port in Sendai was completely destroyed but they were able to process the natural gas and deliver it to residents as a result of the elastic pipes that had been put in place. Other measures extend nationally, for instance the bullet trains in Japan are programmed to automatically decelerate before an earthquake hits to avoid derailment.⁴⁰

Some infrastructure plans for the future include elevated roads and special tsunami evacuation roadways and facilities. New restrictions on housing locations were imposed and attention is now being focused on telecommunications, as disaster recovery is less effective without communication and information. As part of their efforts, residents are asked to keep a week's reserve of food, medicine, and water in the event that there is a disaster. Lastly, in Japan maintenance cycles on infrastructure occur every 30 to 50 years based on their average life cycles.⁴¹

3.5.4 POTENTIAL ACTIONS

The Oklahoma Strong Steering Committee may elect to create an infrastructure task force to investigate the extent to which infrastructure resilience and mitigation planning has been developed, and whether interdependencies have been accounted for in communities and counties of Oklahoma. For example, in the Philippines, the *Seal of Disaster Preparedness (SDP) Infrastructure Audit*⁴² was developed to gauge the condition and soundness of infrastructure projects, assets, and evaluate them for resistance to an unforeseen event. From the audit, recommendations were made to strengthen hard assets and implement mitigation. The task force could help facilitate a statewide infrastructure resilience audit to assist the state in prioritizing infrastructure investments, and advise the state on innovations in public-private partnerships for infrastructure investments.

3.6 PROCUREMENT AND LOCAL SOURCING

3.6.1 DESCRIPTION

The economic “recovery bounce” created through recovery expenditures as a result of disasters, is well documented. Douglas Dacy and Howard Kunreuther's book *The Economics of Natural Disasters*, published in 1969, was a case study of the Alaskan earthquake of 1964. It found that

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² <http://www.dilgcar.com/index.php/programs/programs-projects-2013/environment-protective-disaster-resilient-lgus/environment-protective-lgus/30-programs-projects-and-activities/program-outcome-2/209-infrastructure-audit>

the money that rushed into the state in the form of generous government loans and grants for rebuilding the Alaskan economy after the quake meant that many Alaskans were better off post-incident than before.⁴³ Subsequent analyses have verified that occasionally the inflow of federal dollars combined with expenditures on homes, businesses, and community services all contribute to temporary economic growth.

However, a critical factor in determining economic capacity and resilience is the amount of inflow dollars that remain in the community. Procurement strategies may equip local businesses with the knowledge and tools necessary to secure both public and private business and capitalize on procurement opportunities. This element requires a strategy to work directly with emergency management and recovery organizations to identify local procurement opportunities following an incident. A strategy should also encourage local business training in the procurement process in order to register as approved vendors in the local, state, and federal levels. An important component of a procurement strategy is promotion. There is value to having businesses trained, registered, and ready to provide services in the aftermath of an incident for recovery. Creating awareness on the value of procuring goods and services from local businesses by both public and private entities in the recovery and rebuilding process is important. Procurement Strategies include the following sub-factors:

- a. Includes a strategy for working with emergency management and recovery organizations to identify local procurement opportunities following disasters.
- b. Has a strategy for encouraging procurement training for local businesses and encouraging local businesses to register as approved vendors for local, state and federal procurement processes.
- c. Has preliminary marketing plan for promoting local businesses during a recovery.
- d. Has a strategy for maintaining supply chain access for local businesses following disasters. This may be implemented via increasing the capacity/capability of local suppliers.

3.6.2 OKLAHOMA APPLICATION

The Oklahoma Bid Assistance Network (OBAN) provides marketing and technical assistance to Oklahoma businesses interested in selling products and services to local, state, and federal governments, and other highly structured markets. The primary purpose of OBAN is to create jobs and expand the economy in Oklahoma by providing specific valuable resources to Oklahoma businesses. Sixteen participating Career Tech schools deliver OBAN services at locations

⁴³ http://www.boston.com/bostonglobe/ideas/articles/2008/07/06/how_disasters_help/?page=full

throughout Oklahoma. The program is administered by the Oklahoma Department of Career and Technology Education.⁴⁴

OBAN, which serves as a Procurement Technical Assistance Center (PTAC), is funded in part through a cooperative agreement from the Department of Defense (DOD) and a program that is administered by the Defense Logistics Agency (DLA). OBAN provides daily computerized opportunity match reports, personal consulting in marketing and contracting, proposal review services, competitive intelligence, help in sourcing training, data and other resources.⁴⁵ In today's globalized economy safe locations may be affected by disasters that take place elsewhere. Damage to transportation networks or to neighborhoods where workers live disrupts business and imposes additional costs.⁴⁶ Procurement strategies should also address supply chain access for local businesses. The mapping of supply chains and hardening them against disruption has become an important component of overall disaster resilience.

A supply chain analysis of central Oklahoma was conducted in April 2014 by Hickory Ground Solutions, LLC of Heathsville, Virginia for the SBA under contract number SBAHQ-13-C-0020. The analysis showed that central Oklahoma has significant strengths in a number of areas including abundant natural resources, workforce training via technical centers, a robust manufacturing base, and strategic location. However, weaknesses were identified in shortage of labor caused by high demand of the resource extraction and production industry. This shortage was particularly acute in the middle-management ranks, where many workers left for lower skilled, but higher paying positions, in the extraction and production industry.

Through mapping the supply chain, the central Oklahoma region can perform second-order disruption mitigation. Traditional support post-incident has been on restoring core operations and repairing damage. Using a supply chain map may add another dimension to recovery by assessing firms that have been affected by disruptions up and down the supply chain from an impacted business. The ability to plan and support resilience for both large and small firms may reduce the instance of long-term business disruption and failure. The report also makes recommendations to improve the manufacturing competitiveness of the region, including transportation, workforce, and business matchmaking events.

3.6.3 BEST PRACTICES

Akihiro Ohta, Japan's Minister of Land, Infrastructure, Transportation and Tourism advocates for public and private sector cooperatives including public-private partnerships (PPPs) and private finance initiatives (PFIs). These incentives were popular in the UK and Australia in the 1990s and were soon introduced to Japan. PFI's are a particular form of financing that enables the public sector to own infrastructure that is maintained by the private sector. Nowadays, PFI's represent a

⁴⁴ <http://www.okcareertech.org/business-and-industry/government-contracting>

⁴⁵ Ibid.

⁴⁶ Global Assessment Report on Disaster Risk Reduction 2013. The Pocket GAR 2013. United Nations.

form of infrastructure procurement that offers alternative financing options, specialized expertise, and risk transfer to the private sector. They usually succeed when both parties benefit from the deals. The benefit of the PFI's is that both parties become stakeholders, which is important in incentivizing businesses as it's in their best interest to make this type of investment. Once again, the importance of being aware that preparedness and recovery are a shared responsibility is evident.⁴⁷

The advent of PPPs in disaster recovery is a significant new component of the procurement and local sourcing factor. PPPs serve to bridge the knowledge base of the public sector in disaster resilience and recovery with the market-oriented innovation and speed of the private sector. PPPs manifest themselves in many ways, from utilizing private billboard companies to relay critical messages to brewers shifting production from beer to water for relief efforts. To succeed, certain principles for PPPs are critical. The acronym PADRES sums up those principles:

- Publicly Accessible: Publicly accessible means that the contacts, leadership, skills and capabilities of the collaborative partnership are recognized, available and accessible by the general public. This ensures that before, during and after an incident, the general public has trust and confidence in the partnership to provide meaningful service in support of protecting life and property.
- Dedicated: Successful partnerships have identified a full-time liaison or other organizational structure to staff and manage the public-private partnership, and implement the partnership's strategic plan.
- Resourced: Resourced partnerships have funding, facilities, tools, and staffing available to support partnership efforts.
- Engaged: There should be active support, participation, and two-way communication by public and private sector leadership and members in a successful partnership. The partnership trains, exercises, prepare, respond, recover and mitigates actively.
- Sustainable: Sustainable partnerships are supported by strategic plans, funds, and resources necessary for long-term viability. Activity takes place year-round, and throughout the emergency management cycle.

3.6.4 IMPLEMENTATION OPPORTUNITIES

The Steering Committee should form a procurement and supply chain Public-Private Partnership Council, to work in partnership with OBAN to provide education and information for Oklahoma businesses to pursue contract opportunities in incident response and recovery. The partnership could also promote the value of utilizing local businesses to both public and private sectors. A study by Turnaround Economics 2010, an initiative of the CNBC business news network, found that locally-owned businesses kept 37% more of their revenues in the local economy than those

⁴⁷ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

owned elsewhere. Educating recovery decision makers on expenditure issues may result in more consideration for local business procurement.

3.7 BUSINESS CONTINUITY AND RISK MANAGEMENT

3.7.1 DESCRIPTION

The goal of risk management is to achieve business continuity and reduce costs associated with recovery through investment in preparedness measures. By doing so, businesses can mitigate damage and manage disruptions more effectively. All businesses are different and vary in size and risk exposure. Continuity plans should address the different needs of businesses.⁴⁸ Stakeholders recognize the importance of investing in this particular area and are moving this agenda forward. Reports from previous incidents show that there are benefits associated with investing in preparedness to reduce costs and to return to normalcy rapidly to avoid long-term business disruption and achieve recovery. This cannot be possible without effectively managing risk. Business Continuity and Risk Management includes the following sub-factors:

- a. Has a program in place promoting/assisting local businesses in preparing business continuity plans.
- b. Has a program in place promoting good record keeping in order to access business recovery resources.
- c. Has a program in place promoting generators and other private forms of energy and water access.
- d. Has plan for providing short-term space for affected businesses. This may include pre-disaster agreements for businesses to share space, market jointly, and in some cases, share manufacturing or service provision capacity.
- e. Has plan in place to relax or streamline permitting and zoning bylaws to encourage quick return of businesses.
- f. Has a program in place promoting appropriate promulgation of hazard mitigation and commercial insurance coverage. Resources are available to assist businesses in understanding and accessing these resources for business continuity.
- g. Demonstrates a connection to mitigation planning or emergency management preparedness planning efforts (e.g., county hazard mitigation plan, flood insurance organizations, etc.) to inform business owners of risks and recommended steps to mitigate those risks.

3.7.2 OKLAHOMA APPLICATION

Citizens of Oklahoma are thought to be in a constant state of awareness and are always prepared as inclement weather presents constant threats. Many Oklahomans tend to have plans in place for weather related crisis; however, fewer than 30% of businesses in central Oklahoma report having

⁴⁸ Global Assessment Report on Disaster Risk Reduction 2013. The Pocket GAR 2013. United Nations.

continuity plans in place.⁴⁹ The tornados and storms of May 2013 led to an increase in attention placed on developing and adopting contingency plans to have a more structured path towards preparedness and recovery. Business owners need to realize that having a contingency plan in place will allow them to have a timely, cost effective, and organized response and recovery.

3.7.3 BEST PRACTICES

Bob Parker, the Mayor of Christchurch, New Zealand shared lessons learned from the earthquakes in 2011. Parker is a huge advocate for preparation and says that economic recovery is a collective affair that requires community engagement. In order to do the right thing and shape the cities to be resilient, the community needs to be involved in shaping the city they want. Parker believes that investing in infrastructure is imperative for recovery, but that investing in soft infrastructure such as social, cultural, and educational competencies is equally important. Human resilience can be nurtured through training and education. The reason why building human resilience is so important is that rebuilding the infrastructure without investing in economic recovery is not sustainable.⁵⁰

After disasters it is usually the small businesses that are most vulnerable because they lack the resources to recover and are notorious for not having continuity plans in place. Some programs that have help small businesses bounce back after disasters include:

1. Vermont Farm Fund: a revolving loan fund created by Pete Johnson and the Center for an Agricultural Economy (CAE) provides interest-free emergency loans to farmers whose season ended prematurely after Hurricane Irene swept and flooded many farms in Vermont in August 2011. The loans ranged from \$5,000-10,000 in average to help farmers start their businesses. The Vermont Farm Fund had initial funds provided by Mr. Johnson and CAE, and later opened for donations from individuals and organizations.⁵¹
2. Business Flood Recovery Fund: Minnesota experienced severe flooding in 2012. The affected areas were not in a flood-prone area so businesses did not have the appropriate insurance. The Northland Foundation conducted outreach and established the Business Flood Recovery Fund that raised over \$300,000 in six weeks. The recovery funds were provided as grants to the most affected counties and surrounding rural areas. Grants ranged from up to \$5,000 and some \$10,000 for businesses that sustained severe damage. The application process was kept very simple.⁵²
3. The Tornado Business Relief Fund: after the EF-5 tornado hit Moore County in May 2013 a website was set up by the Greater Oklahoma City Chamber so businesses could post their needs. Businesses that were not affected could also post what they had available to help those in need. The site was poorly managed at first but was eventually formalized to match businesses in need with those who had something to offer.

⁴⁹ Greater Oklahoma Chamber of Commerce Post-Disaster Business Survey, May 2013, p. 4.

⁵⁰ Ibid.

⁵¹ International Economic Development Council. Case Studies in Small Business Finance Following a Disaster. January 2014.

⁵² Ibid.

- Moreover, chambers across Oklahoma worked together and created this relief fund. Applications were kept simple and grants of up to \$2,500 were made available to businesses in need.⁵³
4. Operation Disaster Resiliency: In 2013, the U.S EDA announced an \$879,000 grant to the Pennsylvania Small Business Development Centers to address business disruption after Hurricane Irene and Tropical Storm Lee ravaged Pennsylvania. This program sought to educate small businesses on continuity plans to prepare for the future. They learned that many businesses did not have backup for business information and assisted with developing plans to use technology. Business owners received free consulting services to help them in planning and to become more resilient after disasters.⁵⁴
 5. Small Business Disaster Relief Fund: After Hurricane Katrina made landfall in Louisiana in 2005, the Louisiana Association of Business and Industry partnered with the Baton Rouge Area Foundation to create the Small Business Disaster Relief Fund. The fund provided gap financing for small businesses. The organization was structured like a 501(c)3 meaning that contributions were tax deductible. The applications were easy to complete and could be downloaded. A screening committee was set up to review the applications and recommend grant amounts.⁵⁵

3.7.4 IMPLEMENTATION OPPORTUNITIES

There are more aspiring initiatives than initiatives that have been actualized for business continuity. Thus far, it has been determined that businesses in Oklahoma are lacking in preparedness for incidents. Most business, regardless of their size, have not developed and implemented business continuity plans. This is one area that needs to be addressed; first, by creating awareness; and second, by implementation. Businesses need to be educated on the risks associated with incidents and on how failure to take preemptive measures can lead to unbudgeted disasters from which they may not recover. Efforts in awareness are led by key stakeholders, such as insurance companies. Some are providing training on the steps necessary to develop and execute continuity plans. This is an area where substantial opportunity for growth in economic resilience exists.

In response to the disasters of May 2013, the Oklahoma Small Business Development Center (OKSBDC) has taken a leading role in small business continuity planning. The efforts of the OKSBDC are part of the national initiative from America's SBDC supporting better preparedness for disasters through both business continuity planning and community resilience. In response OKSBDC engaged a full-time consultant to implement its Ready Now Business Survival Planning program, developed by OKSBDC to assist small businesses in developing business continuity capacity. OKSBDC is integrating business emergency preparedness into its overall business counseling strategy as well as working to develop partnerships statewide to increase

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

program implementation. OKSBDC partners with the American Red Cross to provide business leaders with the ability to review their current continuity status by taking the Ready Rating online pre-test before implementing Ready Now! training. Ready Now! includes:

1. Training on the elements of a written Business Survival Plan
2. Completion of the plan with a trained OKSBDC counselor
3. On-site assessment to verify that the components of the plan are in place ready for implementation

The comprehensive effort of OKSBDC may be useful in leveraging another strategic initiatives, the Business Emergency and Communications Optimization Network (BEACON). These programs are part of an overall community resilience effort including OKSBDC's promoting of FEMA's Community Emergency Response Team (CERT) program as a way to build community resilience capacity.

The Steering Committee should support both of these efforts, and adapt OKSBDC's Ready Now! as a fifth initiative so that it may receive the same level of support as BEACON in assisting businesses continuity and resilience efforts.

This comprehensive effort may be useful in leveraging another strategic initiative, the Business Emergency and Communications Optimization Network (BEACON), and the community-based resilience effort may also provide opportunities to leverage OKSBDC and Ready Now! as a part of an overall community resilience effort. OKSBDC has engaged a full-time consultant to implement the program, and promotes the Federal Emergency Management Agency Community Emergency Response Team (CERT) program, which can also leverage community resilience. The OKSBDC has taken a leading role in small business continuity planning. The Steering Committee expressed support for both of these efforts, and could adapt OKSBDC and the Red Cross' Ready Now! as a fifth initiative so that it may receive the same level of support as BEACON in assisting businesses continuity and resilience efforts.

3.8 WORKFORCE SUPPORT

3.8.1 DESCRIPTION

In economic development, workforce is the single most important factor in corporate investment decision process.⁵⁶ Numerous articles cite the struggle of companies to find qualified workers, though demographic shifts may exaggerate the problem substantially.⁵⁷ In economic resilience, response, and recovery it is also a critical deciding factor in the success of the economic sector. Supporting a skilled and competent workforce is an essential element of economic capacity and diversification efforts. First, identifying programs for a more flexible and adaptable workforce

⁵⁶ <http://www.mericle.com/Press-Releases/national-survey-reveals-top-site-selection-factors.html>

⁵⁷ <http://gbr.pepperdine.edu/2010/08/preparing-for-a-future-labor-shortage/>

should be implemented. Workforce support identifies placement services that may fill labor gaps and match qualified individuals with available jobs, thus reducing unemployment during sudden shifts in supply and demand. Workforce resilience also involves personal financial literacy. This includes educational programs to achieve financial stability such as encouraging savings, which would lessen economic shocks resulting from incidents. Workforce assistance and community resilience intersect at the point of individual disaster preparedness and planning for households and identifying workforce sectors that are most vulnerable to displacement from disruptive events.

Analysis of commuting patterns and recognition of the dependency level a business has on its workforce, that may primarily commute from outside the community, can reveal a need for transportation strategies. On the other hand, there may be populations dependent on employment outside the community. These analyses can provide insight into vulnerabilities posed by transportation and other critical infrastructure outages thus contributing to resilience planning by prioritizing economic needs and mitigating impacts. Workforce Support includes the following sub-factors:

- a. Identifies programs for workforce education and skills training for a more flexible and adaptable workforce. Programs are available to train workforce in responding to disaster situations.
- b. Identifies placement services to fill labor gaps and reduce unemployment for sudden shifts in supply and demand. Ability to move from normal employment to skill needs specific to recovery may help reduce local unemployment and minimize economic leakage in recovery.
- c. Promotes personal financial literacy, Individual Development Accounts, or other programs to encourage savings and other practices for precarious workforce members. The ability to financially withstand disruptive events can lead to a more stable, anchored workforce in the aftermath of an incident.
- d. Promotes disaster preparedness and planning for households and individuals.
- e. Identifies the workforce sectors that are most vulnerable to displacement from various types of economic disruption. Providing assistance to minimize displacement should be viewed as an investment in workforce stability.
- f. Discusses commuting patterns and identifies the extent to which the local economy is dependent on a workforce that resides outside the community. This knowledge can be invaluable when disaster prevents workers from following normal commuting patterns.
- g. Discusses the extent to which the local workforce is dependent on jobs outside of the community. The inverse, in which local workers cannot follow traditional commuting routes to work, is critical to address before their livelihoods are at risk.
- h. Accounts for the vulnerabilities posed to the workforce by transportation, schools and other critical infrastructure outages. Many factors contribute to the inability of many workers to return to employment; all should be considered and addressed.

- i. Has a strategy for the retention of local workers and training workers to fill skills gaps (e.g., construction workers) that may be created following a natural disaster or other economic disruption.
- j. Has a program in place to educate employers on public and private resources available to support workforce preparedness and post-disaster assistance.
- k. Identifies a mechanism to utilize job centers and similar organizations for surge hiring needs. Workers negatively affected by disaster may find temporary employment and maintain some level of financial security during recovery

3.8.2 OKLAHOMA APPLICATION

Like many states that have a substantial presence in the energy sector, Oklahoma is facing shortages in skilled positions. In central Oklahoma the challenge may be even more acute. According to an article in Bloomberg.org, “mismatches in supply and demand for educated workers boost U.S. unemployment and add as much as 2 percentage points to the jobless rates for some cities according to the Brookings Institute. Cities with larger gaps in education levels between workers and available positions have lower rates of job creating and new openings, the institute’s Jonathan Rothwell said in a report published today. Job growth in Oklahoma City, which has the lowest unemployment rate of any large U.S. city, for a boost from hiring by mining, oil, and gas companies as energy was one of the few factors to fully recover to pre-recession employment levels. Oklahoma’s capital had a 5 percent jobless rate in June, according to the Labor Department.”⁵⁸ The Oklahoma Prosperity Project, a program of the State Chamber of Oklahoma, has developed ten actions to address the workforce issue in Oklahoma:

1. Support efforts to promote the development of a career pathways program designed to educate students on employment opportunities available within our state.
2. Support the statewide licensing of WorkKeys and KeyTrain skill level evaluations so all common, Career Tech, and higher education systems have access.
3. Support incentives for the development of Certified Work Ready Communities, which encourage individuals to obtain Career Readiness Certificates (CRC's) that allow for the opportunity to prove their skill level.
4. Support competitive grants through the state's local workforce investment boards, which enhance the provision of scholarships for those in particular fields of study.
5. Support incentives to maintain and train Oklahoma's workforce.
6. Support effective efforts that improve early childhood development designed to enhance Oklahoma's future workforce.
7. Support the re-alignment of available funds for workforce and economic development programs that are critical to the state's future needs.
8. Encourage lawmakers to pursue initiatives, such as Oklahoma's "Project Boomerang", designed to increase the number of skilled workers and college graduates available for employment in Oklahoma.

⁵⁸ <http://www.bloomberg.com/news/2012-08-29/shortage-of-educated-workers-boosts-u-s-joblessness.html>

9. Encourage the research industry clusters in order to ascertain the appropriate education and incentive structures necessary to promote the needs of high growth workforce areas.
10. Support a time-restricted income tax reduction for college graduates who begin their careers in Oklahoma.

Investing in workforce supports resilience in Oklahoma in two dimensions. First, it's an issue of economic capacity and diversification. The ability of any economy to withstand economic shocks is dependent on its capacity to compete, particularly in the foundational industries that drive the economy. Workforce skills are also essential for economic diversification, and may contribute to the development of new types of industry when combined with aggressive marketing, expansion and retention, and entrepreneurship efforts. The second dimension is tied to the Steering Committee's "Resilience as an Industry" initiative.

3.8.3 BEST PRACTICES

Supporting these actions is a core element of resilience. The Bloomberg.com article also referenced "workforce resilient" cities. These cities have an adequate supply of skilled workers to meet the needs of dominant industries. The most resilient city was Pittsburg, PA, which credits significant investment in STEM (Science, Technology, Engineering, and Math) in primary and secondary education, technical training programs, and higher education.⁵⁹

A best practice in workforce development for a niche industry can be found in the Cyber Innovation Center (CIC) in Bossier City, Louisiana. Originally conceived as a compliment to the U.S. Air Force Cyber Command, the CIC is the anchor for a research park based on cyber security. Development of the CIC was supported by the City of Bossier and State of Louisiana; and each provided funding for the development of a world-class facility and equipment.⁶⁰

The CIC partnered with school systems in the region and developed a cyber-academy that teaches cyber security for credit and in after-school courses and activities. Moreover, a partnership with a local community college led to the development of an associate degree program in cyber security. They formed a partnership with Louisiana Tech University to create the Louisiana Cyber and Data Consortium, which involves multiple companies and Universities that provide youth and adult students a variety of training and education choices. Also provides potential companies with a variety of skills and education in their workforce.⁶¹ In their recent announcement of an 800-job facility by Computer Sciences Corporation, their CEO cited the Consortium, the cyber-academy, and overall workforce training initiatives in the cyber industry niche' as primary factors in their selection of the CIC research park.⁶²

⁵⁹ <http://www.bloomberg.com/news/2012-08-29/shortage-of-educated-workers-boosts-u-s-joblessness.html>

⁶⁰ <http://www.cyberinnovationcenter.org/>

⁶¹ Ibid.

⁶² <http://gov.louisiana.gov/index.cfm?md=newsroom&tmp=detail&articleID=4441>

3.8.4 IMPLEMENTATION OPPORTUNITIES

Rebuilding from incidents often creates immediate demand for employment in recovery activities. Creating initiatives for the retention of local workers, training workers, and investing in skills building to address gaps that may result following a disaster may help in achieving economic resilience. The workforce should be educated on public and private resources that are available to support preparedness and that provide post-disaster assistance.

In addition, assessing the need for skills for dominant positions in companies that reside in the resilience-based sector will lead to the development of training the workforce in those skills. This will contribute to Oklahoma's attempts to develop that industry through retention and expansion, recruitment, and new business creation, just as the Cyber Innovation Center did for cyber-security in Louisiana. Building capacity in resilience-based skills also provides opportunities to export knowledge and realize economic returns. The University of Oklahoma Community Resilience Institute is an example of knowledge transfer that may provide opportunities for the development of specialized skills and recruitment of resilience professionals to the state.

The Oklahoma Strong Steering Committee may form a Workforce Support Task Force to address these systemic issues, with an additional component of training workers employed by companies in the resilience industry. This includes manufacture of safe structures, development of response and recovery systems and products, and research initiatives such as weather forecasting and resilience planning.

3.9 ECONOMIC DIVERSIFICATION

3.9.1 DESCRIPTION

Economic diversification is generally taken as the process in which a growing range of economic outputs is produced. It can also refer to the diversification of markets for exports or the diversification of income sources away from domestic economic activities (i.e. income from overseas investment).⁶³ Diversification, in terms of economic resilience, recognizes the extent to which a local economy is dependent on a single or a few industries. It indicates possible activities or partnerships for attracting investment, developing new industries, and assisting firms in entering new markets.

Diversification is important because it can shield from a broad range of threats to the economy such as natural and industrial hazards that threaten industries that drive the community, risks associated with natural hazards of commercial development sites, and vulnerabilities in risk management methods for key industry sectors. Diversification also contributes by enabling

⁶³ http://unfccc.int/adaptation/nairobi_work_programme/programme_activities_and_work_areas/items/3994.php

understanding trends, identifying activities for innovation, developing competitive advantage through new products, and introducing new processes to current industries. Diversification recognizes industry interdependencies and potential opportunities for enhancing supply chain resilience.

Promoting industry clusters, defined as “geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a region”⁶⁴ may also be viewed as a diversification strategy. The interconnectedness of clusters has proven to enhance the ability of the economic sector to adjust to changing market conditions, and leads to higher rates of innovation.⁶⁵ In addition, supply chains that support cluster activity may also become more resilient through collaborative activities. All of these factors indicate that providing assistance and support to dynamic industry clusters as a diversification and resilience strategy is effective. Economic Diversification includes the following sub-factors:

- a. Recognizes extent to which the local economy is dependent on a single or few industries.
- b. Indicates activities or partnerships for attracting or developing new industries.
- c. Considers the natural and industrial hazards posed by targeted growth industries or existing economic drivers of the community.
- d. Considers the vulnerabilities or methods of risk avoidance for key industry sectors. Business continuity is, to some extent, industry-specific; needs unique to specific sectors/clusters should be addressed.
- e. Considers the natural hazard vulnerabilities of commercial development sites. This includes sites that may lie in flood-prone or relatively isolated locations.
- f. Demonstrates the ability to understand trends and identify activities for innovation and developing competitive advantages in current industries. Economic resilience is a combination of diversification and increasing competitiveness of existing sectors.
- g. Recognizes industry interdependencies and potential opportunities for enhancing supply chain resilience. Building capacity for collaboration among major sectors may increase the ability to effectively respond to disruption.
- h. Promotes the development of enterprises and technologies that support disaster preparedness and recovery. These enterprises provide multiple benefits-increased employment, diversification, and increased resilience capacity via their presence.
- i. Includes resources to promote entrepreneurship, local innovation, and directed assistance at high-growth firms to expand local growth opportunities.

⁶⁴ Mission Scoping Assessment. Economic Recovery Support Function. July 29, 2013.

⁶⁵ www.isc.hbs.edu/econ-clusters.htm

3.9.2 OKLAHOMA APPLICATION

Oklahoma Governor Mary Fallon sponsored an economic development strategy for Oklahoma, unveiled in 2013, that focuses five clear economic ecosystems that have outperformed the rest: aerospace and defense, energy, agriculture and bioscience, information and financial services, and transportation and distribution. The state has worked to align and prioritize resources to strengthen these five groups of industries. These ecosystems are similar in nature to clusters, although according to the Oklahoma Department of Commerce, “may not be as cluster-oriented.”⁶⁶ The case for diversification through use of dominant ecosystems can be strengthened through addition of resilience industries as a second tier ecosystem, which may be considered an emerging sector. Evaluating policy considerations that may create an environment conducive to investment and strengthening linkages between the sector and research activities within Oklahoma universities may prove successful as the resilience as an industry initiative moves forward.

3.9.3 BEST PRACTICES

The Tucson, Arizona optic cluster is a best practice model for economic diversification that successfully leveraged current resources into a high value-added niche market. As one of the founding directors of the Arizona Optics Industry Association, Robert “Bob” Breault has been recognized in Tucson for building a center for research and manufacturing that Bloomberg Business Week has called “Optics Valley.” Mr. Breault is the chairman for the industry association and leads an optics cluster where local start-ups and established companies in the industry work together to do business and promote economic development. “Fifty-five companies showed up to our first AOIA meeting,” Breault said. “Now, there are 309 companies.”

Between 1996 and 2006, the state's optics industry went from generating \$236 million in revenue and employing 2,300 people to generating \$2.3 billion and employing 25,000, according to a 2008 report from the Office of Economic and Policy Analysis at the University of Arizona.

The Tucson cluster model has led to the creation of many clusters around the world. Presence abroad has helped brand Tucson as the place to go for good optics. Exports to Europe have been an important sector of the Tucson cluster's business, said Charles Haman, a former senior principal engineer at Raytheon and a board member of the optics association. The widely recognized optical science program at the University of Arizona makes Tucson an ideal place for optics, Breault said.⁶⁷

⁶⁶ <http://www.economicmodeling.com/2013/03/14/oklahoma-establishes-statewide-economic-development-strategy-after-in-depth-data-analysis/>

⁶⁷ Ordoñez Silvana “Meet Robert Breault, the businessman behind Tucson's 'Optics Valley’”, Arizona Daily Star, January 22, 2012

3.9.4 IMPLEMENTATION OPPORTUNITIES

The Oklahoma Strong effort has undertaken an initiative that may add to economic diversification through development of a new industry cluster, and increase economic resilience. The resilience as an industry initiative seeks to discern and build on local and regional businesses. There are several existing assets in the central Oklahoma region and others throughout the state, which may add potential for growth if integrated to promote commercialization, technology transfer, and entrepreneurship. Leveraging these assets into an industry sector that encourages growth and development may be a valuable economic development strategy worth exploring by stakeholders in the region.⁶⁸ Substantial time and resources have been spent on current campaigns targeting perceptions of Oklahoma as a dangerous place. This initiative would not utilize traditional marketing or advertising strategies. Instead, the effort should be focused on identifying and assisting existing companies involved in the industry, to market organically. The approach will market the entrepreneurship and start-up support activities to tap into the network's professionals, leading researchers, and development initiatives already in place to encourage location in Oklahoma.

To effectively launch this initiative, several steps need to be undertaken. The process would include identifying assets, linking those assets with existing companies operating in the resilience space, identifying opportunities for launching new companies through research, commercialization or innovation, and recruiting companies to expand or relocate due to the existence of a resilience industry cluster in Oklahoma. It should begin by bringing existing companies in the resilience space and encouraging them to collaborate by exploring opportunities and address challenges together. Once trust begins to develop, these companies may begin to act as ambassadors for the region and encourage related businesses to come to Oklahoma and create opportunities for growth.

3.10 BUSINESS COUNSELING AND TECHNICAL ASSISTANCE

3.10.1 DESCRIPTION

There are more than 29 million small business owners in the United States. Small businesses currently represent 98% of all businesses, and the Small Business Administration estimates that just over half of all employees in the U.S. work for a small firm. Ninety-seven percent of all exporters are small business owners, comprising 29% of total exports, and nationally, 75% of all new jobs come from small businesses.⁶⁹

⁶⁸ Oklahoma-4117-Economic_RSFM-SA draft 8-13-13, pp 40-46

⁶⁹ http://www.sba.gov/sites/default/files/rs372tot_0.pdf

Small businesses have specific needs. Unlike larger businesses with large staffs of specialized professionals, many small businesses have only a few employees who must perform multiple tasks. Therefore, small businesses need specialized counseling to ensure adequate management, sales, procurement, accounting, and decision-making skills exist. Technical assistance can take many forms, from helping businesses access capital to providing businesses with space and administrative support through incubators, to specialized assistance and advice utilizing business accelerators. These initiatives may provide small businesses with better opportunities for success. For example, the National Business Incubator Association reports that 87% of all firms that have graduated from their incubators are still in business.⁷⁰ Small businesses also contribute to economic resilience and diversification through spreading economic risk more evenly through a larger number of firms, and contributing new ideas and innovations.

3.10.2 OKLAHOMA APPLICATION

As a result of the incidents that affect Oklahoma, the business sector continues to be vulnerable to business disruptions. Programs are being launched to strengthen businesses so they can be better prepared to face incidents and to withstand the effects. Many of those efforts provide assistance in accessing capital and business counseling on how to expand and survive despite the challenging business environment. Some of the programs that have been implemented provide aggressive coaching to ensure due diligence towards success. These efforts contribute to building a more resilient economic sector by supporting entrepreneurs, generating incentive for start-ups, providing assistance to small business to grow, and creating jobs.

Some of the current programs include the Innovation to Entrepreneurship, or i2E, Oklahoma Proof of Concept Paper, which provides access to capital for Oklahoma's emerging fast growing entrepreneurs. This is a joint initiative between the Oklahoma Department of Commerce, and the U.S. Treasury Department managed by i2E. A total of \$13.2 million dollars was allocated through three investment funds: StartOK Accelerated Fund, Oklahoma Angel Sidecar Fund, and GrowOK Fund under the Accelerate Oklahoma initiative. These funds offer equity financing, and investment capital for state-based entrepreneurs who meet the program requirements.

- StartOK Accelerator Fund will accelerate emerging growth businesses that have potential to bring new products to the market and increase private capital investment in Oklahoma.
- Oklahoma Angel Sidecar Fund will invest alongside angel groups and angel investors in innovative startup companies that promise sustained revenue and can increase employment.
- GrowOK Fund targets later stage companies that need capital to expand.

Accelerate Oklahoma funds target Oklahoma management teams and investment capital that provide enough capital for 24 months. Typically when senior management is located outside of Oklahoma funding will not be considered. Companies applying to Accelerate Oklahoma funds must be prepared to endure aggressive coaching and a thorough review process. The Venture

⁷⁰ http://www.nbia.org/resource_library/faq/#1

Advisory Services, Access to Capital and other resources provided by i2E and its network help new entrepreneurs launch their businesses and make it through the early critical years of the company's life. i2E has also collaborated with the Oklahoma Center for the Advancement of Science and Technology, the University of Oklahoma's Office of Technology Development, Oklahoma State University's Office of Intellectual Property Management and Licensing, and Cowboy Technologies, LLC to develop a regional Proof of Concept Center. i2E ventures advisory and investment teams will collaborate with the university's technology and commercialization staff to accelerate market introduction of new technologies. Counseling and Technical Assistance includes the following sub-factors:

- a. Identifies presence of adequate personal and business counseling professionals, including resources such as Small Business Development Centers or similar entities.
- b. Maintains contracts or agreements to acquire technical assistance and counseling services after a disaster. Post-disaster environments often provide unique opportunities to assist businesses in developing business continuity plans.
- c. Demonstrates connection between counseling programs and the ability for businesses to access capital. Small businesses generally require more assistance in obtaining necessary capital.
- d. Identifies existing business retention and expansion (BRE) programs/programs for assisting businesses in distress.
- e. Demonstrates initiatives taken to incorporate resiliency concepts into economic development programs and activities (e.g., training opportunities for local businesses).

Another program, the GrowOKC Fund, provides capital assistance to Oklahoma City-based small businesses that have potential for growth. The targeted businesses are existing companies that can substantiate earning capacity. The \$2 million fund will enable participating companies to access the necessary capital to expand into new products or markets, add new sales channels, invest to enhance competitiveness, or make other strategic investments to grow revenues and employment. The GrowOKC fund provides low interest loans, preferred equity, and convertible debt investments. Financing amounts range from \$100,000 to \$250,000 per investment and are managed by i2E. The fund was made possible through a \$1 million investment of Federal State Small Business Credit Initiative (SSBCI) funds and a \$1 million investment by the City of Oklahoma and the Oklahoma City Economic Development Trust from the Strategic Investment Plan (SIP) low interest program.

A very important asset in this resilience factor is the Oklahoma Small Business Development Center (OKSBDC), which provides business development services in 16 regional centers and 44 satellite service centers throughout Oklahoma. OKSBDC is a partnership of the Small Business Administration, the Oklahoma Department of Commerce, State Universities, and local partners that provide management advising to new entrepreneurs and existing small businesses. In 2013, OKSBDC provided over 18,000 hours of counseling to over 4,000 businesses, leading to the creation of over 1,100 new jobs.

3.10.3 BEST PRACTICES

The Texas Small Contractor Participation Assistance Program (TSCPAP) is a best practice model for this resilience factor. The goal of TSCPAP is to ensure that small contractors have the opportunity to participate in certain public works projects involving a contract, or aggregate of multiple contracts, with costs estimated at \$1 million or more. Designated staff members of the Texas Facilities Commission (TFC) are available to provide general information about the program as well as technical assistance for building construction projects managed by TFC.⁷¹

For each building project TFC staff will provide technical assistance pertaining to the construction solicitation and award process. Staff will provide feedback on: construction plans, and specifications, agenda and deadlines such as project schedules, sequencing, or phasing, and assist in clarifying the programs' requirements such as determination of quantities and preparation of estimates.

Information on all active projects managed by TFC under TSCPAP is updated regularly including project descriptions, project status, and budget summaries. Once building projects are ready for construction solicitation and award, construction plans will be made available in plan rooms throughout the state. All solicitations for upcoming building construction projects managed by TFC will be available through the Electronic State Business Daily feature of the Window on State Government website maintained by the Texas Comptroller of Public Accounts. In addition to active construction solicitations, this link will list all current business opportunities with TFC. A similar program could be structured for businesses in Oklahoma interested in contracting for rebuilding and recovery efforts.

The Steering Committee may consider forming a Business Advisory Coordination Task Force to ensure the various business assistance and counseling assets are working in consort while encouraging development of new assistance models such as the Texas best practices model featured above. The task force could also be an independent voice of support and expansion of, existing programs for both industry diversification and business resilience. Finally, the task force could recommend and champion business counseling and technical assistance geared to the resilience industry, such as designating one or more incubators/accelerators to specialize in the specific needs of the resilience industry.

3.11 COMMUNICATIONS

3.11.1 DESCRIPTION

Establishing safe and effective communication channels in preparation for, and in the wake of, incidents is essential to protect against loss of life, potential economic impacts, and disseminate relevant information on safety, and available recovery resources. Pre-incident communication

⁷¹ <http://www.tfc.state.tx.us/divisions/facilities/prog/construct/small-contractor-participation-assistance-program>

includes warning systems, evacuation drills, informing the population on the location of safety rooms, and business networking and relationship building. Post-incident communication may be more complex as communication channels may sustain damage, thus steps to develop alternative communication means, such as social media channels, are of the utmost importance. In the wake of incidents, information on resources must be distributed to ensure organized and efficient recovery. Post-incident communication should focus of availability of resources for long-term recovery. Communications Systems include the following sub-factors:

- a. Identifies processes/mechanisms (e.g., business emergency operations center or communication networks) for communicating with businesses in the aftermath of a disaster.
- b. Identifies processes or methods for enabling local businesses that have reopened or were unaffected to communicate their status. Also provides mechanisms for post incident business-to-business communication for mutual assistance/collaboration.
- c. Has produced or distributed a resource guide for disaster-mitigation and post-disaster recovery for local businesses. Distribution may follow multiple communications channels (print, internet, and social media).
- d. Identifies secondary infrastructure resources that can be used to provide temporary restoration of communication services.

3.11.2 OKLAHOMA APPLICATION

The impact of communication deficiencies during and after disasters on the Oklahoma economy is thought to be significant. A survey of affected businesses conducted by the Oklahoma Chamber of Commerce in the affected areas of Moore and El Reno soon after the 2013 tornadoes stated that communication was their greatest unmet need.⁷² Although the state has an excellent Office of Emergency Management with robust communication capability, the need exists for businesses to come together in collaboration and improve communication with each other, emergency professionals, and the public. Many of the communication needs expressed by businesses focused on the ability to learn about key infrastructure restoration and inform the community about their re-opening status. Many businesses cited that customers assumed their facility was impacted because of its proximity to the impacted area. The result was less foot traffic, but no physical damage. Inter-firm collaboration has proven to be beneficial to companies in a variety of ways including combining purchasing power to achieve critical mass in employment, production, and marketing. This business collaboration and public-private partnership model has been successfully implemented for emergency situations in several states, including New Jersey.⁷³

⁷² Oklahoma City Chamber of Commerce "Results of Oklahoma Tornado Business Survey", May, 2013

⁷³ <http://www.beoalliance.org/>

3.11.3 BEST PRACTICES

Effective communication channels are key to improving initial response. After the tornados in Alabama, failures in communication were evident. For instance, the state and county Emergency Management Agency (EMA) Director's role was not clear to city officials, so they bypassed the response structure that was in place, which negatively impacted the response process. Understanding who does what is vital. In Alabama, uncoordinated communication became a scene for overwhelmed channels and missed opportunities. Many officials had radios that operated in the same frequency as firefighters, so this created a lot of confusion. On the other hand, some agencies operate in different bandwidths and responders could not communicate with other key players from different agencies because their communication channels were not bridged. Another failure occurred in the transportation of patients and coordination of first responders. The transportation of patients lacked coordination and some hospitals were overwhelmed with patients while others were underutilized. Improving coordination and communication with first responders will ensure that all the resources are being utilized and that patients are receiving the care they need.⁷⁴

To address some of the weaknesses the following recommendations may be considered:

1. Continuous training of emergency response agencies including exercises that include communication elements to test the plans that are in place. In Alabama, after the tornados, the damage affected conventional communication channels and this was a huge problem because there were no means of communication and the entire infrastructure fell apart. Leaders must decide which channels should be used for what type of communication.⁷⁵
2. Ensure that all emergency management response agencies have an interoperable communication plan and that it is up-to-date. Plan to test to plan constantly to identify gaps.⁷⁶
3. Bridging equipment so bands can be patched together and responders from different agencies can work together. The EMA had acquired one of these devices, which helped with communication in some of the hardest hit areas, but there were limitations on the range. Continue building on strategic communication reserves in preparation for a disaster.⁷⁷
4. Develop back up plans for communication. For example, the Alabama National Guard has one main communication system, and a variety of back up plans including the use of walkie-talkies. These devices are better than nothing during disasters and may play a vital role if other communication channels and technologies fail.⁷⁸
5. Utilize social media channels such as Twitter and Facebook to transmit messages to the community. In Alabama officials re-established an Internet connection and were able PwC Rebuilding for Resilience. Utilize social media channels such as Twitter and Facebook to transmit

⁷⁴ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ PwC Rebuilding for Resilience. Fortifying infrastructure to withstand disaster. September 2013.

⁷⁸ Ibid.

messages to the community. In Alabama officials re-established an Internet connection and were able to post messages through social media. Individuals could view these messages and even those who couldn't were able to communicate with relatives in other states who could relay the posted messages. This was an unconventional means of communication, but it worked.⁷⁹

6. Improve communication between trauma responders and ambulance drivers to coordinate the transportation efforts of patients. Developing an organized system to transport patients and avoid overwhelming one hospital and fully utilize all available resources.⁸⁰

7. Coordination of volunteers to reach areas in need. In Alabama the areas that were publicized had a large influx of volunteers. However, the less publicized areas that were in need did not receive support as fast and help was slow in coming. Communicating with volunteers would contribute to recovery in all affected areas, not just the most notorious ones.⁸¹

3.11.4 POTENTIAL ACTIONS

There is potential in developing new technologies and utilizing social media as a communication channel to achieve fast distribution of information. This would allow businesses to report their status relatively fast, and to connect with others in need. It would also serve as a platform to establish continuous communication with others in the community and share important information.

The Business Emergency and Continuation Optimization Network (BEACON) is an example of such a communication initiative. BEACON is a pilot project undertaken by the Eastern Oklahoma County Technology Center (EOC Tech) at the request of the Oklahoma Office of Emergency Management (OEM). Members of BEACON include business owners and stakeholders who come together to share and exchange information on business continuity, planning, and recovery. They also have the opportunity to expand their network, grow their business, and build relationships with other community members. Moreover, BEACON may be helpful in collecting information and understanding the needs of the business community, both for normal operations and in times of emergency. EOC Tech has surveyed a beta group of firms and plans to share data collected and develop a plan of implementation in partnership with OEM.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid.

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APPENDICES

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APPENDIX A: STRATEGIC INITIATIVE ACTION AGENDA

The Oklahoma Economic Resilience Strategic Report provides a framework comprised of eleven universally recognized preparedness, response, and recovery factors. A group of key economic development stakeholders who were involved in the process formed a steering committee and began to coalesce and form initiatives to address them. Among those initiatives were the following:

1. Development of resilience as an industry sector in the region,
2. A business emergency communications network,
3. Community-based economic resilience, and
4. Rural/agribusiness resilience.

While these initiatives compliment the strategic resilience elements of the Oklahoma Strong plan, they are tactical in nature and regional in scope. Therefore, the following Strategic Initiative Action Agenda was developed to give the steering committee guidance to successfully implement the initiatives, and serve as guidance for future initiatives that may be created throughout the state. These action agendas are designed to address four basic questions:

1. Who will do what tasks to accomplish the initiative
2. When should those tasks be completed
3. What resources are needed to complete the task, and
4. Where can the needed resources to implement the tasks be found

This guide is meant to be simple to use and concise—as an ongoing agenda for the initiatives. Each is listed in a separate section, so that they may literally be used for that purpose by those directly involved in each initiative as they move forward. In addition, some basic principles for successful implementation follow. These principles have been proven effective in implementing initiatives throughout the nation.

The successful implementation of initiative action agendas requires a disciplined process. This guide is designed to quickly engage leadership and focus on measured results, building on initial successes for long term achievement. For each of the initiatives, an action team should be formed. The members of each action team should meet, elect a team leader, and develop a timeline for the action steps. It should also secure commitments from each member to either directly accomplish and/or recruit others to help accomplish every action step.

The Steering committee will serve to coordinate individual initiatives and ensure progress continues toward their implementation. The process for each initiative is as follows:

- 1. Identify Potential Leaders:** Through a combination of personal knowledge and networks, Steering committee members should identify initiative team leaders and other stakeholders to serve on task forces in one of the initiatives, and/or in sub-groups that will undoubtedly be formed to carry out specific tasks. These leaders should have a personal interest in, and absolute commitment to, the successful implementation of the initiative.
- 2. Form Task Forces and Request Assistance:** Initiative team leaders must seek co-leaders, and both will be charged with working to recruit other leaders in carrying out the steps of the initiatives. The task force they assemble should be of sufficient number to achieve results, but not so large that it is unmanageable. Different initiatives will require different size action teams, but ideally each team should have 10-15 members. Members should be personally recruited by task force leaders and commit to assist in carrying out the initiatives' action agendas.
- 3. Organize and Benchmark:** The task forces should meet within two weeks of their initial appointment to organize themselves and develop a structure that provides assignment of each action step to a committee member. The team should then benchmark successful efforts elsewhere to see how those initiatives were carried out and what lessons were learned. The Steering committee leadership can help source benchmark efforts for most initiatives.
- 4. Determine Timelines and Resources:** Once the task forces have organized and evaluated successful efforts, they should determine reasonable timeframes for each of the action steps and resources (human and financial) required to implement them. In some cases, action teams may contract with outside experts to produce needed research and/or investment prospectus. In such cases, action teams will work with steering committee leadership to identify and pursue needed resources.
- 5. Take Action, Report, and Refine:** Teams should divide tasks into specific steps and assign members to perform them, either with other members, business and community leaders, or outside experts. As results are achieved, team members should report to the team and the Steering committee so that either the team may move to the next action or, if the results are not satisfactory, make refinements to redirect the action so that desired results are achieved.
- 6. Measure Progress:** Once teams report to the Steering committee, their progress should be measured and reported to the appropriate state and private sector sponsors, and subsequently to the public. Initial successes serve two critical purposes: 1) To build momentum for those working on the initiatives and support from sponsors and stakeholders; and 2) To allow for adjustments as inevitable changes occur. Measuring progress will increase chances of success.

Using this simple system, many strategic initiatives have accomplished significant steps toward developing dynamic, sustained efforts. Action Agendas for each of the initiatives, with specific steps, timeframes, and stakeholder leadership commitments, are outlined below. They may be amended as circumstances change or new opportunities arise from the strategic plan.

INITIATIVE 1: BUSINESS EMERGENCY AND COMMUNICATIONS OPTIMIZATION NETWORK (BEACON)

BEACON is an initiative of the Eastern Oklahoma County Technology Center (EOC Tech) designed to expand from a local initiative to regional and statewide through collaboration of other Oklahoma Technology Centers throughout the state. BEACON will work with businesses to improve their disaster preparedness; improve communication with and between business and industry before, during and after disaster events; provide a venue for training and building of relationships between and among businesses and support organizations to enhance business continuity; coordinate response efforts to assist businesses in their efforts to return to normal operations as quickly as possible; and assist the Oklahoma Office of Emergency Management as the business representative to help coordinate business/economic emergency response efforts.

BEACON will provide several services to the business community and state, including:

1. Business-to-business collaboration and communication as a hub to connect private sector organizations with each other, and with emergency response and recovery efforts
2. Interface with local and federal emergency operations centers to ensure assistance and resources are being directed to businesses in need
3. Business to non-governmental organization (NGO) collaboration, specifically to Voluntary Organizations Active in Disasters (VOADs) for more effective response
4. Facilitate business case management, a key attribute of successful recovery efforts are those who position trained business counselors to facilitate the unique needs of impacted businesses.
5. Encourage Inter-firm Collaboration for more effective response and business continuity through facilitating the building of relationships and trust between and among businesses

BEACON would leverage assets to help businesses and communities, including:

1. Volunteer and Professional Staff, which is composed of pre-trained and pre-equipped individuals who have been empowered by their private sector employers, or receive grant and/or other funding as professional staff to participate in BEACON activities.
2. Physical, virtual, and mobile components, which include a communications hub linked to the Oklahoma Emergency Management's Emergency Operations Center, mobile aid facilities, and use of communications technologies such as smartphone applications (apps).
3. Volunteer registry, training, deployment, and management, working with VOADs and other NGOs to coordinate voluntary assistance to the business community.
4. Coordination with Oklahoma OEM and Defense Operations, to ensure 360-degree response.

A board of directors encompassing business leaders, emergency management and economic development professionals, Volunteer Organizations Active in Disaster (VOAD) representatives, and/or university officials would govern BEACON. BEACON would not require membership; however, it may ask businesses to register and provide information on principal management, locations, and key products/services. Businesses not damaged may be able to assist those that have suffered through collaborative linkages that BEACON may provide.

BEACON may also conduct assessments, develop and run scenarios to increase effective response, and may conduct research to develop innovative processes and technologies to improve response and recovery. BEACON should work with the Oklahoma Small Business Development Center to coordinate and provide training in business continuity and, utilizing the networks BEACON hopes to develop, counseling and technical assistance.

Implementation:

Implementation action steps, with responsible leadership, timelines, and resource sources, follow:

Action Step	Deadline	Source of Resources
Survey beta business group to determine most critical disaster/emergency needs	May 30, 2014 (Completed)	EOC Tech
Meet with Oklahoma OEM Director to review results from businesses and discuss structure	August 6, 2014	Possibly OEM
Develop a full business plan including potential sources of funding for stakeholder review	September 30, 2014	EOC Tech
Meet with head of OK Tech Centers, ODOC Secretary, VOAD, and corporate/community leaders to solicit support	December 31, 2014	OK Tech Centers, VOAD and/or individual foundations, corporate, possible grant funding
Launch awareness campaign and begin implementing BEACON's programmatic mission.	January 1, 2015	Same as above

INITIATIVE 2: COMMUNITY-BASED RESILIENCE

Economic resilience is inherently dependent upon community resilience. Communities must have the ability to recover basic functions such as returning to the work place, restoring mass transit and repairing business infrastructure for the economy to function.

Trust, hope and collaboration may increase as a community's relational foundation is repaired and strengthened. Both community capacities and community resilience may improve measurably. In response to needs within the community of Shawnee, University Baptist Church has begun a process to replicate the Community Renewal International's (CRI) model.

According to their website (<http://www.sbcr.us/about.cfm>) the CRI model has proven to systematically grow and sustain safe and caring communities with measurable results for almost 20 years. Over 200 cities from across the country have visited Louisiana to experience the model. Replication has begun in several communities in the U.S and internationally. The CRI model is comprehensive, replicable and scalable. It serves as a common platform to connect both complex problems and creative solutions. It is highly customizable and provides coherence for the complex systems of relationships that define a community.

The University of Oklahoma Health Science Center's and the Center for Terrorism and Disaster (OUHSC-CTD) developed the Communities Advancing Resilience Together (CART) toolkit, which was influenced by the CRI, to integrate principles in data collection and economic resilience assessment into the CRI model as it is replicated. This toolkit will be will be implemented as a means of community building to achieve community resilience, including economic resilience.

Utilizing the CRI model allows for further integration of economic resilience by creating closer ties between businesses and the community. These ties result in greater understanding of mutual needs in time of emergency leaving to more effective recovery through collaboration on rebuilding infrastructure and business continuity. CART's comprehensive assessment model works alongside CRI strategies and compliments CRI's agile planning systems to provide a comprehensive view of both the community and its economy so that both pre- and post-disaster recovery planning may be more effective.

As a pilot project, CART replication in Shawnee may contribute to the growth of a trusted caring network that creates an enabling environment. In this environment, resilience is attainable through sustainable development policies and planning, developing and strengthening institutions, adopting mechanisms to build resilience to hazards, and incorporating risk reduction approaches into emergency preparedness, response, and recovery programs. By implementing community based resilience, a community increases its capacity and agility to rapidly adapt to disasters and other unforeseen events. The pilot project in Shawnee also plans to utilize tools from FEMA's www.ready.gov toolkit and FEMA mitigation expertise. These can combine for a best practice model with the readiness of FEMA, and the trust and caring of CRI, as enhanced and measured by the CART toolkit, to achieve greater capacity for resilience.

The pilot project involves the following action steps (due to the number and complexity of the tasks, they were not placed into a table):

- Training community leaders and volunteers to engage in outreach efforts to encourage Shawnee residents in CART. Training is provided by the Center for Community Renewal (CCR) through immersive learning experiences at the CRI living laboratory in Louisiana. Deadline: July 11, 2014. Resources: Private foundation funding, corporate support.
- Placing resource support teams to guide and assist in the implementation of CART. Deadline: September 30, 2014. Resources: Foundations, corporate support.
- Utilize the Institute for Community Renewal (ICR) and OU Center for Terrorism and Disaster (OUCTD) to work in conjunction to process feedback and knowledge gained. Deadline: March, 2015. Resources: Community renewal & resilience fundraising efforts.
- Place one paid Shawnee employee for each 80 volunteers. The initial paid staff includes a City-wide Coordinator and two support staff. As the model scales across Shawnee paid staff will be needed for Haven House, Renewal Team and Friendship House programs. Deadline: May, 2015. Resources: Community renewal & resilience fundraising efforts.
- A dedicated staff of three will be needed to lead the efforts in building community partnerships, funding development, manage media communications, and develop initiatives as the Shawnee Caring Network brings forth specific community needs. Deadline: September, 2015. Resources: Fundraising, grants, and corporate support
- Data Collection to provide an in depth demographic description of the population, community, and their needs, plus data from specific initiatives and pilot projects. Implement the following:
 - Surveys: used to develop a community profile from the perspective of the respondents.
 - Interviews: used to generate qualitative information.
 - Demographic assessment: used to understand the community and its composition, which will inform the needs of the population.
 - Infrastructure maps: used to assess the resources available to the population such as housing, health, etc. Also, contribute to knowledge that contributes to preparedness and response.
 - Eco-maps: used to understand the relationships and nature of the relationships within the community.
 - Stakeholder analysis: used to identify key stakeholders and their influence in the community.
 - Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis: used to identify strengths and weakness and develop strategies to leverage opportunities and mitigate threats.
 - Capacity and Vulnerability assessment: used to assess the capacities and vulnerabilities of the community and their impact on achieving a goal.

INITIATIVE 3: RESILIENCE AS AN INDUSTRY SECTOR

The rapid adoption of resilience as a term with no clear definition has led to the word being termed a “buzzword”¹. This, coupled with the diverse nature of the actions required to strengthen, respond to, and recover from disruption have led to the birth of an industry that is not clearly defined. However, there are guideposts that can be used in moving toward defining the industry. Resilience is defined as “the ability to respond to, and negate negative impacts from, an adverse event”¹. This broad definition can result in equally broad inclusion of many different stakeholders and industry sectors. Responding to adverse events can entail everything from the Armed Forces to the financial sector. Narrowing that definition is critical to discern those firms that are building, designing, manufacturing, and providing services that make communities safer. The objective of this effort is to develop a regionally relevant definition to encompass these three types of businesses:

Directly Related: These are industries whose primary source of revenue, defined as more than 50% of gross earnings per year, stem from disaster response, recovery, mitigation, and resilience. They advertise themselves and hold their staffs to be proficient in these functions.

Indirectly Related: Industries who’s primary source of revenue, defined as more than 25% but less than 50%, stems from disaster response, recovery, mitigation and/or resilience. They advertise and hold themselves up to be proficient in these subjects, though not these exclusively. Examples of companies that have a local presence and fall into this category include regional suppliers who routinely scale up their production to support faster recovery rebuilding work in disaster-prone areas.

Tangentially Related: Industries that derive more than 0% but less than 25% of their revenue from disaster response, recovery, mitigation and /or resilience. They do not advertise or hold themselves to be proficient in these professions, but do provide some services to response, recovery, and/or resilience efforts. Examples could be attorneys or accountants that assist in filing for recovery benefits or account for resilience expenses.

By identifying industries that fall within each of these three categories, an initial list of North American Industrial Classification System (NAICS) codes has been developed. This list provides insight and a baseline for determining the true extent of this industry. An initial review based on a wide definition of resilience that encompasses preparation, response, recovery, and planning yielded 132 four-digit NAICS codes. While these NAICS codes don’t reflect a refined sub-set of targetable industry sectors, it does offer a perspective of the scale these sectors carry when considered together. The resilience as an industry initiative seeks to build on local and regional businesses to discern the relevant resilience industry in Oklahoma.

There are several assets present in the central Oklahoma region and others throughout the state, which may add potential for growth if integrated to promote commercialization, tech transfer, and entrepreneurship.

Leveraging these assets into an industry sector ecosystem that encourages growth and development may be a valuable economic development strategy and it counts with the supported of stakeholders in the region.¹ Substantial time and resources have been spent on current campaigns targeting perceptions of Oklahoma as a dangerous place. This initiative would not utilize traditional marketing or advertising strategies. Instead, the effort should be focused on identifying and assisting existing companies involved in the industry, to organically market. The approach will market the entrepreneurship and start-up support activities to tap into the network's professionals, leading researchers, and development initiatives have in place to encourage location in Oklahoma.

Stakeholders recommended the following actions be undertaken in implementation:

Action Step	Deadline	Source of Resources
Establish networks of existing companies within the resilience industry to encourage collaboration and new market opportunities	July 31, 2014	GOCP
Develop an organic recruiting campaign utilizing existing resilience leadership	October 1, 2014	GOCP, Possible Grant Funding or corporate support,
Develop a resilience industry innovation center & align with a business incubator	January 1, 2015	OU, corporate and foundation support
Unveil the initiative at the International Disaster Conference and Expo, New Orleans	February 12-15, 2015	GOCP, Eastern OK County Partnership, Norman EDC, OK Business Roundtable
Identify and support local resilience firms and encourage them to position Oklahoma as THE place to turn for knowledge in resilience	Ongoing	GOCP, BEACON/EOC Tech, OKSBDC, Tulsa Partners, ODOC, Dept. of Insurance, OEM, Governor's Office

INITIATIVE 4: RURAL AND AGRIBUSINESS RESILIENCE

Rural resilience is important because the agricultural sector remains an important component of the U.S. economy, generating \$1.2 trillion toward GDP, and generated \$39 billion in taxes, in 2007¹. Recent trends show that agricultural production is becoming more concentrated (for example, 2% of farms produce 16% of products nationwide, three states produce 53% of hog production, and the number of young farmers under 25 decreased 30% from 2007-2007, according to the U.S. Department of Agriculture). The severity and frequency of the disasters continues to grow nationally, and Oklahoma has experienced significant damage and losses as a result.

In January 2013, the USDA issued a statewide drought declaration, which provided low-interest loans to cover farm losses. Prior to that, beginning in August of 2011, a dozen wildfires burned more than 52,000 acres in Oklahoma, causing an estimated \$30 million in damages according to the Oklahoma Cooperative Extension Service. This was followed by a major winter storm in early spring of 2013, which caused an estimated \$7.5 million in damages and response costs in 18 Oklahoma counties.”

After the May, 2013 disaster, a survey of rural agribusinesses was commissioned by the CPCB at the request of Canadian County District 3 Commissioner Jack Stewart for Canadian County and conducted in November of 2013 to assess unmet needs in the county. A total of 13 farms had unmet needs relating to tornado and hail damage. The total estimate of unmet/uncovered losses from the surveys totaled \$4,118,446.00. The surveys were relayed to the CDBG-Disaster Recovery effort through the Oklahoma Department of Commerce, who in turn recommended the US Department of Agriculture’s Farm Service Administration for possible assistance.

In addition, economic development stakeholders in eastern Oklahoma and Pottawatomie Counties expressed a desire for a focus on the specific needs of the rural and agribusiness (including farms) area. OSU-OKC organized a meeting on with interested stakeholders to discuss issues and unmet needs expressed through the Canadian County survey and in informal discussions with economic development stakeholders in Eastern Oklahoma and Pottawatomie Counties. The meeting resulted in OKC-OSU agreeing to take a lead role in addressing rural and agribusiness needs. OSU-OKC convened a second meeting in which more specific issues were addressed and actions were planned to move a rural/agribusiness resilience initiative forward.

An effort by the Oklahoma State University Center for Innovation and Economic Development and the OSU-managed US Department of Agriculture’s Agricultural Extension Service on increasing rural resiliency in Oklahoma provides foundational information for consideration. The National Governor’s Association (NGA) Disaster Framework: provides a guide for emergency management, pre-disaster recovery planning, and guidelines for post disaster recovery.

This framework, like the National Disaster Recovery Framework, is useful in identifying roles and responsibilities. The Extension Disaster Education Network, or EDEN¹, is a network, based

on principles of the NGA framework that intends to link organizations serving rural Oklahoma who have common objectives together. By doing so, reciprocal ties may result in trust, positive emotion, and building relationships. Communities that have high social capital have been shown to cope with traumas more effectively.¹

A total of 101 organizations with various roles ranging from law enforcement to insurance came together in two separate panel discussions, and reached consensus on their roles in mitigation, response, and recovery. Recommendations of the panels included encouraging agricultural leadership to be engaged at the local level, holding preparedness meetings, and determining capabilities for all involved.¹

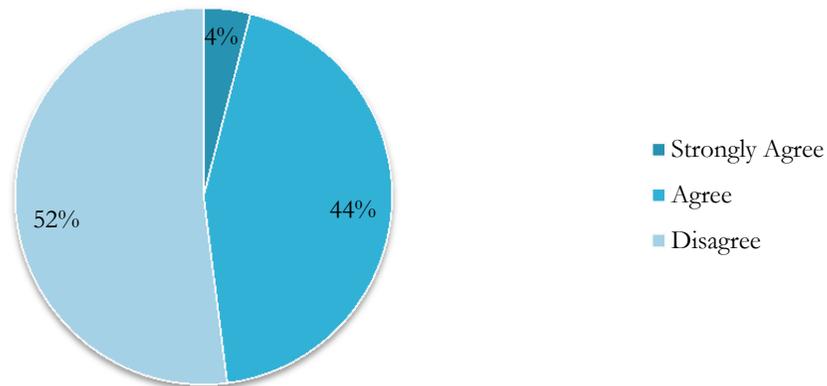
Stakeholders of the rural and agricultural business initiative expressed an interest in working with the EDEN initiative, along with the Red Cross and Oklahoma Small Business Development Center on rural business continuity. It may also attempt to access resources from rural and agricultural-centric programs such as the Cargill Foundation and the Noble Foundation that have expressed an interest in resilience. Actions to implement the agricultural resilience effort include:

Action Step	Deadline	Source of Resources
Engage the USDA extension service and related organizations such as the Oklahoma Farm Bureau and the Oklahoma Association of Electric Cooperatives (OAEC)	July 17, 2014	OSU-OKC
Hold a listening session with rural/agribusiness interests from throughout Oklahoma to more specifically identify rural needs	August 31, 2014	Possible Grant Funding or corporate sponsors
Conduct due diligence to determine resources available specifically to rural and agricultural businesses for preparation, response, recovery, and economic diversification	January 1, 2015	OU, corporate

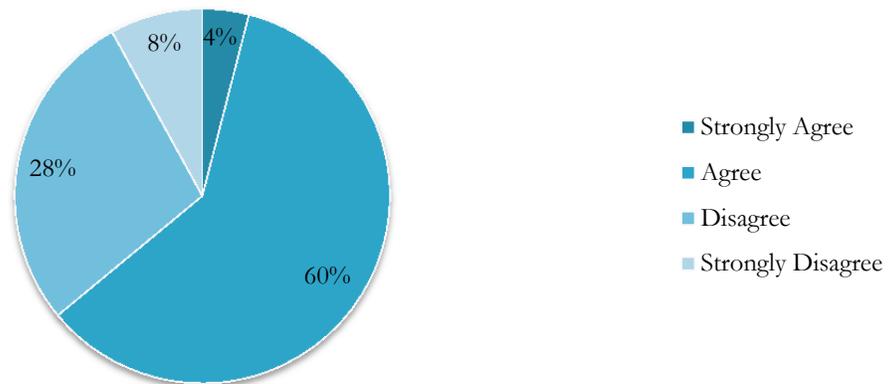
APPENDIX B: RAW DATA - SURVEY RESULTS

COMMUNITY RESILIENCE SURVEY RESULTS

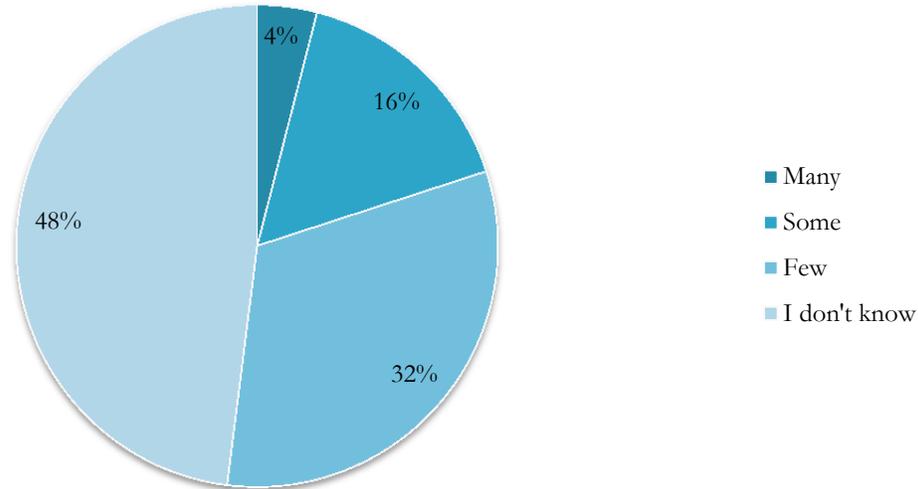
Our residents have taken necessary steps to prepare for disasters.



Your community has a plan or system in place to respond to the economic impacts of incidents (like natural disasters, sudden closures of major employers, or other sudden challenges).



About how many of businesses in your community have conducted business continuity planning or implemented steps to be less vulnerable from a disaster?



What are the tools you think your community may need (that you don't currently have) the most in recovering from a major disaster (e.g. a pre-disaster recovery plan, better asset mapping of pre-incident resources, training for business leaders, etc.)?

- Recovery plan
- Emergency Revolving Loan Fund
- Training for business leaders
- Information and planning PRIOR to an event
- pre-disaster recovery plan
- Community shelters and emergency response to rural areas
- Printed guides that people can have before a disaster that lets them know where and how to seek help. Understanding that these could be lost in the disaster, there should be several thousand extra copies for distribution later.
- Training for business leaders, getting them to participate in our EOP.
- I would like to see a training session offered to business leaders in the community. Also, a “town meeting” for people to attend offering tips and resources to the community.
- Communications both to public and other responders
- Debris plan approved by FEMA
- Pre-disaster recovery plan, better asset management of pre-incident resources, training for business leaders, training for community members
- pre-disaster planning, recovery planning
- Consistent methods to communicate the available resources to allow for a faster response to those in need and to fully utilize those resources.
- Business Continuity Planning for business leaders
- Pre-disaster recovery plan, pre-incident resources

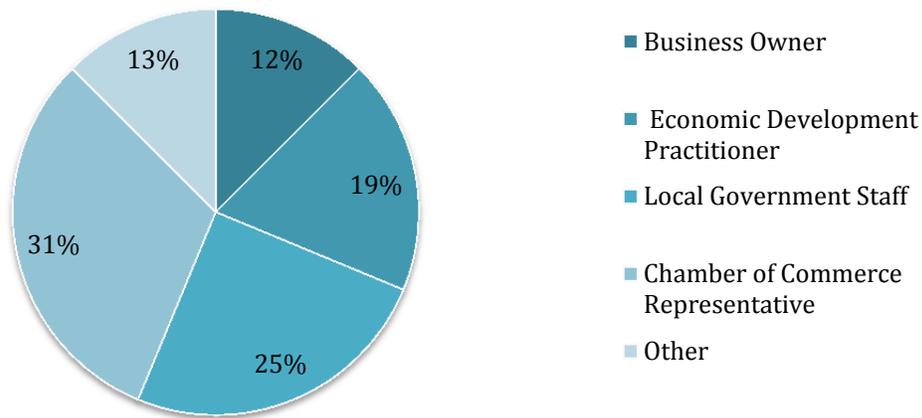
- Training in developing and implementing a business continuity plan. Also, help in coordinating efforts with other local governments and organizations.
- Engagement and training of business leaders by community and government leaders.
- Depends on the type of disaster.
- Additional business continuity plan training and a sense of urgency to accomplish that.
- pre-disaster planning and training
- Training for business leaders and a pre-disaster recovery plan
- Yes, we need a better local plan, asset mapping and training
- Disaster Recovery Plans
 - Continuity of Business Plans
 - Training in disaster recovery and continuity of business planning and preparedness
 - Training in mitigation planning for businesses
- Planning

Please list any disaster preparedness, hazard mitigation, community resilience, recovery or response efforts and programs, centers of excellence, or other assets related to disasters or disruptions, either currently underway or planned. These may be by you, or in your community, county, or region.

- EOP, Hazardous mitigation plan.
- We have a complete Emergency Operations Plan approved the State of Oklahoma and FEMA.
- hazard mitigation plan
 - backup generators for critical town facilities
 - flood hazard prevention ordinance
 - fire wise education information
 - storm shelter registration county task force organization, leadership and participation
 - interoperable communication system
 - NIMS compliant
- Emergency warning systems (fire / tornado, etc.) and a business continuity plan
- Currently looking into IPAWS for the city of Yukon, continue to meet with EOP Group and updating our HMP, upgrading our 911 capabilities.
- Outreach safety programs, FEMA approved hazard mitigation plan
- Disaster preparedness in the hospital setting is established and drilled, including disruptions in services, such as utilities, etc. Our local community is very fortunate to have an extremely active Local Emergency Planning Committee that works together for disaster preparedness. This would be a great resource for recovery and response, however, anything community wide would definitely test that.
- Oklahoma County Emergency Operation Plan
- City and County has a Local Emergency Planning Committee that is actively engaged in these areas. There was an effort last year to bring others into that group to determine what other resources there may be, OR to help build a strong connection, but the May storms stopped all that.

- local CERT team led by good local Emergency Manager, SE OK State University has done campus wide all hazards training and has student CERT team
In my role at OKSBDC I provide BCP statewide
- We used our residence halls as temporary housing for disaster workers after the tornadoes in 2013.
- Hazard and Risk Assessment, Emergency Operations Plan, Mitigation Plan, Response and Recovery Exercises, Mitigation Projects, etc.
- I have a ranch to go to where I can survive without interference,
- Tulsa Partner's Disaster Resistant Business Council
City of Tulsa Multi-Hazard Mitigation Plan
City of Tulsa Stormwater Drainage and Hazard Mitigation Advisory Board
- We operate under Grady County's hazard mitigation plan
- We are part of the Cleveland County, OK five year hazard mitigation plan, and we are very connected to the County EMS and State EMS Programs. All our local leaders have taken the required Incident Command Certification training and we have a local Emergency Management Director.
- Fire Department is training along with Emergency Services (ambulance)

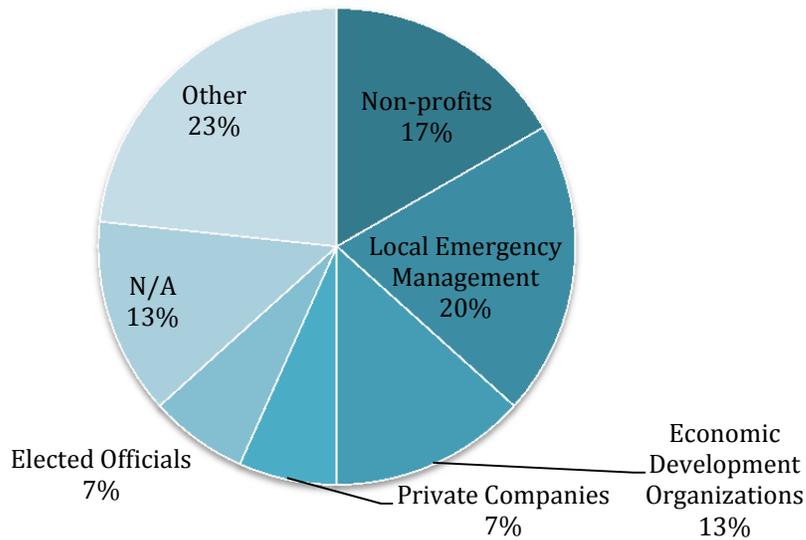
What type of stakeholder are you?



Are there efforts underway intended to support resilience, businesses preparedness, business continuity, or disaster recovery?

- City/County Emergency Manager is trying to pull the various groups together to cover some of these topics.
- We have an Emergency Management Director who works for the city of Kingfisher
- We have learned a great deal since our campus was destroyed by the May 31, 2013 tornado. As we build back, we are re-thinking many of our processes.
- FEMA, EDA, American Red Cross' Ready Rating Program
- Have a workshop coming up in June.
- Business preparedness and continuity workshops offered to our membership.
- several projects through the City of Moore as well as the Moore Chamber of Commerce and other entities
- Chamber is consistently developing plans to ensure our businesses are prepared.
- OCCC has a detailed agenda.
- PROJECT BEACON
- After last May, 2013, we started sharing information

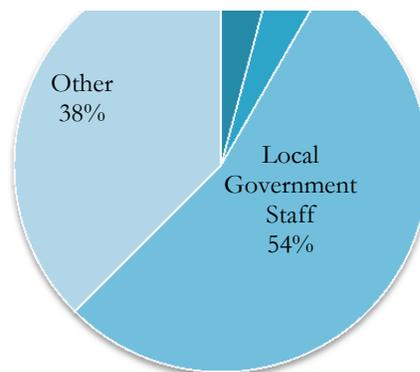
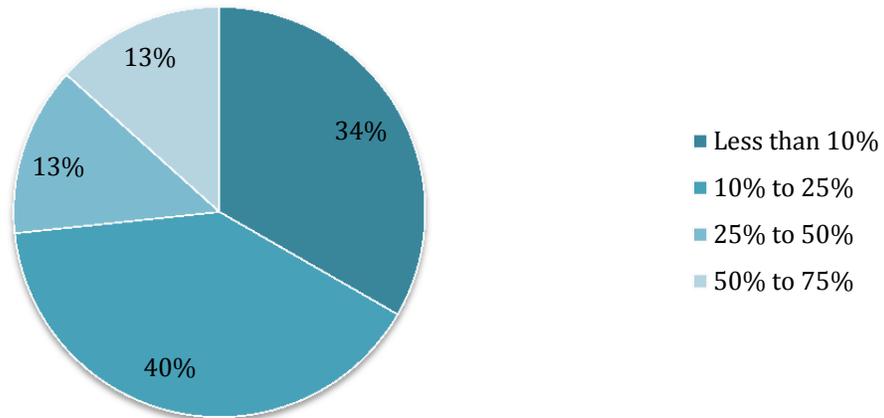
If yes to previous question, who is leading the effort?



Are there any initiatives or groups in your community working on bringing in new industries, expanding workforce training opportunities, providing additional business services, or conducting any advanced planning initiatives?

- As it relates to economic development we are always working on these areas.
- Although we have a Kingfisher Development Foundation that owns the Industrial Park and promotes it for business development, we do not have a paid Economic Development employee.
- At CVTC, we are partnering with both private businesses and public organizations to provide the training and services needed to expand our current industries while we work to recruit new industries.
- I don't know
- Greater OKC Chamber and Partnership does all
- Our city is supposed to be handling our economic development efforts but have done very poorly in doing so.
- City of Blanchard is currently developing an industrial site to gain new business and is actively seeking new businesses. Chamber of Commerce offers multiple workshop opportunities to provide workforce training and additional business services.
- No

In your estimation, what percentage of your stakeholders (e.g. businesses, members, constituents, etc.) have continuity/preparedness plans and are ready for disasters?



of the wealth generators in the community or even the service companies and organizations know what is available in these areas.

- I think building resilience and enhancing economic capacity are both needed here.
- There is still a need for organizations to prepare for not only disasters, but other situations like theft, key personnel loss, etc.
- We are surveying to understand the answer to this question
- I don't know (7 respondents)
- No (3 respondents)