Economic Development Administration Resilience in Economic Development Planning

Colorado Flooding: DR 4145

October 2014

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

There is a push across the nation to encourage resilience and sustainability in communities. While communities prepare to respond and recover from the hazards they face, it is important to recognize that they will not be able to prevent every threat or disaster. For this reason, enhancing resilience has become a national priority. One of the ways that communities can enhance resilience is by learning from disasters and translating that knowledge into actionable changes.

Colorado experienced extensive flooding and landslides in September 2013. The disaster spanned more than a third of the state, and the flooding and resulting mudslides took the lives of ten individuals and resulted in the largest domestic evacuation operation since Hurricane Katrina. As part of the recovery efforts, the Economic Recovery Support Function (RSF) of the Nation Disaster Recovery Framework (NDRF) was activated.

The NDRF is organized around six Recovery Support Functions (RSFs) —Community Planning and Capacity Building, Economic, Health and Social Services, Housing, Infrastructure Systems, and Natural and Cultural Resources. Each RSF has a Coordinating Agency, as well as primary and support agencies to execute the RSF mission. The U.S. Economic Development Administration (EDA) provides leadership, coordination and oversight for primary and support agencies under the Economic RSF, all of which share a role in the provision of grants, loans, training, and other forms of technical assistance in both the pre- and post-disaster environments.

Through the examination of economic impact survey findings and input received through the economic recovery roundtable meetings held in Colorado, several important economic recovery issues emerged. Among them was a desire to learn from the disaster and integrate resilience into the economic sector. To that end, EDA conducted a study to establish a baseline of current economic resilience planning efforts in the area, identify trends and current resiliency practices, and develop recommendations to assist communities, state, and regional economic development organizations, and federal agencies in stimulating resilience planning.

The EDA team developed a metric with 52 unique components and used it as the basis for its review of 25 plans from the hardest hit area of the state. This document provides an overview of resilience in the context of economic development, and its application to a tool for evaluating resilience in economic development plans. Overall, EDA found that the plans did not include or address a majority of these resilience factors. Based on the findings from the plan review and subsequent interviews with local economic development organizations, nine opportunities (three for local economic development organizations and six for state and federal agencies) were identified to assist communities in incorporating resilience into economic planning efforts. They are summarized below.

Communities and Economic Development Organizations

- Incorporate economic resilience concepts into economic strategies, plans, programs, and initiatives
- Develop a "Buy Local" program that engages local resources in disaster preparedness, response, and recovery
- Develop a workforce resiliency strategy

State, Federal, and Other Supporting Partners

- Increase awareness of the connection between resilience and economic vitality and growth
- Provide training and outreach to communities to further their understanding of economic resilience principles
- Develop tools and resources to support economic resilience planning efforts and growth initiatives
- Provide financing to small towns and resource-strained communities to engage in resiliency planning
- Develop partnerships and resource sharing arrangements between interested communities
- Consider how to remove barriers to accessing planning resources for middle-income communities

Overall this study found that the concept of economic resilience is not fully understood by local economic development practitioners—an observation that is probably nationally applicable and not unique to Colorado. Most participating communities expressed enthusiasm and interest in the topic and would like to learn more about how to incorporate resilience into economic planning efforts. Additionally, the interviews conducted as part of the study became an unanticipated accomplishment, as they facilitated dialogue and information exchange with community leaders and economic development planners.

BACKGROUND

Disasters damage property, disrupt commerce and supply chains, displace workers, and interrupt markets for goods and services. The goal of economic recovery is to return economic and business activities – including agriculture – to a healthier state and develop new economic opportunities that can fuel a sustainable and economically viable community.

Overview of Disaster

Colorado experienced extensive flooding and landslides in September 2013. The disaster spanned more than a third of the state, from Rocky Mountain National Park to the grasslands and agriculture centers on the eastern plains. Record-breaking rainfall, topping 17 inches, caused the Big Thompson, St. Vrain, and South Platte rivers, as well as their tributaries, to breach their banks and carve out new channels throughout three major watersheds in the State. The flooding and resulting mudslides took the lives of ten individuals and resulted in the largest domestic evacuation operation since Hurricane Katrina. Eighteen counties were designated as eligible for federal disaster assistance.

The types of impacts from the flooding event of 2013 are widespread and varied, and on September 14, 2013, a Major Disaster Declaration was declared. Communities impacted, especially those in Boulder, El Paso, Larimer, and Weld counties, had damage to infrastructure, housing, stock, economic and commercial assets, and community institutions. Figure 1 highlights those counties that received public and individual assistance from FEMA.

The Colorado Department of Local Affairs (DOLA) leads the State RSF for Economic and Community Recovery. The Economic RSF has worked with its federal and state agency partners to document the major strategies and initiatives for supporting economic recovery in Colorado. The majority of businesses impacted by this disaster are considered small businesses. As such, the capacity for small businesses to recover is a key factor in Colorado’s economic recovery. Economic development stakeholders indicate that many affected businesses lack overall business and financial management capacity. Many small businesses had relatively small private capital savings prior to the floods and few had disaster preparedness or business continuity plans in place.

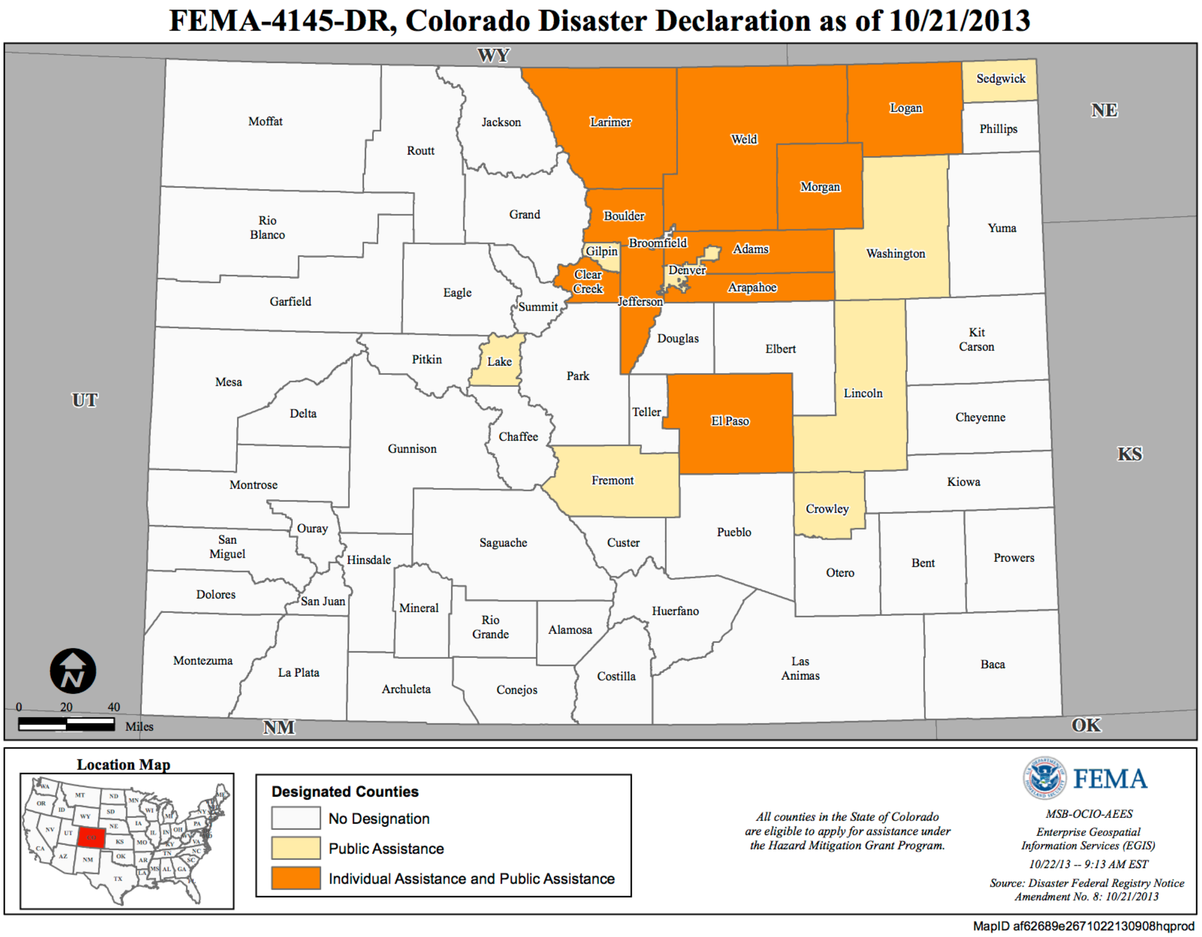


Figure 1: Counties Receiving Disaster Declarations

Economic Recovery Support Function

In September 2011, FEMA published the National Disaster Recovery Framework (NDRF). The framework was produced in collaboration with federal departments and agencies and states that share a role in providing assistance following a disaster event. The NDRF is organized around six RSFs—Community Planning and Capacity Building, Economic, Health and Social Services, Housing, Infrastructure Systems, and Natural and Cultural Resources. Each RSF has a Coordinating Agency, as well as primary and support agencies to execute the RSF mission.

The mission of the Economic Recovery Support Function (RSF) is to utilize the expertise of the federal government to help local, state, and tribal governments and the private sector (1) sustain and/or rebuild businesses and employment, and (2) develop economic opportunities that result in sustainable and economically resilient communities after large-scale and catastrophic incidents. The Department of Commerce (DOC) has been designated by the President to serve as the lead federal agency for the Economic RSF. The Economic Development Administration (EDA) is responsible for carrying out this mission on behalf of DOC. As such, EDA provides leadership, coordination and oversight for primary and support agencies, all of which share a role in the provision of grants, loans, training, and other forms of technical assistance in both the pre- and post-disaster environments. This is a vitally important role and represents a significant opportunity for EDA to support community-based economic recovery efforts.

The Economic RSF teams spearheaded the development of a Mission Scoping Assessment (MSA) for each state to capture available economic recovery data and interpret its significance for the short-term, intermediate, and long-term recovery efforts. The MSA serves as the foundation for the development of the Recovery Support Strategy (RSS), which outlines economic consequences and enumerated strategic actions and technical assistance projects designed to stimulate economic development opportunities for communities and industry.

Economic Resilience

The National Disaster Recovery Frame (NDRF) is based on nine core principles, one of which is *Resilience and Sustainability*.

> *A successful recovery process promotes practices that minimize the community's risk to all hazards and strengthens its ability to withstand and recover from future disasters, which constitutes a community's resiliency. A successful recovery process engages in a rigorous assessment and understanding of risks and vulnerabilities that might endanger the community or pose additional recovery challenges.*

With regards to economic recovery, the NDRF found that "effective economic recovery following a disaster is positively influenced by pre-disaster community planning including mitigation actions that increase community resilience." By focusing on the resilience of the community as a whole, the community's adaptive capacity to recover from all kinds of change is enhanced, whether that risk has been identified or not.

This document provides an overview of resilience in the context of economic development, and its application to a tool for evaluating resilience in economic development plans. The definition that was used for this project for *economic resilience* is derived from a number of discussions in *Designing Resilience: Preparing for Extreme Events* (Comfort et al, 2010).

> *The resilience of a community or an economy is measured by the level of vulnerability present before a disaster, the capacity to respond to and recover from a disaster, and the degree of community preparedness to both reduce vulnerabilities and increase capacities.*

Based on this research, three assumptions can be drawn regarding resilience. First, resilience assumes a pre-disaster baseline that is the "normal" state of a community. This is both an operating baseline that predisposes communities to certain effects of a disaster, and also a reflective baseline by which communities measure their return to normalcy. Second, resilience is a function of the gap between vulnerabilities and capacities. The relative amount of exposure that a government, business, or household carries compared to their ability to mitigate or correct that exposure determines its resiliency in the face of a disaster. The greater the gap, the less resilient the community or economy is. Third, in order to close this gap (and thus increase resilience) these entities must be actively engaged in preparation—both by reducing the vulnerabilities or exposure that magnify a disaster's effects and by developing capacities and assets that will aid in a recovery.

Consequently, economic development agencies that integrate resilience thinking or methodologies into their planning processes are ones that do the following:

1. **Promote ongoing learning and analysis of current vulnerabilities, capacities, and the state of the economy**. Economic developers must continually understand their own resilience gap in order to effectively mitigate threats and strengthen response and recovery processes. Equally important is the need to have rich datasets of the organizations and economic variables that compose an economy. This is necessary in order to accurately measure disaster losses, rapidly craft a recovery strategy, and successfully envision a new "normal."
2. **Systematically address weaknesses and threats in the local economy**. Communities must use their learning to mitigate vulnerabilities in the economy. This usually involves increasing the diversification of industries, enriching the education and flexibility of the workforce, facilitating (or removing barriers to) finance and other enterprise supports, maintaining and upgrading infrastructure, and encouraging entrepreneurship in industries that are necessary in times of disaster. Business continuity planning is similarly critical; individual firms and households should be encouraged to prepare so that they can adapt to and recover from various hazards.
3. **Increase capacities and networks of relevant organizations and agencies**. Local governments, chambers of commerce, banks, and non-profit organizations should all be active participants in promoting economic resilience and managing economic recovery after a disaster. This may include governance and operational planning, economic recovery program planning, technical assistance training and capacity building for staff and personnel resources. Continuity planning is critical, as is networking and the development of reciprocal agreements with other agencies in the region or state to provide economic recovery support when local organizations are unable to do so.
4. **Maintain an iterative process that responds to changes**. Resilience is an ongoing awareness of strengths and weaknesses that requires up-to-date knowledge, procedures, and assets. Communities that make static plans, which are shelved away, are generally less resilient than those that proactively update their protocols and keep abreast of evolving vulnerabilities.

OVERVIEW OF PROJECT

There is a push across the nation to encourage resilience and sustainability in communities, as evidenced in the National Preparedness Goal, National Security Strategy, NDRF, and other national policies. While communities prepare to respond and recover from the hazards they face, it is important to recognize that they will not be able to prevent every threat or disaster. For this reason, enhancing resilience has become a national priority. By doing so communities will be able to sustain themselves during a disaster, maintain critical functions, and return to a "normal life" faster. One of the ways that communities can do this is by learning from disasters and translating that knowledge into actions.

Through the examination of economic impact survey findings and input received through the economic recovery roundtable meetings held in the aftermath of the flooding in Colorado, several important economic recovery issues emerged. Among them was a desire to learn from the disaster and integrate resilience into the economic sector. To that end, EDA conducted a study to establish a baseline of current economic resilience planning efforts in the area, identify trends and current resiliency practices, and develop recommendations to assist communities, state and regional economic development organizations, and federal agencies in stimulating resilience planning. Through this project, EDA was able to begin a conversation with local governments and regional organizations and identify recommendations that can be translated to assist other communities across the country.

Goals

The goal of this project is to assess current economic planning efforts, identify trends and best practices, and provide community-based recommendations to promote and stimulate economic resiliency.

Process

As part of this process, the following activities were undertaken:

- **Developed metric** to identify what resiliency features would be expected in an economic development plan. The metric served as the basis for reviewing local plans.
- **Reviewed economic development plans** against the metric to identify trends and best practices. A meeting was held with the plan owners to clarify findings and gather additional information. The evaluation of economic development and resiliency projects being undertaken in the disaster area (whether included in a plan or not) was beyond the scope of the current task.
- **Drafted plan feedback summaries** to share the results of the plan reviews and validation meetings, and make recommendations for incorporating resiliency into planning and recovery activities.

Evaluation Tool Development

The Resilience Planning Evaluation Tool tests economic development plans (and other community plans and processes) on the extent to which individual components include vulnerabilities or capacities that must be addressed for increased resilience, and the depth to which they prepare the economy and economic organizations for shocks and hazards. It was developed by a team with extensive disaster management and economic recovery experience and informed by relevant research in economic recovery and resilience issues (see Appendix A). The tool is not meant to be exhaustive, but highlights the most pressing issues for communities that are planning resilient economies.

The tool evaluates a number of factors under the following eleven key areas for economic resilience:

- Research and Knowledge-Building—Background data and analyses used to understand the local economy.
- Planning—Integration of economic development plans into other local, regional, and state planning activities and broad stakeholder support.
- Governance—Organizational structures in place to address economic planning and recovery issues.
- Financing—Resources and programs in place to support economic recovery.
- Infrastructure—Strategies and programs to maintain critical systems.
- Procurement Strategies—Plans for reducing capital leakage and providing training to support procurement efforts.
- Business Continuity and Risk Management—Programs to promote the development of business continuity plans and to facilitate a quick return to business.
- Workforce Support—Programs to support workforce development through training, placement services, and community support.
- Economic Diversification—Plans and programs demonstrate an understanding of economic limitations, vulnerabilities, and disaster preparedness and recovery activities.
- Counseling and Technical Assistance—Programs to provide technical assistance to businesses and individuals.
- Communications Systems—Systems and programs in place to facilitate information sharing with local businesses.

A full description of all of the metric component factors can be found in Appendix B. Communities can use this appendix as a toolkit to support the identification of elements of resilience as they engage in economic development planning. Appendix C provides a summary of the metric factors in a checklist format.

Plan/Community Selection Process

EDA provided an initial list of state, regional, county, and municipalities from the affected area. The team examined the list of over 80 jurisdictions and organizations and with input from a range of stakeholders narrowed it down to 25 that were included in this study. The team reviewed jurisdictions within the four counties that were identified as those most impacted by the disaster—Boulder, El Paso, Larimer, and Weld—and other counties with available economic development planning elements. Five regional organizations serving the impacted counties were also included in the review. Not all 25 communities were able to fully participate in the process because of a lack of personnel resources or time constraints. While their plans were still evaluated, no formal interviews or feedback sessions were conducted with them.

The jurisdictions and organizations that fully participated in the process are:

- Boulder City and County
- Denver Regional Council of Governments
- East Central Council of Governments
- El Paso County
- Town of Erie (Boulder & Weld)
- Estes Park (Larimer)
- Evans (Weld)
- Ft. Collins (Larimer)
- Ft. Lupton (Weld)
- Greeley (Weld)
- Larimer County
- Longmont (Boulder & Weld)
- Louisville (Boulder)
- Lyons (Boulder)
- Metro Denver Economic Development Corporation
- Northeastern Colorado Association of Local Governments
- Northglenn (Adams & Weld)
- Pikes Peak Area Council of Governments
- Weld County

Validation of Plan Reviews

Following reviews of the economic plans for each community, researchers on the team met individually with economic development officers, town/city administrators, or other local government representatives from each jurisdiction. These meetings were used to:

- Validate the findings from the review process;
- Better understand ongoing economic development and resiliency activities that were not present in written plans;
- Obtain feedback on how resiliency best practices could be implemented locally and what resources were requested for economic resiliency planning.

The results of the interviews were added to the overall report findings and used to craft final recommendations. Synopses of the plan evaluations and overall findings will be presented back to the communities to inform their future planning.

FINDINGS

In order to obtain a fuller picture of current economic resilience planning efforts, the review team analyzed a combination of both qualitative and quantitative data. Quantitative findings are based on an examination of the plan reviews conducted using the metric tool. Qualitative findings were pulled from notes taken during the review of plans and the validation interviews.

Metric Evaluation Results

The resilience planning components were used to survey plans for practices and structures that support economic resilience. While it is understood that many of the plans do not specifically look at/address the issue of resilience, one of the ways this evaluation can be used is to provide an overall snapshot of existing planning efforts. During the plan reviews, each component was rated as 'fully observed,' 'partially observed,' or 'not observed.'

Chart 1 summarizes the average percentage of metric items rated as 'not observed,' 'partially observed,' or 'fully observed' for all 25 plans reviewed. Approximately two-thirds of the elements were rated as 'not observed.'

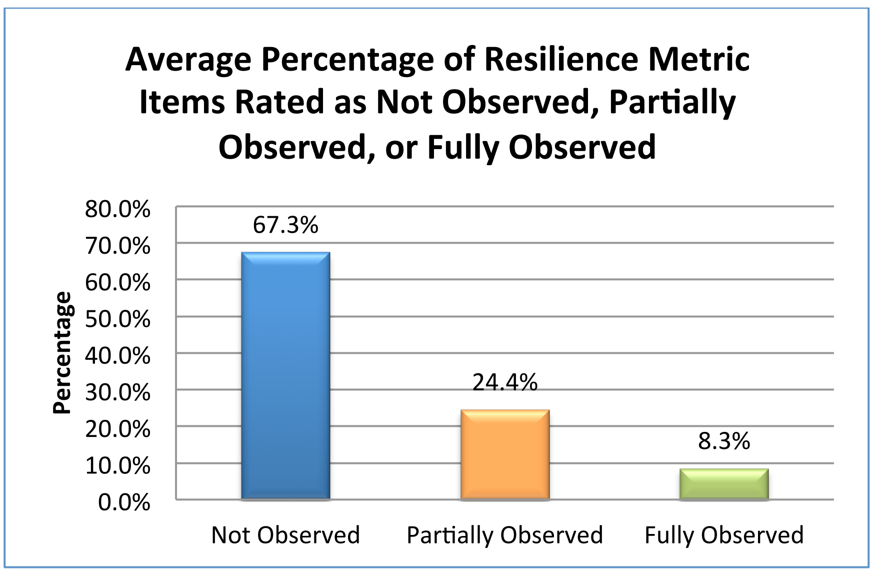


Chart 1: Average Percentage of Resilience Metric Components by Rating

Chart 2 breaks this information down further, providing a quick snapshot of the average rating for all metric components under each of the 11 key areas identified in the plan evaluation tool. It was created by averaging the responses for each metric component for all 25 local and regional plans. The results within each of the 11 key areas were then averaged to provide an aggregate summary. Appendix D lists the average rating for all plans for each metric component. Appendix E provides a summary of results by region.

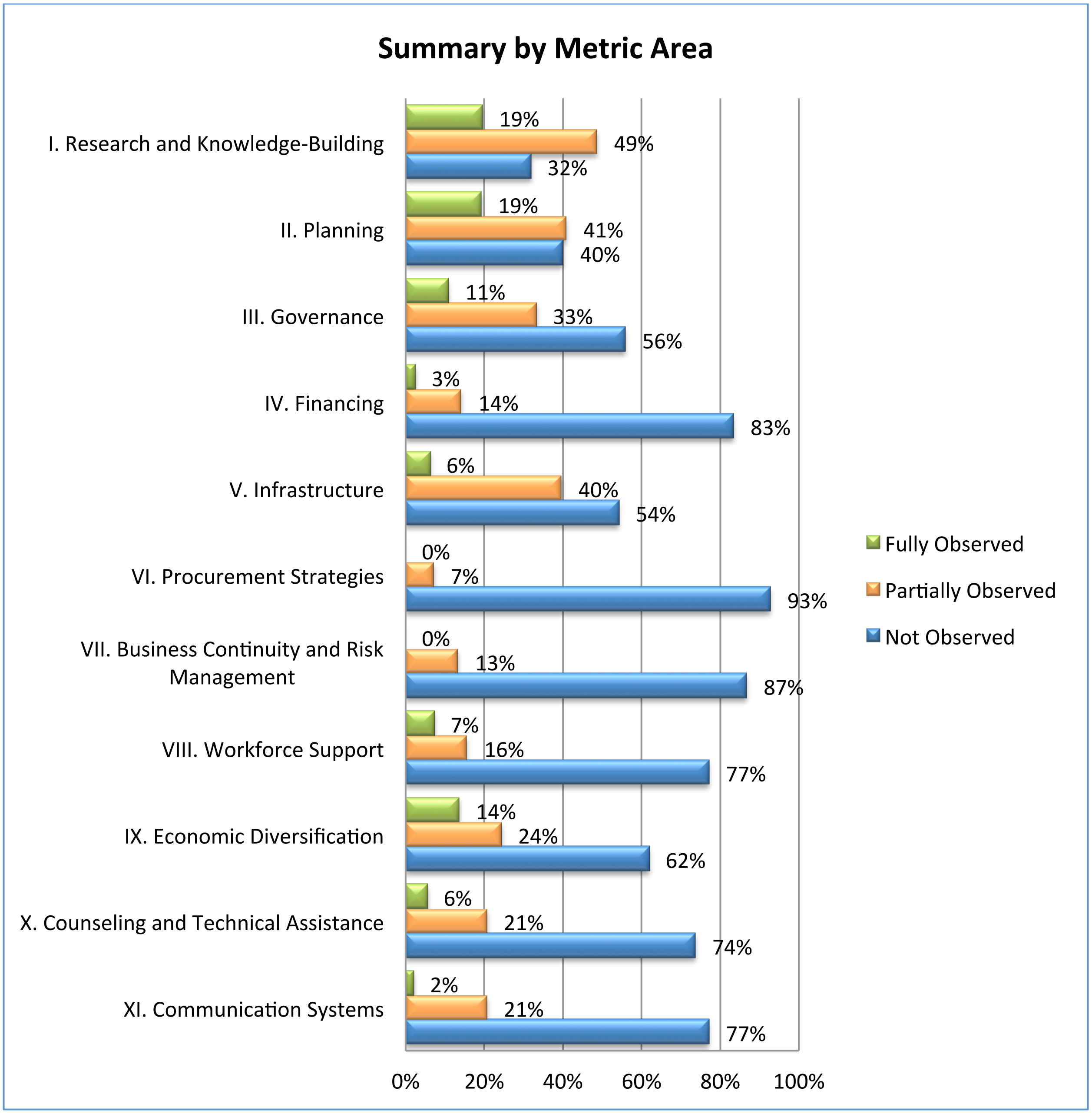


Chart 2: Metric Area Evaluation Summary

Several conclusions can be drawn from the analysis of economic development plans:

1. <u>Resilience thinking and best practices are not highly integrated into economic development plans in the surveyed areas.</u> In some evaluation areas like *Research and Knowledge Building* or *Planning*, some individual components were partially included in the plans but were only tangentially related to an economic resiliency strategy. In other cases like *Procurement Strategies* and *Business Continuity and Risk Management*, there were no components fully included and only a few partially included.

2. Resilience is not currently a primary focus of economic development efforts. The lack of resilience in the economic development plans was not simply a function of relevant activities being left out of documentation while being present in other initiatives. During the interviews, the review team found that this kind of thinking is not at the forefront of how local governments approach the economy. They may see it as beneficial, but not as a core concern.
3. Plans do not necessarily have instrumental value; communities appear to have varying uses for plans. Some communities developed plans solely to meet regulatory requirements, while others use them to articulate goals, but not necessarily actions. This finding was reinforced during the interview process, as it was not evident that communities were using plans to guide their day-to-day actions for improving local economies. Part of the challenge of linking resilience with planning is that resiliency requires actions, usually in terms of mitigation and preparedness. To increase resilience, it will be necessary to increase the actual implementation of plans, and further federal guidance should highlight the importance of this concept.

Trends

After reviewing local economic development plans and conducting interviews with community members, a number of trends emerged with regard to economic development and resilience planning.

- **Research and Knowledge Building**
  - ✓ Most of the surveyed communities maintained data about local demographics and the economy, but rarely indicated how many or what kind of businesses were potentially vulnerable to disasters (e.g., how many businesses are in flood plains).
  - ✓ Some of the communities had conducted strengths, weaknesses, opportunities, and threats (SWOT) analyses for their local economy, but few took into account natural hazard vulnerabilities, or supply chain/market vulnerabilities due to hazards in adjacent communities.
  - ✓ Very few communities demonstrated knowledge of best practices for preparedness or recovery for their major industries. However, this knowledge may be present but not represented in the plans themselves.
- **Planning**
  - ✓ Colorado economic development, land use, transportation, and other planning efforts often incorporate sustainability and "smart growth" concepts and metrics.
  - ✓ While many sustainability and resilience concepts are closely aligned, most economic development planning efforts do not specifically focus on integrating resiliency measures (e.g., economic vulnerability analysis, economic recovery planning contingencies).
  - ✓ Few economic development organizations (EDOs) have participated in the development of emergency management plans and/or provided emergency

management training to staff members. None have documented a communications and outreach plan that facilitates communication with businesses during and after a disaster.

- ✓ Most planning initiatives engage a broad range of local economy stakeholders and residents, but they rarely target low-income residents, those who speak English as a second language, or other potentially disadvantaged groups who may be most susceptible to disasters.
- ✓ EDOs demonstrate a strong collaborative approach to planning activities. Regional organizations provide business recruitment, marketing and other support to facilitate regional planning efforts among local economic development groups.

- **Governance**
  - ✓ Although many communities have emergency management functions in their local governments, few have any staff tasked to plan, prepare for, or manage an economic crisis or disaster. There is little coordination between emergency management and EDOs.
  - ✓ Some economic development plans included discussions of the local non-profit sector, but these rarely included descriptions of which organizations would be called upon in the case of an economic disaster, or what the local capacity of these organizations are to lead a recovery.
- **Financing**
  - ✓ Few plans indicated how to acquire or deploy financing for the local economy following a disaster.
  - ✓ Communities have not identified programs for encouraging local businesses to carry various forms of hazard (e.g., flood, fire, etc.) or business disruption insurance.
- **Infrastructure**
  - ✓ Despite a significant focus on infrastructure issues, a large percentage of EDOs do not engage in planning for, or addressing the issue of, utility redundancies or maintaining or upgrading critical infrastructure in their communities. While there may be engagement from local utilities in business recruitment and expansion efforts, in large part the EDOs see infrastructure maintenance, redundant power, and similar issues as the focus of other agencies or organizations in their communities.
- **Procurement**
  - ✓ While a few communities have developed programs to encourage residents to shop locally, these have not been adapted for use after disasters. Reducing capital leakage by keeping procurement local was not discussed as a high priority.
  - ✓ Procurement training and vendor readiness training for local businesses to provide products and services that may be in demand following a major disaster was not

evident in surveyed communities. The function of Procurement Technical Assistance Centers (PTACs) was not well known in this regard.

- **Business Continuity and Risk Management**
  - ✓ No communities were actively engaged in supporting business continuity planning in their local economy, although a few either discussed it as a goal, or had identified some assets to support businesses after a disaster.
  - ✓ There was little knowledge about what local governments can do to support business recovery, like providing commercial "areas of refuge" or streamlining post-disaster regulatory processes.
- **Workforce Support**
  - ✓ While EDOs may have a working relationship with organizations and institutions that support skills training and job placement, few communities have engaged the workforce support system to assess workforce vulnerabilities and develop plans to address those vulnerabilities and assist workers who are displaced due to an economic disruption.
  - ✓ EDOs may have business retention or business outreach programs that engage staff, local business leaders, and partner organizations to assess the workforce and other needs of local businesses that might prove a barrier to expansion and organic growth. Most EDOs do not include assessment of natural or industry vulnerabilities in the needs assessments.
- **Economic Diversification**
  - ✓ Economic development strategies are focused on attracting employers while recognizing the value of industry diversification for economic vitality and growth; however, few strategies take into account the risks that natural or other hazards pose to specific industry sectors or the overall resiliency of their communities.
- **Counseling and Technical Assistance**
  - ✓ Some communities, particularly those recently impacted by a disaster, have developed partnerships with small business development centers and other organizations that provide counseling and other services to businesses in distress; however, no communities identified links between psychological counseling resources and the needs of local entrepreneurs.
- **Communications Systems**
  - ✓ While some communities have 211 call centers and functioning chambers of commerce, few of them had plans for outreach to commercial entities following a disaster. There was little evidence of resource guides or other compilations of information relevant for business disaster preparedness and recovery.

Identified Economic Resilience Practices

While the overall study found that resiliency planning is still not largely included as a component of local economic development efforts, some local communities are undertaking a number of resiliency practices. The following are highlights of practices that were identified in the communities that were researched:

- **Participating in Emergency Preparedness and Response Efforts.** The City of Northglenn is training its entire staff in the National Incident Management System (NIMS) and has tasked all departments, including the Economic Development Department, with creating a departmental emergency response plan that integrates with the city's plan. This will foster partnerships between city departments and help to engage local businesses in supporting response and recovery efforts through local procurement programs.
- **Integrating Planning with Other Response and Recovery Organizations.** The economic development manager for the Town of Erie is focused on integrating the town's economic development strategy with other key planning efforts, including emergency management and hazard mitigation. As part of the town's planning efforts, a system utilizing contact information included on business license applications has been developed to facilitate communications with businesses following a flood or other disaster event.
- **Developing Business Retention Strategies.** The Colorado Springs Regional Business Alliance is one of several regional EDOs to have established business retention strategies that include regular outreach to businesses to identify barriers to business growth or points of distress.
- **Integrating the Economy, Environment, and the Community.** The City of Ft. Collins has integrated a number of departments under their Office of Sustainability, including the Department of Economic Health, Department of Environmental Services, and the Department of Social Sustainability. These three represent a "triple bottom line" approach to sustainability, which is beginning to incorporate resiliency objectives across the economy, environment, and social equity programs. The collaboration between these departments means that vulnerable populations are addressed specifically in economic development work, and natural hazards or threats to the environment are incorporated into economic development planning. Although resilience planning is still being developed, the governance model in Ft. Collins provides a clear foundation for this work to grow.
- **Identifying Staff to Address Resiliency.** Boulder County and the City of Boulder have focused on incorporating sustainability measures into their comprehensive and economic development plans. Currently, they are focused on incorporating resiliency into comprehensive land use and other strategic initiatives. The city has been selected to participate in the Rockefeller Foundation's "100 Resilient Cities" study. As a selected city, Boulder will hire an assistant city manager for resiliency and will have the opportunity to document actions and exercise lessons learned in other communities that integrate community and economic resiliency into daily operations.

- **Administering Recovery Grants.** Following the 2013 flood, the Longmont Community Foundation played a pivotal role in recovery efforts by administering a grant program funded by donations to assist individuals and businesses that had unmet needs. The policies and processes utilized for that program could be documented and employed to stand up a process for a similar grant program when other disasters strike the area.
- **Identifying a Role for Local Businesses in Disaster Recovery to Facilitate Economic Growth.** El Paso County's strategic plan includes economic development activities to support local businesses through a "buy local" program and by exploring county procurement policies to offer local businesses priority when bidding. These programs could serve as a foundation for a community program to identify and prepare local businesses to provide products and services (e.g., building materials) that are often in demand following a major natural disaster.
- **Facilitating Inter-Community Support.** Many communities described the informal practices of supporting adjacent municipalities in time of need. For example, Ft. Lupton provides idle equipment and Hummers to other towns when they are experiencing surge needs. This type of ongoing behavior could be more formally instituted around known vulnerabilities to support resiliency plans between communities, and reduce the costs needed to become fully prepared on their own.

OPPORTUNITIES FOR INCORPORATING ECONOMIC RESILIENCE

Through the plan reviews and interviews conducted with economic development stakeholders, nine recommendations to improve the resilience of Colorado's local economies have been identified. Each of the recommendations is discussed in further detail below.

Communities and Economic Development Organizations

I. Incorporate economic resilience concepts into economic strategies, plans, programs, and initiatives
II. Develop a "Buy Local" program that engages local resources in disaster preparedness, response, and recovery
III. Develop a workforce resiliency strategy

State, Federal, and Other Supporting Partners

I. Increase awareness of the connection between resilience and economic vitality and growth
II. Provide training and outreach to communities to further their understanding of economic resilience principles
III. Develop tools and resources to support economic resilience planning efforts and growth initiatives
IV. Provide financing to small towns and resource-strained communities to engage in resiliency planning
V. Develop partnerships and resource sharing arrangements between interested communities
VI. Consider how to remove barriers to accessing planning resources for middle-income communities

Opportunities for Communities and Economic Development Organizations

All disasters, while they may have national implications, are inherently local in nature. Community leaders play an important role spearheading initiatives that promote programs to achieve overall community sustainability and resilience. The following three recommendations are geared towards local economic development planners.

I. Incorporate Economic Resilience Concepts into Economic Strategies, Plans, Programs, and Initiatives

Most economic developers rely on targeted industry analyses and SWOT analyses to assess the existing strengths, weaknesses, opportunities, and threats related to their economies and industry sectors. However, they rarely include vulnerabilities posed by natural, industrial/technological, or potential terrorism targets in their communities when assessing threats that could disrupt their economic activities or undermine their economic strategies. By identifying potential economic vulnerabilities (such as identifying businesses that produce or use hazardous chemicals in their operations, or identifying the dependency of primary businesses on local vendors/supply chains) local economic developers can incorporate resiliency into their business recruitment and business retention and expansion strategies. To this extent, economic development planners may find that the local emergency management community is an excellent resource to assist with these efforts.

II. Develop a "Buy Local" Program that Engages Local Resources in Disaster Preparedness, Response, and Recovery

Some of the communities visited had employed a campaign to encourage local government, businesses, and residents to "buy local" in order to stimulate the local economy. Such a program can be a foundation for encouraging local purchasers and residents to secure disaster preparedness, response, and recovery resources from local businesses. This kind of program keeps capital within the local economy when it’s needed most.

Local businesses, from a hardware store that sells generators and building supplies to planning firms that assist in preparing for and recovering from a disaster event, should be identified in a resource directory used by government and private sector entities to procure needed goods and services in both pre- and post-disaster periods. Developing such a resource directory can also provide an opportunity to engage the Small Business Development Center (SBDC) and PTAC in the area to offer business continuity and procurement training to local businesses.

III. Develop a Workforce Resiliency Strategy

In interviews with local and regional economic development organizations, it was apparent that many had established a relationship with regional workforce development organizations, community colleges, or other organizations that assist with workforce training and job placement in their communities. However, few had engaged these organizations in assisting with identifying or addressing the threats that could negatively impact a community’s ability to retain workers, or for accessing training to improve workforce surge capacity in construction or other skills that may be in high demand following a natural disaster or other economic disruption. Economic developers should convene counterparts at workforce training and job placement organizations to develop a workforce resiliency plan that incorporates a SWOT analysis for the workforce and includes a response strategy for a variety of potential threats to workforce retention and growth.

Opportunities for State, Federal, and Other Supporting Partners

During the interview process it was apparent that beyond the need for financial and personnel support to implement resilience measures, there is an opportunity for better understanding of what resilience is and how these principles can be integrated into economic planning. The following recommendations encourage state and federal agencies to facilitate regional collaboration, address financial needs, and provide tools to support local economic resilience efforts.

I. Increase Awareness of the Connection between Resilience and Economic Vitality and Growth

Many of the communities included in this study demonstrated an understanding of resilience in terms of governmental continuity or residential return from a disaster. Few of them expressed an awareness of how resilience thinking could be applied to the economy. Once involved in those discussions, however, local economic developers could see the value of resilience planning and began to articulate how they could apply it to their own economies.

Promoting economic resilience is important for creating the awareness necessary to embark on planning, mitigation, and preparedness initiatives. Highlighting resiliency in messaging to communities and economic development organizations would help to further educate them on the possibilities for protecting and growing their economies.

II. Provide Training and Outreach to Communities to Further Their Understanding of Economic Resilience Principles

Beyond a basic awareness of key concepts, few communities were familiar with specific tools or strategies for increasing economic resilience. Even though components of resiliency could be found in the local plans, they were disparate and rarely linked together in a cohesive strategy. A training and outreach program should be developed to increase basic awareness and understanding of what economic resilience is and why it is important. Examples of activities that could be included in this type of program include:

- Outreach Activities – Social media, websites, and newsletters focused specifically on economic resilience, to provide basic information and best practices that can be shared economic development planners across the country.
- Workshops – Group training sessions that bring interested communities together to learn about resiliency and implement selected practices.
- Staff Training – Individual training sessions to increase staff capacity regarding economic development issues and resiliency.
- Technical Assistance – Planners or resilience experts who can guide planning processes and answer questions.

III. Develop Tools and Resources to Support Economic Resilience Planning Efforts and Growth Initiatives

In order to integrate resilience thinking into the way that they plan for and operate the local economy, communities need tools and examples to increase their knowledge and capacity. These could include the following:

- Planning toolkits – Do-it-yourself planning kits that demonstrate how resiliency best practices can be planned and implemented and that would serve as a guide to stimulate the planning process.
- Case studies – Examples of other communities that have integrated resiliency into their economic development plans, and how they put best practices into action. These could involve technical interviews with communities to describe how they approached, financed, and implemented these activities.

IV. Provide Financing to Small Towns and Resource-Strained Communities to Engage in Resiliency Planning

In interviews with various communities, it was clear that small towns and smaller cities had a different set of needs than larger cities. Often their economies were less diverse, with fewer opportunities to attract new industries. They had smaller tax bases, less capacity, and fewer staff to implement practices. To this extent, small towns are less resilient than larger communities and have less ability to plan for resiliency or modify their economic base.

Similar to the success of comprehensive economic development strategies (CEDS) grants and EDA's broadband planning grants, financial support for economic resilience could be used to remove planning barriers for small towns and resource strapped-communities either individually or as part of regional planning efforts. These could be linked to outcomes or regulatory requirements, and could be enhanced by the partnership strategy discussed above.

V. Develop Partnerships and Resource-Sharing Arrangements between Interested Communities

Colorado has a strong spirit of self-actualization and mutual collaboration that motivates a great deal of resources outside of formal governmental channels. Therefore, the development of partnerships between communities to support economic resiliency could be extremely effective both practically and culturally.

Multiple communities were interested in who else was working on economic resilience and whether or not they could cost-share consultants, collaborate between chambers of commerce to promote best practices, etc. Connecting these communities could be just as beneficial as providing direct resources.

An example of how this could be implemented in Colorado is that the state could establish a network of communities interested in economic resilience, and bring them together to share resources, staff, or other inputs for planning processes. This could potentially be an extension of networks that already exist.

VI. Consider How to Remove Barriers to Accessing Planning Resources for Middle-Income Communities

Communities with primarily middle-income residents discussed their interest in resilience planning processes, but described their inability to get resources because of low- and moderate-income (LMI) requirements for various programs. Consequently, these communities were less likely to have a CEDS or equivalent planning documents, even though they felt that they would be useful. Finding alternate ways to qualify middle-income communities for planning resources could increase their participation in economic resilience planning initiatives.

CONCLUSION AND NEXT STEPS

Overall this study found that the concept of economic resilience is not fully understood, but most communities are interested in the topic and would like to learn more about how to incorporate resiliency into economic planning efforts. The interviews conducted as part of the study became an unanticipated accomplishment, as they facilitated dialogue and information exchange with community leaders and economic development planners. The findings and recommendations should be shared with the state and federal partners, and a workshop should be considered as a means to convey the study results with local officials and promote open discussion on how to incorporate resilience initiatives into local planning.

While the project looked specifically those areas of Colorado impacted by the 2013 flooding, the findings can be used to assist other communities across the nation. As the Coordinating Agency for the Economic RSF, EDA serves a very important role to ensure that communities and the country as a whole recover from a disaster. Through the Economic RSF, EDA and its supporting organizations are well positioned to work with communities in a post-disaster environment. The results of this study and future resources developed in response to it should become important elements in Colorado's long-term economic recovery and resilience efforts moving forward.

APPENDIX A: BIBLIOGRAPHY

Alesch, D.J. and J.N. Holly. 1998. “Small Business Failure, Survival, and Recovery: Lessons from the January 1994 Northridge Earthquake.” *NEHRP Conference and Workshop on Research on the Northridge, California Earthquake of January 17, 1994.* Richmond CA: Consortium of Universities for Research in Earthquake Engineering.

Chang, S. E. and A. Z. Rose. 2012. "Towards a Theory of Economic Recovery from Disasters." *Published Articles & Papers. Paper 203.*

Comfort, L.K. et al,. 2010. *Designing Resilience: Preparing for Extreme Events.* University of Pittsburgh Press, Pittsburgh.

Dalhamer, J. M. and K. J. Tierney. 1998. “Rebounding from Disruptive Events: Business Recovery Following the Northridge Earthquake.” *Sociological Spectrum* 18: 121-141.

Gilbert, Stanley W. *Disaster Resilience: A Guide to the Literature: NIST Special Publication 1117*. Gaithersburg: U.S. Department of Commerce National Institute of Standards and Technology, 2010.

Institute of Governmental Studies, “Building Resilient Regions: Sources and Notes.” The University of California Berkeley. http://brr.berkeley.edu/rci/site/sources

International Economic Development Council. Case: Building on Economic Assets in Akron, Ohio after the Decline of the Tire Industry. 2010.

International Economic Development Council. Case: Re-establishing Business Travel in Arlington, Virginia After September 11th, 2001 Pentagon Attacks. 2010.

National Association of Counties. *Strategies to Bolster Economic Resilience: County Leadership in Action.* ONLINE. 2003. Available: http://www.naco.org/newsroom/pubs/Documents/Strategies%20to%20Bolster%20Economic%20Resilience.pdf

NADO Research Foundation. “East Central Iowa: On-the-Ground Assistance and Business Loans Support Recovery and Economic Competitiveness.” *Lessons from the Storm: Case Studies on Economic Recovery and Resilience*. National Association of Development Organizations, 2013.

NADO Research Foundation. “Greater New Orleans: Building on Competitive Advantages to Strengthen Economic Resilience.” *Lessons from the Storm: Case Studies on Economic Recovery and Resilience*. National Association of Development Organizations, 2014.

NADO Research Foundation. *Resilient Regions: Integrating Economic Development Strategies, Sustainability Principles and Hazard Mitigation Planning*. National Association of Development Organizations, 2011.

NADO Research Foundation. “Southwest Arkansas: Promoting Disaster Resilience and Recovery through Better Data.” *Lessons from the Storm: Case Studies on Economic Recovery and Resilience*. National Association of Development Organizations, 2013.

Recovery Support Strategy: Federal Disaster Recovery Coordination (FEMA DR-4150-CO). 2014.

Tierney, K.J. 1997. “Business Impacts of the Northridge Earthquake.” *Journal of Contingencies and Crisis Management* 5(2): 87–97.

Tierney, K. and J. Nigg. 1995. “Business vulnerability to disaster-related lifeline disruption.” Disaster Research Center Preliminary Paper No. 223. University of Delaware, Newark, DE.

Wasileski, G. et al. 2011. “Business closure and relocation: a comparative analysis of the Loma Prieta earthquake and Hurricane Andrew.” *Disasters*, 35(1): 102−129.

Webb, G.R., et al. 2002. “Predicting Long-term Business Recovery from Disaster: A Comparison of the Loma Prieta Earthquake and Hurricane Andrew.” *Environmental Hazards* 4: 45-58.

Wisconsin Economic Development Corporation. *Community Economic Recovery Guidebook: Safeguarding Your Economy from Disaster*. 2011. Available: http://emergencymanagement.wi.gov/resources/docs/CERG_11aug5%20FINAL.pdf

Xiao Y. and J.Drucker 2013. “Does Economic Diversity Enhance Regional Disaster Resilience?” *Journal of the American Planning Association*, 79:2, 148-160.

Zhang, Y., et al. 2008. “Vulnerability of community businesses to environmental disasters.” Disasters. 33(1): 38–57.

APPENDIX B: ECONOMIC RESILIENCE PLANNING EVALUATION TOOL

The Resiliency Planning Evaluation Tool represents the culmination of decades of disaster recovery experience, and is informed by a wide array of research on economic recoveries. Each component of the tool represents an aspect of economic mitigation, preparedness, or recovery that could find expression in an economic development plan. It is not expected that an economic development plan would contain each and every component, but the more components that are integrated into these plans and implemented, the more resilient a local economy might be. 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.

1) *Research and Knowledge-Building*—Background data and analyses used to understand the local economy

   a) Identifies robust data system concerning the local economy and local firms.
   In order to "return to normal" after a disaster, it is necessary to know what "normal" was prior to the incident. In terms of an economic recovery, this means having an inventory of local firms and local economic assets that can serve as a baseline to direct recovery and measure its success. It also means understanding which firms are susceptible to different types of hazards in order to drive mitigation and preparedness planning.

   b) Includes SWOT (strengths, weaknesses, opportunities, threats) analysis or other evaluation of economic and industry-specific vulnerabilities or opportunities for growth.
   A SWOT analysis is one of the first steps towards identifying the types of challenges that the local economy faces. Weaknesses and threats in a SWOT analysis should be inclusive of more than simply market variables, but also examine natural and man-made hazards that may compromise individual firms, raw inputs, supply chains, transportation systems, etc. An inclusive SWOT analysis can inform mitigation planning and preparedness activities.

   c) Demonstrates understanding of best practices in preparedness and recovery for key industries.
   Each industry has its own set of weaknesses and threats in the face of disasters, and therefore their own activities to prepare for, and recover from, following a disaster. Having an understanding of resiliency best practices for key industries in the local economy is an important way to promote resiliency programming, and improve the functioning of implemented programs.

2) *Planning*—Integration of economic development plans into other local, regional, and state planning activities and broad stakeholder support

   a) References or identifies points of integration with other planning efforts in the community (i.e., land use plans, hazard mitigation plans, etc.).
   In the modern day "systems approach" to planning it is recognized that many different variables are mutually interdependent. Land use rules have an effect on economic

development; economic development has an effect on infrastructure development, etc. As such, any given municipal plan should be integrated with other plans, and linkages between them should be identified and operationalized. This increases awareness between plan users, and promotes better coordination when incidents occur.

b) 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.
Vertical integration between various levels of government better ensure that coordination and sharing of resources will occur in the case of a disaster. Joint planning processes also encourage economies of scale in mitigation and preparedness activities by increasing opportunities for cost sharing and knowledge sharing.

c) Exhibits evidence of broad or significant stakeholder engagement (including Chambers of Commerce, industry organizations, workforce groups, etc.).
Inclusive planning is critical to ensure that diverse stakeholders have been represented and that a broad range of input has influenced the process. This will better ensure that plans are based upon the best set of information about the local economy, are sensitive to the needs of different community groups, and are supported by the community when implemented.

d) Provides evidence that vulnerable populations have been adequately engaged and represented in plans.
Vulnerable populations such as low-income families, seniors, youth, ethnic minorities, and those who speak English as a second language are all more likely to be impacted by a disaster than others. They are also the least likely to be represented in planning processes due to access, communication, and other barriers. Resilient communities emphasize the inclusion of vulnerable groups into their planning processes and encourage their input into the final product. This can both reduce the impact of a hazard event as well as reduce the amount of additional resources needed afterward.

e) Tracks the extent to which plans have been implemented or active projects have been initiated/completed.
Plans are only meaningful if they are implemented. Having clear implementation plans and consequent monitoring plans are crucial to ensure resiliency. Making plans into living documents that are updated regularly, with progress reports that track implementation, creates accountability for planning objectives and communicates progress to the community.

3) *Governance*—Organizational structures in place to address economic planning and recovery issues

a) Identifies an office or team tasked with managing economic incident response and/or recovery.
Identifying the parties responsible to lead a disaster recovery prior to such an event allows those individuals or teams to prepare for a disaster, and deploy resources immediately after one occurs.

b) Demonstrates integration with other relevant regional, state, and federal economic response and recovery entities.
Partnerships and agreements with relevant response and recovery offices allow plans to be executed quickly and efficiently. Establishing jurisdictional roles before a disaster occurs provides the predictability and pre-established processes needed to carry out response and recovery activities.

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.
Disaster recovery requires the presence of a strong “third-sector” of non-profit organizations, foundations, and other non-governmental entities to manage the implementation of recovery programs. These organizations are generally on the front-line of a recovery, and have the community contacts and client engagement necessary for deploying resources and information. Likewise, these partners will be responsible for promoting business continuity planning and other mitigation and preparedness activities before a disaster. Developing a network of these organizations to assist in economic resiliency is critical.

d) Includes an assessment of community organizations and their ability to manage and contribute to post-disaster recovery programming.
Beyond identifying community partners, it is important to determine relative capacities for designing and implementing programs. How many organizations are familiar with SBA, CDBG, or other funding streams and their requirements? How many organizations can operate intake centers or handle the case-management necessary after a disaster? What economic assistance programs are there currently, and how agile are organizations to adapt them to disaster recovery? Understanding local non-profit capacities can help identify training or other opportunities for ensuring a dependable third-sector response.

e) Cultivates public-private partnerships to foster mutual support for economic development goals.
As government functions continue to devolve to the private sector, public-private partnerships (PPPs) are an important aspect of economic development. Collaborating with industry leaders to improve local economic viability is important, as is engaging the business community to support economic development interventions.

4) *Financing*—Resources and programs in place to support economic recovery

a) Identifies resources to incentivize economic disaster mitigation planning and preparedness.
Although not commonly found in economic development plans, some communities have resources that encourage hazard mitigation of commercial facilities, management of stormwater drainage, etc. These activities should be noted, promoted, and integrated with other economic resilience activities.

b) Identifies resources for economic disaster response and recovery for public and private sector services.
Local governments should be aware of what financial resources are typically available after disasters, and how they work. Collaborating with SBA, FEMA, HUD, and other agencies to understand their funding streams and relevant restrictions can help identify what recovery activities might be funded, and where gaps would likely be on both the public and private levels.

c) Identifies local funding or grant-making mechanisms for post-disaster small business financing and financial program management.
Philanthropic organizations and local financial institutions play a vital role in post-disaster recovery. They fill the gaps between official recovery resources, and provide financial products that augment the state and federal offerings. In addition to the funding itself, institutions like Community Development Financial Institutions (CDFIs) and non-profit lenders may manage recovery grant and loan programs and be the main conduit for deploying resources. To this end, it is important to understand local capacities and identify partners that could implement finance programs.

d) Maintains a program to promote adequate private insurance coverage for local businesses.
Public disaster recovery funds are intended to serve as an enhancement to private resources, not as a replacement. The limited amount of capital available from state and federal programs rarely cover the full costs of recovery for individual firms affected by a disaster. Encouraging local businesses to have adequate insurance for a variety of hazards is the first and best way to ensure that recovery capital is abundant following a disaster.

e) Identifies strategies for financing resilience initiatives.
Implementing resiliency best practices usually occur above and beyond the day-to-day budgets of local governments. Therefore it is important to identify how implementation plans will be financed, either through available revenue instruments, or through special grant programs targeting mitigation and preparedness activities.

5) *Infrastructure*—Strategies and programs to maintain critical systems

a) Includes a plan for maintaining/upgrading critical infrastructure and the resulting impact on the business community.
Studies of business impacts from disasters have shown that the most significant problem facing firms is not physical damage as much as loss of critical infrastructure such as utilities, transportation, and communications. The maintenance and upgrading of infrastructure increases the likelihood of their functioning post-disaster. Moreover, preventative measures such as burying power lines can also increase the resilience of the local power grid, etc.

b) Identifies interface between critical infrastructure organizations (e.g., electric provides and water board) and economic development organizations.
Encouraging collaboration horizontally between local agencies increases the ability of

them to support each other's work in times of crisis. Communicating the needs of the private sector to local utility, sewer, and transportation agencies will increase their ability to respond following a disaster. Alternately, it will allow them to articulate constraints, and inform economic leaders of what the gaps might be in infrastructure services.

c) Contains a strategy or plan for rapid return of utilities following a disaster.
Planning for the return of utilities after a disaster is an important aspect of resiliency. Similarly, building in redundancies such as microgrids, substitute water sources, and other alternatives to the central utilities supplies and services ensure that firms will have access to the inputs they need for getting back in business.

d) Includes a strategy for alternate transportation routes and logistics for economic activity.
Supply chain and export routes are critical for many industries to survive an economic disaster. Having a plan for alternate transportation routes for trucks, hazardous materials, and other industrial movement will increase the ability of major employers to continue operating, and the ability of local small businesses to continue serving the community.

6) *Procurement Strategies*— Plans for reducing capital leakage and providing training to support procurement efforts

a) Includes a strategy for working with emergency management and recovery organizations to identify local procurement opportunities following disasters.
As customers dwindle for local businesses in the immediate aftermath of a disaster, there is a need to find temporary markets for goods and services. The extent to which recovery operations can procure directly from local businesses, the more likely it is that those businesses will weather the downturn. The Stafford Act promotes local procurement, and local governments should work closely with response and recovery agencies to understand their needs, and link procurement opportunities to local capacity.

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.
In order to accept disaster response and recovery contracts, businesses will need to be registered with the federal government's System for Award Management (SAM), as well as maintain adequate levels of insurance or other requirements. Minority and Women Business Enterprises (MWBEs) should also be registered as such to access relevant opportunities. Local Procurement Technical Assistance Centers (PTACs) can support local businesses in preparing to accept procurement contracts. Training should also be encouraged for record keeping and financial management required for contract compliance.

c) Has preliminary marketing plan for promoting local businesses during a recovery.
Capital leakage is a significant problem following disasters. Out-of-area contractors tend

to pursue disaster recovery opportunities, and channel vital resources out of the local market. They can also be responsible for higher levels of fraud and low-quality work. "Buy local" campaigns following a disaster can be effective ways to focus residents on keeping money in the local economy, and doing business with contractors that can be held accountable. Also, certifying local businesses as "post-disaster recovery businesses" and providing lists of those businesses to the community can increase the focus on local businesses. Certification could include completing training workshops on procurement contract management, local hazards response, etc.

d) <u>Has strategy for maintaining supply chain access for local businesses following disasters.</u>
Besides transportation issues that affect supply chain access, many businesses need assistance with identifying alternative suppliers/vendors, particularly when the economic disruption is caused by a disaster in a neighboring community where distribution centers or suppliers are located. Encouraging businesses to develop supply chain continuity plans and possibly the development of mutual aid agreements with like businesses in nearby communities could support businesses when supply chains are down.

7) *Business Continuity and Risk Management*—Programs to promote the development of business continuity plans and to facilitate a quick return to business

a) <u>Has a program in place promoting/assisting local businesses in preparing business continuity plans.</u>
Business continuity plans are an important part of keeping the local economy resilient following disasters. Every business should understand their own vulnerabilities in the face of different hazards, and be prepared to take actions necessary to resume operations. Having plans in place, identifying redundancies for inputs and utilities, understanding employee needs, and having preparedness kits on hand are all ways to decrease the impact of a disaster when it happens. Local governments can help by promoting continuity planning, and by connecting businesses to mitigation planning or emergency management preparedness planning efforts.

b) <u>Has a program in place promoting good record keeping in order to access business recovery resources.</u>
Most recovery programs for businesses have anti-fraud procedures in place to protect resources from unauthorized use. Businesses must therefore have all of their relevant paperwork in place to prove the existence of an enterprise, and evidence of loss. This includes demonstrating continued business activity, and proving title to all damaged or lost equipment and property. Not only should businesses be encouraged to keep good records, but to also maintain copies of those records in safe places in case they lose them in the disaster. Additionally, many recovery programs require proof of income loss, which can be significantly compromised if businesses have been consistently under-reporting income. To this extent, accurate reporting of income on federal and state tax return ensures that losses can be proven to their full amount.

c) Has a program in place promoting generators and other private forms of energy and water access.
In addition to public utility redundancies, private businesses should identify redundancies to the extent possible. Owning generators, or having access to communal generators, can help keep minimal operations going during power failures. Due to usual constraints in supply when disasters happen, local governments can assist with this process and have intergovernmental agreements in place to bring in these types of resources, or work with nearby companies to provide surge capacity when needed.

d) Has plan for providing short-term space for affected businesses.
Similar to areas of refuge for residents, local governments should identify areas of refuge for commercial activity. Publicly-owned spaces that can be re-purposed for short-term economic activities can help businesses continue operations while they fix buildings and purchase new equipment. Also working with businesses to identify emergency workforce housing opportunities can help ensure that businesses have the employees they need.

e) Has plan in place to relax or streamline permitting and zoning bylaws to encourage quick return of businesses.
Regulations that improve the operating and environmental impacts of businesses may sometimes constrain their return to normal after a disaster. Local governments should review their permitting rules and relevant bylaws to determine which regulations could be suspended after a disaster to encourage a quick return to business.

8) *Workforce Support*— Programs to support workforce development through training, placement services, and community support

a) Identifies programs for workforce education and skills training for a more flexible and adaptable workforce.
A resilient workforce is one that can better shift between jobs or industries when their core employment is threatened. Partnering with community colleges and workforce organizations to provide ongoing training opportunities and occupational counseling increases the adaptability of workers so they can pursue short-term opportunities while their employers come back online.

b) Identifies labor agencies and similar firms that may be required to fill labor gaps and reduce unemployment due to workforce displacement after a disaster or other economic disruption.
Regional Workforce Investment Boards (WIBs), One Stop Centers, temporary labor agencies, and other placement services are important partners in increasing local employment, which in turn increases the number of households with financial resources to survive a disaster. They are also important for identifying the degree of workforce displacement caused by a disaster event and addressing the needs of the workers displaced from their jobs. Community colleges and other education partners can provide skills training to supply a surge of a workers that may be in high demand following a natural disaster or other event (e.g. construction workers). Some communities have a

workforce assistance team in place to access and address the impact on the local workforce following a disaster event, while others establish lists of workforce members who can be activated for debris removal and cleanup activities.

c) Promotes personal financial literacy, Individual Development Accounts, or other programs to encourage savings and other practices for precarious workforce members.
In order for employees to remain locally they need access to financial resources. If their employers are struggling to return, the need for gap financing is critical. Therefore savings programs, and the use of Individual Development Accounts (IDAs), and financial literacy training can help stabilize the workforce and keep them local while businesses reopen. Banks and financial non-profits can be enlisted to design and implement these endeavors.

d) Promotes disaster preparedness and planning for households and individuals.
Just as businesses need continuity plans, households and individuals need preparedness plans. Local workforce organizations should be enlisted to encourage residents to prepare for economic disruption, and have alternatives for transportation, housing, and other necessities.

e) Identifies the workforce sectors that are most vulnerable to displacement from various types of economic disruption.
Depending on the local economy and the types of relevant hazards, different subsets of the workforce will experience different types of vulnerability. Planners should identify who these vulnerable populations are, and promote resources to help them prepare and recover. This may involve working with local industry leaders to implement programs for their own employees, and plan for resources to assist them after a disaster.

f) Discusses commuting patterns and identifies the extent to which the local economy is dependent on bringing in employees from other communities, or residents commuting to other communities for employment.
Local economic leaders should be aware of how much they depend on labor from adjacent municipalities and counties, and how much of the local workforce needs to travel to get to jobs. Identifying these patterns can help predict the losses due to transportation and transit failures, and suggest planning alternatives for commuting in the weeks and months after a disaster.

g) Accounts for the vulnerabilities posed to the workforce by transportation, schools and other critical infrastructure outages.
Various forms of infrastructure loss will have diverse impacts on the workforce. Widespread school closures will have child care ramifications for workers, and transportation losses will impact commuting. All of these pressures add to the out-migration of the workforce as they seek refuge with extended families or move altogether. Identifying vulnerabilities and planning for redundancies can help preserve the workforce for the resumption of economic activity.

h) Has a program in place to educate employers on public and private resources available to support workforce preparedness and post-disaster assistance.
Many employers don't realize that training funds and educational opportunities exist for their own employees. Encouraging Chambers of Commerce or other industry groups to make businesses aware of workforce resources for both preparedness and recovery can increase the utilization of these programs and the resiliency of the workforce.

9) *Economic Diversification*— Plans and programs demonstrate an understanding of economic limitations, vulnerabilities, and disaster preparedness and recovery activities

a) Recognizes extent to which the local economy is dependent on a single or few industries.
Reliance on just one or a few industries makes the local economy incredibly vulnerable to disasters. While this may be a routine challenge for rural economies, it may also exist for urban economies that have one major sector that drives employment or wealth creation. Plans should identify to what extent they are dependent on a single industry, and what vulnerabilities this reliance creates for the community.

b) Indicates activities or partnerships for attracting or developing new industries.
Local economic leaders should continually search for and identify opportunities to develop new industries locally, or attract new ones to the community. Plans should identify partnerships locally and regionally that can contribute resources to diversification, and help market the assets of the local economy.

c) Considers the hazards posed by targeted growth industries or existing economic drivers of the community.
Some industries pose potential hazards of their own to communities, and these potential hazards should be identified and considered in emergency management planning and business recruitment and retention strategies. While some of the most easily identified examples of such industry sectors (e.g. nuclear energy plants) could be identified in emergency management plans as part of a Critical Infrastructure and Key Industries (CIKR) list, local government and economic developers should be aware of other businesses that could post a threat to the community, such as those that use hazardous chemicals in their product production or in the course of daily operations.

d) Considers the vulnerabilities or methods of risk avoidance for key industry sectors.
Plans should include an analysis of how major industries are vulnerable to different hazards, and the extent to which those vulnerabilities can be mitigated. The authorization of task forces or other entities could be utilized to improve preparedness for key industries and motivate mitigation resources.

e) Considers the natural hazard vulnerabilities of commercial development sites.
Land use planning should coordinate with emergency planning and economic development planning in order to identify which commercial sites are vulnerable to particular hazards, and how they can be protected from disasters. Land use patterns may need to be changed in order to shift commercial development to more resilient sites.

f) Demonstrates the ability to understand trends and identify activities for innovation and developing competitive advantages in current industries.
Innovation and adaptation are instrumental to improving the economic health and viability of the local economy. Plans should identify resources or strategies for increasing the local advantage of major industries, and innovating practices and processes for better competition. Also, including analyses of economic changes and forecasting shifts in economic emphasis can help the economy get ahead of the curve and weather negative changes.

g) Recognizes industry interdependencies and potential opportunities for enhancing supply chain resilience.
Many industries depend on each other for inputs and services, and tend to grow in conjunction with each other. Recognizing how industries are interdependent can help economic planners identify how the loss of one industry in a disaster will affect others. This may help the development of alternate supply chain resources, or opportunities for investment and upgrading.

h) Promotes the development of enterprises and technologies that support disaster preparedness and recovery.
Local businesses have local knowledge, and contribute back into the local economy. When disaster preparedness and recovery businesses exist indigenously, they ensure that disaster responses are tailored to local needs, and that disaster funds are integrated within the economy and tax base. Finding ways to support local contractors, debris removers, response nonprofits, and other firms can ensure that capacity exists when it is needed. This may involve encouraging the Chamber of Commerce to collaborate with other regional chambers to increase market opportunities for these businesses. It may also involve focusing routine procurement on local businesses (to the extent allowed by law) so that these businesses have constant revenue streams.

10) *Counseling and Technical Assistance*—Programs to provide technical assistance to businesses and individuals

a) Identifies presence of adequate personal and business counseling professionals.
An essential component of economic recovery is the availability of technical assistance professionals who can assist businesses in filling out applications for recovery resources, and begin the process of reopening. However, the human side of entrepreneurship is often overlooked. Business owners usually suffer from two tragedies after disasters – the loss of their business as well as the loss of their homes and personal stability. Small businesses owners are especially affected because their businesses and personal lives are closely intertwined. Consequently, economic recovery can be improved by targeting personal counseling to business owners who may need to deal with personal issues before facing their business issues. Plans should reflect the availability of, or relationships with, organizations and agencies that can provide both business and personal technical assistance services.

b) Demonstrates connection between counseling programs and the ability for businesses to access capital.
   In addition to the broader emphasis on technical assistance services, there should be a recognition of the need for specialized assistance for accessing capital, loan and grant programs which have significant requirements to access capital, and affected businesses generally need support for applying to these funders.

c) Identifies existing business retention and expansion (BRE) programs/programs for assisting businesses in distress.
   BRE programs that provide "economic gardening" or other enterprise supports can be adapted to assist economic recoveries after disasters. Linking these programs to recovery planning is an important activity for supporting economic resiliency.

11) *Communications Systems*—Systems and programs in place to facilitate information sharing with local businesses

a) Identifies processes/mechanisms (e.g., business emergency operations center) for communicating with businesses in the aftermath of a disaster.
   Disasters are not only composed of material losses, but also by the loss of information and certainty. Effective communication systems can reduce ambiguity and assist local firms in making choices that improve the economic recovery. Utilizing a business emergency operations center, a 211 call center, or other strategy for communication can help businesses owners get real-time information and share the status of operations (e.g. open/closed). This can help communities more effectively target where resources are needed in order to accelerate business recovery.

b) Has produced or distributed a resource guide for disaster-mitigation and post-disaster recovery for local businesses.
   Resource guides are an indispensable tool for communicating the resources mitigation and recovery. Guides can include best practices, contact information, and specific resources available for businesses. Having paper and online versions of guides increase the ability for businesses to access them, and updating the guides on a regular basis (e.g. daily or weekly) can improve the quality of information that local businesses have as they try to reopen and recover.

APPENDIX C: ECONOMIC RESILIENCE PLANNING CHECKLIST

Communities and economic development organizations can use the Economic Resilience Planning Checklist to assist with planning efforts and to facilitate discussion regarding resilience with staff and key stakeholders.

Economic Resilience Planning Checklist	
Research and Knowledge Building	
	Identifies robust data system concerning the local economy and local firms.
	Includes SWOT (strengths, weaknesses, opportunities, threats) analysis or other evaluation of economic and industry-specific vulnerabilities or opportunities for growth.
	Demonstrates understanding of best practices in preparedness and recovery for key industries.
Planning	
	References or identifies points of integration with other planning efforts in the community (i.e., land use plans, hazard mitigation plans, etc.).
	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.
	Exhibits evidence of broad or significant stakeholder engagement (including Chambers of Commerce, industry organizations, workforce groups, etc.).
	Provides evidence that vulnerable populations have been adequately engaged and represented in plans.
	Tracks the extent to which plans have been implemented or active projects have been initiated/completed.
Governance	
	Identifies an office or team tasked with managing economic incident response and/or recovery.
	Demonstrates integration with other relevant regional, state, and federal economic response and recovery entities.
	Includes or acknowledges the role of non-profit organizations, volunteer organizations, community foundations, and non-traditional lenders to support resiliency building and recovery efforts.
	Includes an assessment of community organizations and their ability to manage and contribute to post-disaster recovery programming.
	Cultivates public-private partnerships to foster mutual support for economic development goals.
	Identifies an office or team tasked with managing economic incident response and/or recovery.

Finance	
	Identifies resources to incentivize economic disaster mitigation planning and preparedness.
	Identifies resources for economic disaster response and recovery for public and private sector services.
	Identifies local funding or grant-making mechanisms for post-disaster small business financing and financial program management.
	Maintains a program to promote adequate private insurance coverage for local businesses.
	Identifies strategies for financing resilience initiatives.
Infrastructure	
	Includes a plan for maintaining/upgrading critical infrastructure and the resulting impact on the business community.
	Identifies interface between critical infrastructure organizations (e.g., water board) and economic development organizations.
	Contains a strategy or plan for rapid return of utilities following a disaster.
	Includes a strategy for alternate transportation routes and logistics for economic activity.
Procurement Strategies	
	Includes a strategy for working with emergency management and recovery organizations to identify local procurement opportunities following disasters.
	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.
	Has preliminary marketing plan for promoting local businesses during a recovery.
	Has strategy for maintaining supply chain access for local businesses following disasters.
Business Continuity and Risk Management	
	Has a program in place promoting/assisting local businesses in preparing business continuity plans.
	Has a program in place promoting good record keeping in order to access business recovery resources.
	Has a program in place promoting generators and other private forms of energy and water access.
	Has plan for providing short-term space for affected businesses.
	Has plan in place to relax or streamline permitting and zoning bylaws to encourage quick return of businesses.
Workforce Support	
	Identifies programs for workforce education and skills training for a more flexible and adaptable workforce.
	Identifies labor agencies and similar firms that may be required to fill labor gaps and reduce unemployment due to workforce displacement after a disaster or other economic disruption

	Promotes personal financial literacy, Individual Development Accounts, or other programs to encourage savings and other practices for precarious workforce members.
	Promotes disaster preparedness and planning for households.
	Identifies the workforce sectors that are most vulnerable to displacement from various types of economic disruption.
	Discusses commuting patterns and identifies the extent to which the local economy is dependent on bringing in employees from other communities, or residents commuting to other communities for employment.
	Accounts for the vulnerabilities posed to the workforce by transportation, schools and other critical infrastructure outages.
	Has a program in place to educate employers on public and private resources available to support workforce preparedness and post-disaster assistance.
Economic Diversification	
	Recognizes extent to which the local economy is dependent on a single or few industries.
	Indicates activities or partnerships for attracting or developing new industries.
	Considers the hazards posed by targeted growth industries or existing economic drivers of the community.
	Considers the vulnerabilities or methods of risk avoidance for key industry sectors.
	Considers the natural hazard vulnerabilities of commercial development sites.
	Demonstrates the ability to understand trends and identify activities for innovation and developing competitive advantages in current industries.
	Recognizes industry interdependencies and potential opportunities for enhancing supply chain resilience.
	Promotes the development of enterprises and technologies that support disaster preparedness and recovery.
Counseling and Technical Assistance	
	Identifies presence of adequate personal and business counseling professionals.
	Demonstrates connection between counseling programs and the ability for businesses to access capital.
	Identifies existing business retention and expansion (BRE) programs/programs for assisting businesses in distress.
Communication Systems	
	Identifies processes/mechanisms (e.g., business emergency operations center) for communicating with businesses in the aftermath of a disaster.
	Has produced or distributed a resource guide for disaster-mitigation and post-disaster recovery for local businesses.

APPENDIX D: PERCENTAGE OF RESULTS

The table below summarizes the results for all 25 plan reviews, providing the percentage of plans rated as "not observed," "partially observed," or "fully observed" for each metric component.

Economic Resilience Planning Tool	Percent Observed		
Research and Knowledge Building	**None**	**Partially**	**Fully**
Identifies robust data system concerning the local economy and local firms.	4.2%	66.7%	29.2%
Includes SWOT (strengths, weaknesses, opportunities, threats) analysis or other evaluation of economic and industry-specific vulnerabilities or opportunities for growth.	25.0%	50.0%	25.0%
Demonstrates understanding of best practices in preparedness and recovery for key industries.	66.7%	29.2%	4.2%
Planning	**None**	**Partially**	**Fully**
References or identifies points of integration with other planning efforts in the community (i.e., land use plans, hazard mitigation plans, etc.).	20.8%	50.0%	29.2%
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.	66.7%	25.0%	8.3%
Exhibits evidence of broad or significant stakeholder engagement (including Chambers of Commerce, industry organizations, workforce groups, etc.).	8.3%	54.2%	37.5%
Provides evidence that vulnerable populations have been adequately engaged and represented in plans.	54.2%	41.7%	4.2%
Tracks the extent to which plans have been implemented or active projects have been initiated/completed.	50.0%	33.3%	16.7%
Governance	**None**	**Partially**	**Fully**
Identifies an office or team tasked with managing economic incident response and/or recovery.	45.8%	50.0%	4.2%
Demonstrates integration with other relevant regional, state, and federal economic response and recovery entities.	70.8%	20.8%	8.3%
Includes or acknowledges the role of non-profit organizations, volunteer organizations, community foundations, and non-traditional lenders to support resiliency building and recovery efforts.	62.5%	33.3%	4.2%

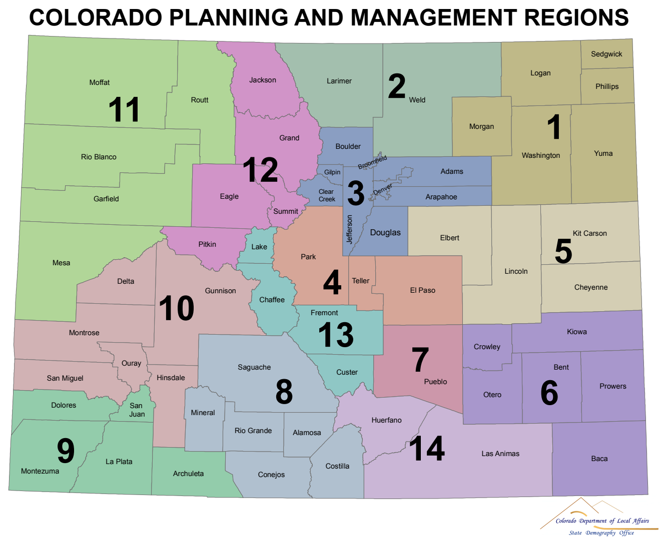
Includes an assessment of community organizations and their ability to manage and contribute to post-disaster recovery programming.	91.7%	8.3%	0.0%
Cultivates public-private partnerships to foster mutual support for economic development goals.	8.3%	54.2%	37.5%
Identifies an office or team tasked with managing economic incident response and/or recovery.	45.8%	50.0%	4.2%
Finance	**None**	**Partially**	**Fully**
Identifies resources to incentivize economic disaster mitigation planning and preparedness.	91.7%	8.3%	0.0%
Identifies resources for economic disaster response and recovery for public and private sector services.	83.3%	8.3%	8.3%
Identifies local funding or grant-making mechanisms for post-disaster small business financing and financial program management.	66.7%	33.3%	0.0%
Maintains a program to promote adequate private insurance coverage for local businesses.	95.8%	4.2%	0.0%
Identifies strategies for financing resilience initiatives.	79.2%	16.7%	4.2%
Infrastructure	**None**	**Partially**	**Fully**
Includes a plan for maintaining/upgrading critical infrastructure and the resulting impact on the business community.	41.7%	37.5%	20.8%
Identifies interface between critical infrastructure organizations (e.g., water board) and economic development organizations.	83.3%	12.5%	4.2%
Contains a strategy or plan for rapid return of utilities following a disaster.	50.0%	50.0%	0.0%
Includes a strategy for alternate transportation routes and logistics for economic activity.	41.7%	58.3%	0.0%
Procurement Strategies	**None**	**Partially**	**Fully**
Includes a strategy for working with emergency management and recovery organizations to identify local procurement opportunities following disasters.	87.5%	12.5%	0.0%
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.	95.8%	4.2%	0.0%
Has preliminary marketing plan for promoting local businesses during a recovery.	91.7%	8.3%	0.0%
Has strategy for maintaining supply chain access for local businesses following disasters.	95.8%	4.2%	0.0%

Business Continuity and Risk Management	None	Partially	Fully
Has a program in place promoting/assisting local businesses in preparing business continuity plans.	91.7%	8.3%	0.0%
Has a program in place promoting good record keeping in order to access business recovery resources.	100.0%	0.0%	0.0%
Has a program in place promoting generators and other private forms of energy and water access.	95.8%	4.2%	0.0%
Has plan for providing short-term space for affected businesses.	79.2%	20.8%	0.0%
Has plan in place to relax or streamline permitting and zoning bylaws to encourage quick return of businesses.	66.7%	33.3%	0.0%
Workforce Support	None	Partially	Fully
Identifies programs for workforce education and skills training for a more flexible and adaptable workforce.	29.2%	37.5%	33.3%
Identifies labor agencies and similar firms that may be required to fill labor gaps and reduce unemployment due to workforce displacement after a disaster or other economic disruption	66.7%	25.0%	8.3%
Promotes personal financial literacy, Individual Development Accounts, or other programs to encourage savings and other practices for precarious workforce members.	95.8%	4.2%	0.0%
Promotes disaster preparedness and planning for households.	75.0%	16.7%	8.3%
Identifies the workforce sectors that are most vulnerable to displacement from various types of economic disruption.	95.8%	4.2%	0.0%
Discusses commuting patterns and identifies the extent to which the local economy is dependent on bringing in employees from other communities, or residents commuting to other communities for employment.	66.7%	25.0%	8.3%
Accounts for the vulnerabilities posed to the workforce by transportation, schools and other critical infrastructure outages.	91.7%	8.3%	0.0%
Has a program in place to educate employers on public and private resources available to support workforce preparedness and post-disaster assistance.	95.8%	4.2%	0.0%
Economic Diversification	None	Partially	Fully
Recognizes extent to which the local economy is dependent on a single or few industries.	41.7%	16.7%	41.7%
Indicates activities or partnerships for attracting or developing new industries.	29.2%	37.5%	33.3%
Considers the hazards posed by targeted growth industries or existing economic drivers of the community.	83.3%	16.7%	0.0%

Considers the vulnerabilities or methods of risk avoidance for key industry sectors.	91.7%	4.2%	4.2%
Considers the natural hazard vulnerabilities of commercial development sites.	54.2%	37.5%	8.3%
Demonstrates the ability to understand trends and identify activities for innovation and developing competitive advantages in current industries.	33.3%	45.8%	20.8%
Recognizes industry interdependencies and potential opportunities for enhancing supply chain resilience.	83.3%	16.7%	0.0%
Promotes the development of enterprises and technologies that support disaster preparedness and recovery.	79.2%	20.8%	0.0%
Counseling and Technical Assistance	None	Partially	Fully
Identifies presence of adequate personal and business counseling professionals.	70.8%	29.2%	0.0%
Demonstrates connection between counseling programs and the ability for businesses to access capital.	87.5%	4.2%	8.3%
Identifies existing business retention and expansion (BRE) programs/programs for assisting businesses in distress.	62.5%	29.2%	8.3%
Communication Systems	None	Partially	Fully
Identifies processes/mechanisms (e.g., business emergency operations center) for communicating with businesses in the aftermath of a disaster.	75.0%	20.8%	4.2%
Has produced or distributed a resource guide for disaster-mitigation and post-disaster recovery for local businesses.	79.2%	20.8%	0.0%

APPENDIX E: REGIONAL EVALUATION TOOL SUMMARIES

To further breakdown the data, the jurisdictions and organizations that were reviewed were grouped together into regions using the Colorado Planning and Management Regions as the guide. The review was limited to Regions 1 through 5. Similar to the data presented in body of the report, these regional summaries were prepared by averaging the response for each metric component for all communities reviewed falling within a specific region. Out of the 25 reviews that were conducted, three towns were located within two counties and two different regions. These were all located on the border between Region 2 and Region 3, and for the purpose of the summaries, were included in Region 3 because of the close working relationships they have established with other organizations in that region.



Region 1

Only one organization was reviewed from Region 1. All elements of *Research and Knowledge Building* were fully observed, and all of the elements from *Procurement* and *Communication Systems* were rated as not observed.

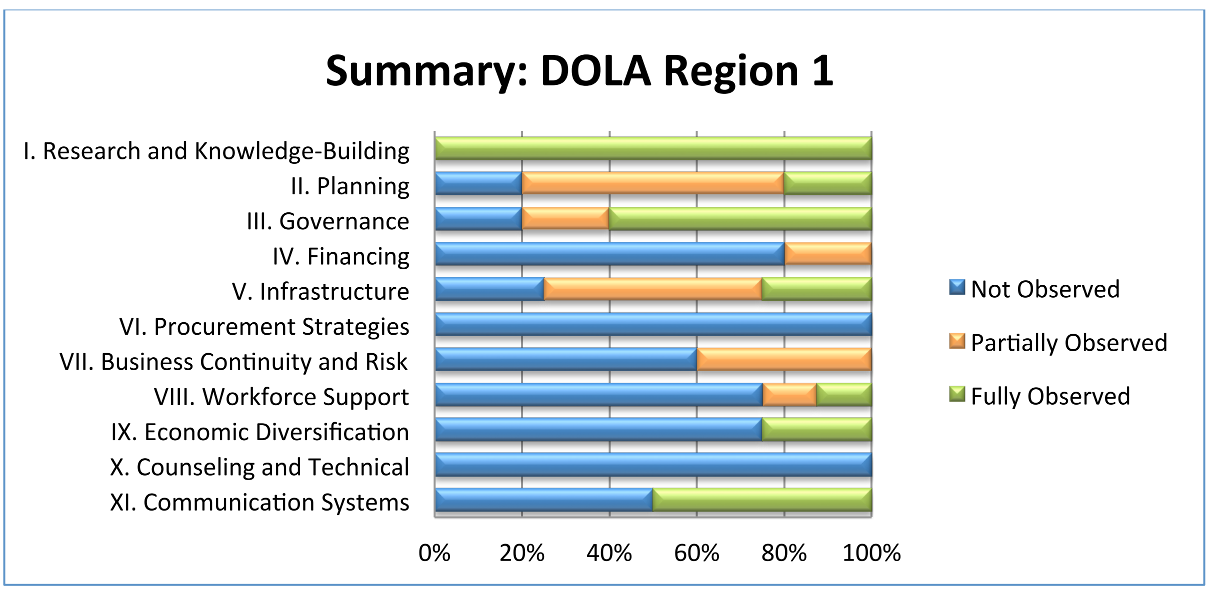


Chart E-1: Region 1 Summary

Region 2

Eight organizations and jurisdictions were reviewed from Region 2. Upon examining these results, *Infrastructure* had the lowest percentage of metric items rated 'not observed,' while *Business Continuity and Risk Management* had the highest percentage.

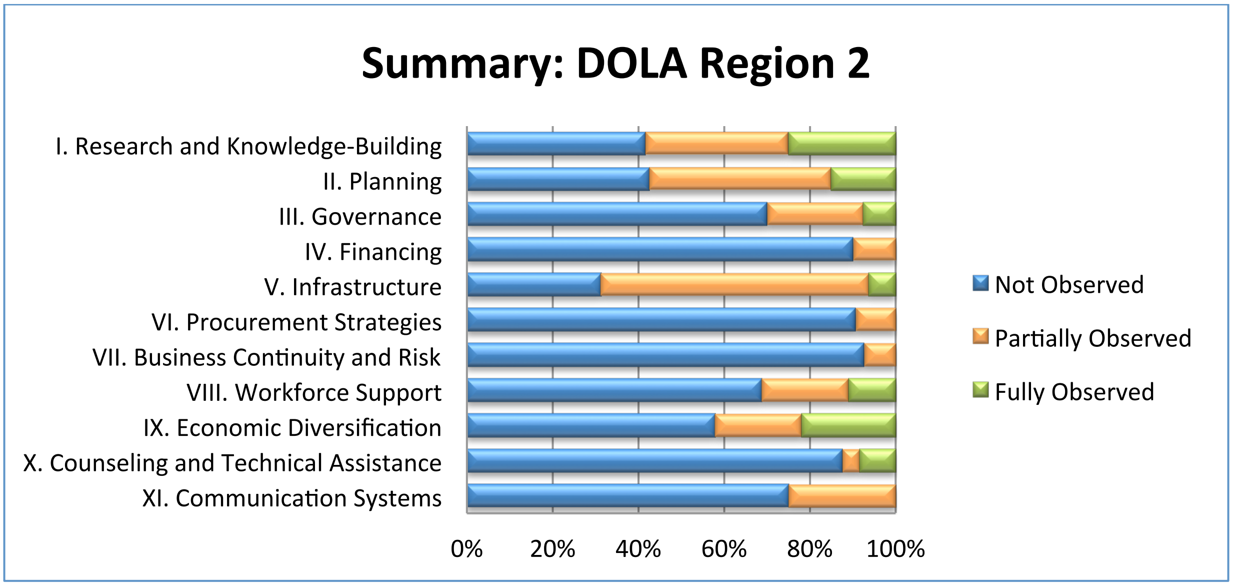


Chart E-2: Region 2 Summary

Region 3

Three towns each fall within two different counties and two different regions. These three towns have been included in the Region 3 analysis as two work closely with organizations in Boulder County and one works most closely with Adams County. Besides those three towns, five other jurisdictions and two regional planning areas fall within Region 3, which includes the urban areas of Denver and Boulder. The highest percentage of elements under *Procurement Strategies* were rated as not observed, and *Planning* had the highest percentage of elements rated as 'fully observed.'

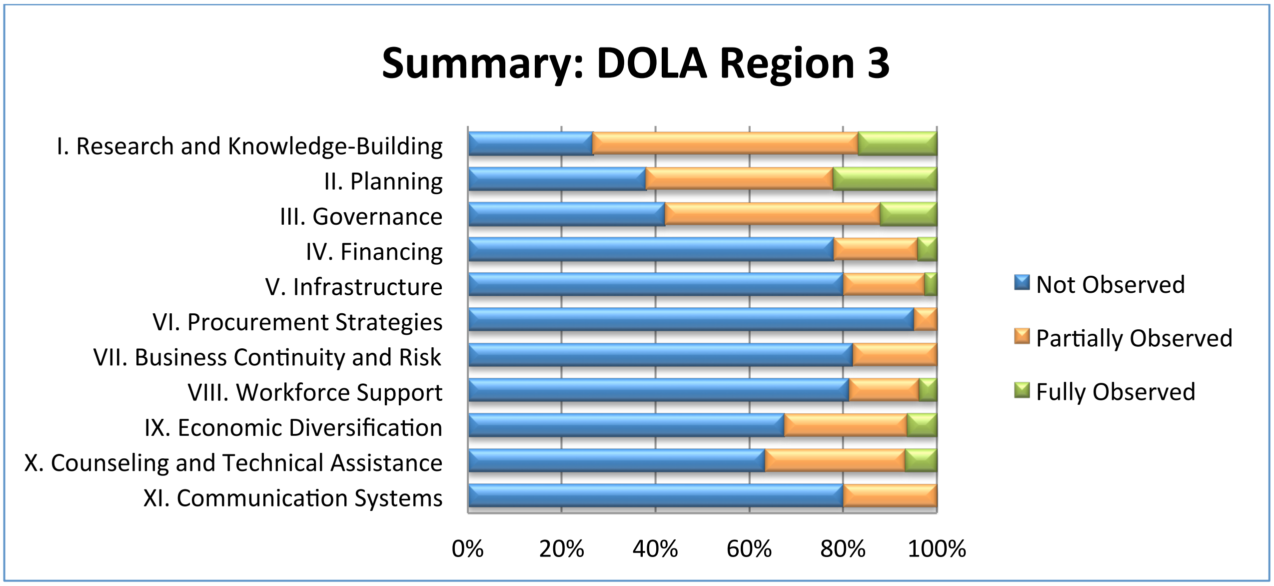


Chart E-3: Region 3 Summary

Region 4

Three evaluations from Region 4 were included in the review. Once again, *Planning* had the highest percentage of elements rated as 'fully observed,' while *Business Continuity and Risk Management* had the highest percentage rated as 'not observed.'

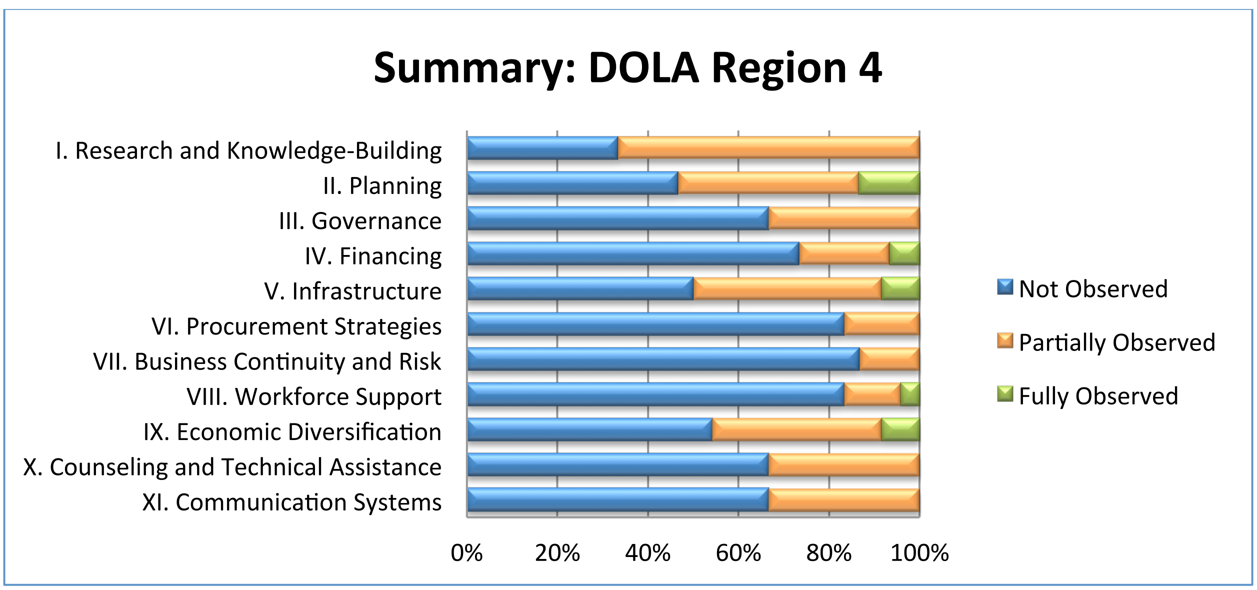


Chart E-4: Region 4 Summary

Region 5

Only two plans were reviewed from Region 5. All components from *Financing, Procurement Strategies, Business Continuity and Risk Management*, and *Communication Systems* were rated as 'not observed.'

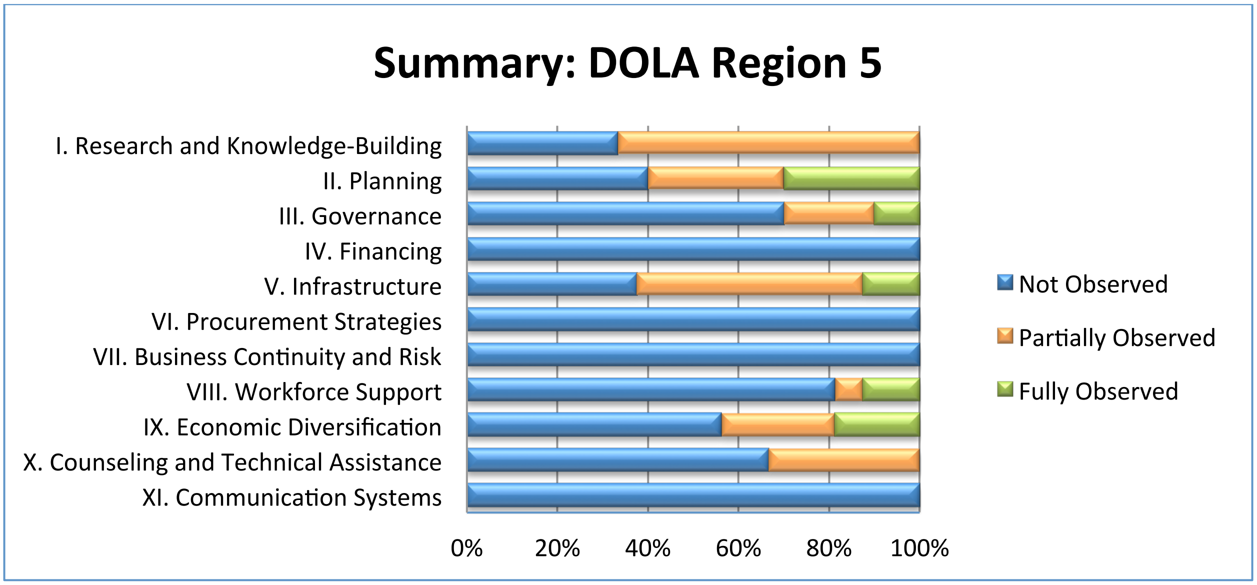


Chart E-5: Region 5 Summary