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Report to Dr. William Jenkins, GAO, Homeland Security and  
Justice Team

# NATIONAL PREPAREDNESS:

## Texas Case Study Findings

2008-2009 MPSA Capstone

Michael Alexander  
Whitney Erxleben  
Kat Grandstaff  
Lyndsey Morales

Clement Carrington  
Edgar Garcia  
Elisabeth Meehan  
David Nyquist  
Lindsay Taylor

Dr. Sharon Caudle, Advisor  
The Bush School of Government & Public Service  
Texas A&M University

## Introduction

Building on the findings of deliverable I contained in the report *National Preparedness: Federal, State, and Local Definitions, Threats, and Goals*, this report explores the major implementing and contextual factors for achieving preparedness goals. This report is in response to the research question:

What are the key implementing/contextual factors for achieving stated preparedness goals, such as risk tolerances, organizational structure and governance, partnerships, budget issues, political situation, and federal resourcing?

As agreed, this question was addressed by an overarching case study at the Texas state and local jurisdictional level, supported by a general literature review concerning the implementing and contextual factors. Implementation and contextual factors—such as organizational structure, inter/intra governmental relationships, resource availability/sustainability and risk tolerances—are complex and vary across entities. The case study is intended to highlight commonalities and differences of a subset of jurisdictions within the same state. The following sections describe the report’s scope and methodology, data collection approach, and a summary of relevant preparedness implementation literature. The final section presents the findings of the case study field work, including preparedness background information unique to Texas.

## Scope and Methodology

To answer the research question, we gathered and analyzed (1) implementation and contextual factors identified within homeland security and public administration journals including *The Journal of Homeland Security and Emergency Management and Homeland Security Affairs*; (2) public media sources including newspaper articles, TV/radio reports and online news domains; and (3) insights from products produced by the Government Accountability Office (GAO), National Governors Association, the Council of State Governments, and the Department of Homeland Security (DHS).

Given its size, mass of critical infrastructure, international access, and unique hazard/threat depth and resource capacity, Texas represents an appropriate state to analyze preparedness implementation/contextual factors via the case study method. With 254 counties occupying seven percent of the total water and landmass area of the United States (as large as New England, New York, Pennsylvania, Ohio, and North Carolina combined) Texas was selected to be the case study state.<sup>1</sup> In addition to geographic size, Texas was chosen based upon the following conditions:

- 1) *Population*—Most homeland security grant programs use population and population density as primary components to determining funding allocations. Texas is the second

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<sup>1</sup>Texas Historical Association. 2009. “Texas Almanac—Texas’ Natural Environment.” Accessed: April 2, 2009. <<http://www.texasalmanac.com/environment/>>.

most populous state at 24.3 million,<sup>2</sup> possessing three of the ten most populous cities in the U.S.<sup>3</sup> Impacting aspects of communication, logistics and human safety, population affects a variety of dimensions complicating preparedness planning and associated implementation.

- 2) *Homeland Security (Preparedness) Challenges*—As discussed above, Texas experiences a variety of natural hazard challenges including wildfire, flooding, hurricanes, tornadoes, ice and droughts; given the size and topology of the state it may experience one or more such hazards simultaneously. In addition, Texas is an international gateway state<sup>4</sup> possessing a border with Mexico, a coastline with the Gulf of Mexico, thirteen international airports<sup>5</sup> and sixteen sea ports.<sup>6</sup> Experiencing many forms of natural disasters, containing many critical infrastructure components, and maintaining several international access points, the geography of Texas adds complexity and depth to the reality of all-hazards preparedness planning and implementation.
- 3) *Governing Structure*—Texas maintains a decentralized governing structure affording a large amount of discretion to localities—even during times of emergency or crisis. For example, mayors and county judges are responsible for emergency management planning and directing, controlling and coordinating emergency operations within their jurisdictions.<sup>7</sup> As discussed in the literature, the level of autonomy with respect to Texas governance impacts and complicates the preparedness implementation aspects of organizational roles/responsibilities (with respect to communication, coordination and decision making authority), resources (with respect to allocation and availability) and *strategy* with respect to policy development and assessment.
- 4) *Economic Strength*—In 2007 Texas had the second highest Gross State Product (GSP) in the nation with a GSP of \$1.1 trillion.<sup>8</sup> A strong economic capacity affects preparedness planning and implementation efforts with respect to being able to acquire new technologies, pilot new programs, hire more preparedness staff, and engage in other preparedness efforts.

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<sup>2</sup> U.S. Census Bureau. 2009. “National and State Population Estimates: Annual Population Estimates 2000-2008.” Accessed: April 2, 2009. <<http://www.census.gov/popest/states/NST-ann-est.html>>.

<sup>3</sup> U.S. Census Bureau. “2007 Population Estimates.” “Table 1: Annual Estimates of the Population for Incorporated Places Over 100,000, Ranked by July 1, 2007 Population: April 1, 2000 to July 1, 2007”(CSV). *Population Division*. 2008-07-10. Accessed: March 14, 2009.

<sup>4</sup> Michael Alexander, et al. Fall 2008. “National Preparedness: Federal, State, and Local Definitions, Threats and Goals.” Bush School of Government at Texas A&M: MPSA Capstone Deliverable I.

<sup>5</sup> Federal Aviation Administration. 2008. “National Plan of Integrated Airport Systems.” Accessed: April 2, 2009. <[http://www.faa.gov/airports\\_airtraffic/airports/planning\\_capacity/npias/](http://www.faa.gov/airports_airtraffic/airports/planning_capacity/npias/)>.

<sup>6</sup> Texas Ports Association. 2009. “Texas Ports.” Accessed: April 2, 2009. <<http://www.texasports.org/>>.

<sup>7</sup> Texas Homeland Security Strategic Plan. 2004. “Part III State of Texas Emergency Management Plan.” 16, 26. Accessed: April 2, 2009. <[ftp://ftp.txdps.state.tx.us/dem/plan\\_state/state\\_plan\\_20040211.pdf](ftp://ftp.txdps.state.tx.us/dem/plan_state/state_plan_20040211.pdf)>.

<sup>8</sup> Bureau of Economic Analysis. “Regional Economic Accounts.” Gross Domestic Product by State. Accessed: February 14, 2009. <<http://www.bea.gov/regional/gsp/>>.

- 5) *Level of Federal Preparedness Funding*—Texas received more than \$155 million in federal homeland security grants in 2008.<sup>9</sup> The ability to secure a sizable portion of federal homeland security preparedness dollars and couple them with state resources (see point 4) impacts preparedness planning and implementation efforts. More resources should lead to better plans and the ability to overcome implementation problems associated with organization capacity and resourcing.

For the Texas case study, we collected publicly available preparedness documents and other related information. We also conducted in-person and phone interviews with preparedness officials representing the Texas state level and officials from selected jurisdictions across the state. These jurisdictions represented Department of Homeland Security (DHS) Urban Area Security Initiative Allocations (UASI) for Tier 1 (Houston) and Tier II (Austin, San Antonio, and Dallas/Fort Worth).<sup>10</sup> Interviews with officials from Houston and San Antonio were conducted at the 2009 Texas Homeland Security Conference—hosted by the Texas Department of Public Safety in San Antonio. Interviews with state and local officials from the Austin area were conducted onsite at the Combined Transportation Emergency Communications and Management facility (CTECC) and the Department of Public Safety- State Operations Center.

## **Preparedness Implementation and Contextual Factors Literature Review**

Since the September 11 terrorist attacks, the federal government has sought to ensure the United States is a safer country by issuing presidential directives, national strategies, and national guidelines providing state and local governments policy direction intended to make the country more secure against all types of hazards. Based on our review of the preparedness literature, several factors impact the effective implementation of national preparedness directives and strategies. We have divided these factors into three overarching categories: (1) organizational factors, (2) resource factors, and (3) strategic factors. According to the preparedness literature (including sources such as the National Governors’ Association and government agencies such as the Government Accountability Office (GAO)), these factors have affected the implementation of preparedness strategies and directives.

### ***Organizational Factors***

Organizational implementation and contextual factors included organizational roles and responsibilities, intergovernmental coordination and relationships, non-governmental relationships, and interoperable communications.

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<sup>9</sup> Homeland Security Grant Program (SHSP) \$65,440,000--Urban Area Security Initiative (UASI) \$71,856,500--Metropolitan Medical Response System (MMRS) \$4,175,873--Citizen Corps Program (CCP) \$798,047--Operation Stonegarden \$13,040,000. Figures obtained from: U.S. Department of Homeland Security. 2008. “State Contracts and Grant Award Information.” Accessed: April 2, 2009. <<http://www.dhs.gov/xgovt/grants/>>.

<sup>10</sup> El Paso originally expressed an interest to be interviewed but recent border concerns prohibited their interview from taking place.

## Organizational Roles and Responsibilities

Problems with ambiguity of organizational roles and responsibilities at each level of government have resulted in difficulty in translating overall federal goals into specific guidance to state and local governments. Numerous state officials directly involved with homeland security within their states believe DHS has yet to clearly define state and local responsibilities during a disaster.<sup>11</sup> This ambiguity has been seen as a “core problem” in the implementation of preparedness plans.<sup>12</sup> The GAO has identified the lack of clearly defined roles among the levels of government as causing local governments to not be properly prepared. The reason is that the local governments do not know how much help can be expected from the state and federal levels of government in case of a disaster.<sup>13</sup>

Also affecting the implementation of preparedness plans is the command and management structure of state and local governments. Public administration researcher Donald Kettl believes the normal bureaucratic structure is based on obedience as opposed to actual performance when needed; bureaucrats hesitate to act until they have been given orders from above. This structure is seen to hamper quick response because of its reliance on top-down decision making.<sup>14</sup> The literature identifies the development of a commonly accepted sound management structure as a step that would help delineate roles and responsibilities, ensure that problems get to the appropriate level of decision making faster, thereby resulting in better decisions.<sup>15</sup>

## Intergovernmental Coordination and Relationships

The GAO has determined coordination among government at all levels is a necessity for the successful achievement of homeland security goals.<sup>16</sup> However, it appears all levels of government do not seem to be working towards a unified goal, and coordination among the levels of government is seen as one of the most difficult challenges for preparedness<sup>17</sup>. One of the barriers to working relationships between governments is the lack of a common homeland security culture that can help form and direct coordination efforts.<sup>18</sup> A common culture consisting of equipment standards and common lexicon would allow responders and officials from one city or agency to move and integrate more easily with responders and officials from another city or agency with minimal problems in the event of a disaster.

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<sup>11</sup> Institute for the Economy and the Future. 2006. “National Survey of Homeland Security Officials”. Western Carolina University. Cullowhee, NC. 6.

<sup>12</sup> John Morton. 2008. “State/Local Issue Team Problem Analysis”. *Project on National Security Reform*. 30 Oct. 5.

<sup>13</sup> William O. Jenkins. 2006. “Federal Emergency Management Agency: Factors for Future Success and Issues to Consider for Organizational Placement”. *US Government Accountability Office*. GAO-06-746T. 7.

<sup>14</sup> Donald Kettl. 2005. “The Worst Is Yet To Come: Lessons from September 11 and Hurricane Katrina”. *Fels Institute of Government*. Report 05-01. 3-8.

<sup>15</sup> Henry Sullivan. 2007. “Assessing the National Incident Management System”. Presented at the Midwestern Political Science Association Conference. 29 March. 11 & Johnnie Smith. 2007. “A Model for Effective Organization and Communication of Homeland Security Activities at the State Level”. *Naval Postgraduate School*. 18.

<sup>16</sup> Government Accountability Office. 2005. “Homeland Security: Agency Plans, Implementation, and Challenges Regarding the National Strategy for Homeland Security”. *US Government Accountability Office*. GAO-05-33. 14.

<sup>17</sup> Ann Beauchesne. 2002. “State’s Homeland Security Priorities”. National Governors Association. 19 August. 1-2 & Lynn Davis. 2002. “Organizing for Homeland Security”. *RAND Corporation*. 17.

<sup>18</sup> Morton, 2008, 23.

Even though regionalism is known to counter effects of limited resources, serve as a link between local and state governments, and facilitate coordination, government entities are still having trouble working together.<sup>19</sup> The problem seems to rise from the hesitancy of government entities, especially at the local level, to give up part of their autonomy to regional officials, yet still wanting to reap the benefits of regional organizations. Smaller local governments are more prone to being hesitant in joining regional efforts because they believe the bigger governments' needs will be given priority over theirs.<sup>20</sup> Furthermore, the current grant structure is seen as breeding competition and incentivizing "going at it alone"; this encourages a fragmentation of state and local planning efforts.<sup>21</sup>

In some areas, Multi-Agency Collaboration Centers (MACCs) have been created to bring together agencies with various disciplines into a single operational hub. Studies on interagency collaboration detail the importance of managers' reliance on the Incident Command System (ICS) to effectively manage personnel from different disciplines. The ICS is used to increase functionality of emergency response teams by serving as the central organizing point that unifies the various disciplines represented among the departments and agencies comprising the collaboration centers.<sup>22</sup> However, some challenge the universal effectiveness of the ICS system. Most notably, the public health, public works, and information technology sectors are identified as having trouble fitting into multi-agency collaboration centers using the ICS system. The public health sector, for example, argues the ICS approach to dealing with problems uses a "different language and approach" that does not enhance their efforts so no incentives exist for collaboration<sup>23</sup>

## Non-governmental Partnerships

The literature recognizes the importance of partnerships between all levels of government and the private sector because of the volume of critical infrastructure owned by private entities. Equally important is the protection of materials that could be used to harm Americans. However, the GAO has noted governmental mandates to the private sector may not adequately take into consideration the needs of the business community. Furthermore, information-sharing barriers between government and the private sector limit the ability to form useful partnerships.<sup>24</sup> Lack of current and quick information restricts the ability of the private sector to be properly prepared. By not being given timely information on the current threat to their infrastructure,

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<sup>19</sup> Kiki Caruson et al. 2007. "Designing Homeland Security Policy within a Regional Structure: A Needs Assessment of Local Security Concerns". *Journal of Homeland Security and Emergency Management*". 3, 5 and Government Accountability Office, 2005, 13.

<sup>20</sup> Donald Kettl. 2003. "The States and Homeland Security: Building the Missing Link". *The Century Foundation*. 10.

<sup>21</sup> Morton, 2008.

<sup>22</sup> Jerome D. Hagen. 2006. "Interagency Collaboration Challenges Among Homeland Security Disciplines in Urban Areas". *Naval Post Graduate School*. 4.

<sup>23</sup> Kay Eilbert. 2004. "Examining Collaborative Public Health Practice and Emergency Preparedness: Can it Work? Turning Point Partnerships Share Their Experience". *National Association of County and City Health Officials*. April 2004.

<sup>24</sup> General Accounting Office. 2002. "Homeland Security: Management Challenges Facing Federal Leadership". *US General Accounting Office*, GAO-03-260. 32-33 & Government Accountability Office. 2005. "Homeland Security: Agency Plans, Implementation, and Challenges Regarding the National Strategy for Homeland Security". *US Government Accountability Office*. GAO-05-33. 12.

private entities cannot take the necessary steps to adequately prepare or respond to impending threats. The literature further suggests an ambiguity of roles and responsibilities attributed to the private sector much like the ambiguity present in the roles and responsibilities attributed among state and local governments.

## **Resource Factors**

Resource factors include resource availability/sustainability, human capital skills, and risk management.

## **Resource Availability / Sustainability**

The literature suggests a primary impact of homeland security legislation and mandates on state and local governments is the financial burdens placed on them, especially when it comes to the acquisition of new technologies/equipment and qualified personnel needed to operate them.<sup>25</sup> State homeland security officials have reported financial constraints as being the leading obstacle in being able to adequately protect, prevent, and prepare against any possible emergencies.<sup>26</sup> Exacerbating the financial restraints, state and local officials are required to balance new requirements and still meet the everyday needs of the organization. Furthermore, they are responsible for the continuous funding and upkeep of any equipment or personnel acquired after federal funding runs out.

The current federal grant structure appears to create gaps rather than close them due to its competitive nature. Competing for federal dollar, localities many times create incompatible systems (further limiting coordination and collaboration efforts) that often lead to wasteful duplication of efforts.<sup>27</sup> The GAO reports that local officials believe federal grants could be more effective if they were given more flexibility with funding through block grants. If done in this manner, local officials believe they can better target spending to ensure it is used most effectively<sup>28</sup>.

## **Risk Management**

Proper risk management is believed to lead to better resources allocation and investment leading to proper protection.<sup>29</sup> Literature focusing on the lack of resources available to state and local governments also points out that state and local governments need, “help and technical assistance to identify and protect critical infrastructure.”<sup>30</sup> One of the biggest challenges with risk management for local and state governments is the interdependence of multiple infrastructures that cross state and local jurisdictions such as the dependence of the telecommunications sector

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<sup>25</sup> Kiki Caruson et al. 2005. “Homeland Security Preparedness: Federal and State Mandates and Local Government”. *Spectrum: The Journal of State Government*. Spring 2005. 28.

<sup>26</sup> Institute for the Economy and the Future, 9.

<sup>27</sup> Beauchesne, 2.

<sup>28</sup> Randall A. Yim 2002. “National Preparedness: Integration of Federal, State, Local, and Private Sector Efforts Is Critical to an Effective National Strategy for Homeland Security”. *US General Accounting Office*. GAO-02-621T. 19.

<sup>29</sup> Government Accountability Office, 2005, 3, 24.

<sup>30</sup> General Accounting Office, 2002, 28

on the energy sector; state and local governments can only have a limited impact on the protection of these sectors because of the way these sectors cross jurisdictions.<sup>31</sup>

An area in risk management that has grown in attention is the need to incorporate the special needs community in emergency planning and recovery efforts. However, the best practices literature for special needs risk management remains limited. Existing literature stresses the importance of having personnel trained to deal with the “special needs community” as detailed by a 2004 Executive Order building on the Americans with Disabilities Act passed in 1990 and to have the necessary equipment ready at shelters to care for the special needs community.<sup>32</sup> However, this definition is criticized because as defined, the “special needs community” includes children, the elderly and non-English speaking peoples. Therefore, “special needs citizens” could conceivably cover 50 percent of the United States population, rendering the term essentially unhelpful.<sup>33</sup>

## Human Capital and Skills

Articles discussing human capital and skills problems note that many state and local governments know what they have to do in order to properly implement plans and strategies, but they lack the personnel to do it with.<sup>34</sup> The literature suggests a lack of specialized personnel is most evident in the public health sector where the capacity to meet a sudden surge in need during a disaster may not exist.<sup>35</sup> The GAO details the importance of developing long-term human capital strategies that prioritize the retention of personnel once they are trained and have acquired extensive knowledge of their area.<sup>36</sup>

Leadership is another important skill outlined within the literature as critical for success in preparedness implementation efforts. Among other management attributes, leadership is deemed as a requirement for surviving disasters because the capacity to operate under extreme crisis can be paralyzing despite the amount of resources available.<sup>37</sup> It is also noted that leaders are held responsible for mishaps during disasters.<sup>38</sup> Good leaders with clear roles are seen as an important piece in ensuring that an agency or government works effectively; leaders can help delineate roles and ensure that constant progress is being made in the achievement of goals.<sup>39</sup> Additionally, the continuity of leadership within an agency or government is deemed critical to

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<sup>31</sup> Howard Kunreuther. 2007. “Risk Management Strategies for Dealing with Interdependencies”. Presented at Conference on Network-based Strategies and Competencies. *Wharton School University of Pennsylvania*. 7.

<sup>32</sup> National Center for Disaster Preparedness. 2007. “Emergency Preparedness: Addressing the Needs of People with Disabilities”. *Mailman School of Public Health Columbia University*.

<sup>33</sup> June I. Kailes. 2005. “Disaster Services and ‘Special Needs’: Term of Art or Meaningless Term?”. *Center for Disability Issues and Health Professions Western University of Health Sciences*. 3.

<sup>34</sup> Kettl, 2003, 9.

<sup>35</sup> Beauchesne, 4.

<sup>36</sup> General Accounting Office, 2002, 5, 46.

<sup>37</sup> Ali Farazmand. 2007. “Learning from the Katrina Crisis: A Global and International Perspective with Implications for Future Crisis Management”. *Public Administration Review*. Dec 2007. 154.

<sup>38</sup> Paul Light. 2008. “Predicting Organizational Crisis Readiness: Perspectives and Practices toward a Pathway to Preparedness”. *The Center for Catastrophe Preparedness and Response New York University*. 22 and 10.

<sup>39</sup> Christopher Bertram. 2008. “Factors that Effect Interagency Collaborations: Lessons During and Following the 2002 Winter Olympics”. *Naval Postgraduate School*. 14.

building and sustaining long-term effectiveness.<sup>40</sup> Equally important is leadership buy-in and commitment to the organizations' mission. Leaders perceived to be committed to the organization can attract and retain a competent workforce.<sup>41</sup>

## ***Strategic Factors***

Strategic factors include preparedness policies and strategies and preparedness assessments.

## **Preparedness Policies and Strategies**

The literature suggests a challenge to the implementation of long-term preparedness strategic plans is the nonexistence of a preparedness end-state definition.<sup>42</sup> Federal, state and local levels of government do not know when they will be sufficiently "prepared" and can stop preparing. As a result, state and local officials have shown an interest in being more significantly involved in the development of strategic plans in order to create an overarching goal that all levels of government can work to achieve.<sup>43</sup> However, strategic planning efforts are hampered due to a perceived lack of "best practices." States have shown a need for more support in the identification and dissemination of those "best practices" that do exist.<sup>44</sup>

## **Preparedness Assessments**

Preparedness assessment literature has noted adequate performance measures are necessary to see if progress is being made. However, the current lack of performance measures (developed by DHS) capable of tracking preparedness progress have hampered preparedness assessment efforts.<sup>45</sup> Non-governmental agencies have attempted to fill this gap by providing standards for measurement, but the literature suggests detailed guidance for evaluating results is nonexistent. The literature also suggests these standards are characterized as "qualitative" and focus predominantly on the existence of written plans.<sup>46</sup> The Department of Homeland Security's 2009 Federal Preparedness Report details how the creation of good performance measures is hampered by the lack of a preparedness end-state; thus, limiting the ability to properly measure progress.<sup>47</sup>

## ***Summary Observations***

A common theme among the literature on implementation and contextual factors seems to be the lack of clarity in many facets of the implementation spectrum. This ambiguity is evident in

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<sup>40</sup> David Walker. 2002. "Homeland Security: Critical Design and Implementation Issues". *US General Accounting Office*. GAO-02-957T. 15.

<sup>41</sup> Paul Light. 2008. "Predicting Organizational Crisis Readiness: Perspectives and Practices toward a Pathway to Preparedness". *The Center for Catastrophe Preparedness and Response New York University*. 29.

<sup>42</sup> US Department of Homeland Security. 2009. *The Federal Preparedness Report 2009*. 42.

<sup>43</sup> Jeff Mitchell. 2006. "2006 State Homeland Security Directors Survey: New Challenges, Changing Relationships". *National Governors Association*. 7.

<sup>44</sup> Chris Logan. 2005. "Issues Identified at Regional Bioterrorism Policy Workshops". *National Governors Association*. 1 September. 6.

<sup>45</sup> David Walker. 2008. "Department of Homeland Security: Progress Made in Implementation of Management and Mission Functions, but More Work Remains". *US Government Accountability Office*. GAO-08-457T. 4.

<sup>46</sup> Brian Jackson. 2008. "The Problem of Measuring Emergency Preparedness: The Need for Assessing "Response Reliability" as Part of Homeland Security Planning". *RAND Corporation*. 6.

<sup>47</sup> Department of Homeland Security, 2009, 42.

many of the factors outlined by the literature but is most apparent with respect to the roles and responsibilities given to state and local governments. Unclear roles and responsibilities affect coordination and collaboration efforts among the levels of government. Resource scarcity in funding and human capital is also a major factor inhibiting preparedness implementation efforts. Existing literature also agrees that funding scarcities will continue to have the largest repercussions on local governments who are essentially forced to balance homeland security needs alongside everyday operations. Overall, the literature highlights the importance of the federal government needing to assume a more organized role with respect to ensuring better and continued progress in the area preparedness implementation through more direction and collaborative input with lower levels of government and non-governmental entities.

## Texas Preparedness Hazards

The state of Texas faces multiple and diverse challenges in the form of natural disasters, potential terrorism and violence, and other crises. Texas has a multifaceted landscape that is home to diverse wildlife, nuclear power plants, oil, gas and chemical companies, NASA, internationally known tourist attractions and the most forest area after Alaska.

With respect to natural hazards, Robie Robinson highlights that the size and topography of the state make it possible for Texas to experience multiple natural hazards simultaneously across the state.<sup>48</sup> In order to combat multiple threats statewide, local cooperation and communication as well as monetary resources are required. Coordination between localities provides benefits in preparing for and responding to disasters, but it can also provide challenges. According to Robinson, “Individual jurisdictions, whether they are municipalities or counties, enjoy strong home-rule autonomy under Texas law as well as Texas tradition. Coordination is possible, but it often requires substantial skill to accomplish.”<sup>49</sup> Information sharing and good communication between localities will help mitigate challenges and assist all citizens in facing hazards. It also requires monetary resources and budgeting to coordinate relief and preparedness efforts. For localities it is important to build local capacity for preparedness and recovery, and information sharing to spread awareness in a community.

According to the *State of Texas Hazard Analysis*, potential hazards include:

- “Natural hazards such as wildfires, floods, hurricanes, tornadoes,...and droughts
- Technological hazards such as major transportation accidents, oil spills, industrial fires and explosions...or hazardous material spills (radioactive or chemical).
- Homeland Security threats, including attacks by foreign military forces and terrorists with conventional, chemical, biological, nuclear, and radiological weapons.”<sup>50</sup>

A review of news reports and literature highlights some of the challenges and concerns, as well as the perspective of local agents and state officials in facing potential hazards.

### Wildfires

Texas is home to the largest square footage of forest after Alaska, and damage from fires can be devastating. According to the Texas Fire Service (TFS), 95 percent of wildfires are started by people and 80 percent are started two miles from any community. “The 2005-06 and 2008 wildfire seasons were the worst in Texas history. Over 900 Texas families lost their homes and 19 people were killed.”<sup>51</sup> By not following the burn bans in place during a drought, Texas residents might inadvertently contribute to the spread and destruction of Texas wildfires. Fire

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<sup>48</sup> Robie Robinson, et al. “Texas Homeland Defense Preparedness.” *The Century Foundation* (2003): 12-13.

<sup>49</sup> Ibid.

<sup>50</sup> Texas Homeland Security Strategic Plan. 2004. “Part III State of Texas Emergency Management Plan.” 4. Accessed: April 2, 2009. <[ftp://ftp.txdps.state.tx.us/dem/plan\\_state/state\\_plan\\_20040211.pdf](ftp://ftp.txdps.state.tx.us/dem/plan_state/state_plan_20040211.pdf)>.

<sup>51</sup> Texas Forest Service. “Wildfire Awareness Week.” Texas Forest Service. Accessed: April 1, 2009. <<http://texasforestservice.tamu.edu/uploadedFiles/FRP/UWI/WAW.pdf>>.

monitoring by the TFS is crucial in preparedness and response to wildfires. It requires citizen actions and local capacity for an area to be prepared for a wildfire. Media reports on wildfires demonstrate the quick devastation and the action required at the state and local levels to combat blazes. In an article titled “Wildfires destroy 25 homes in central Texas,” the Governor called upon state resources that included “four Blackhawk helicopters equipped to drop water and fire retardant, firefighters and equipment.”<sup>52</sup> While 25 homes is not a large number of damaged buildings, calling on resources to stop the fire prevents a disaster from expanding across Texas. Damage from wildfires can be long lasting if not effectively combated and fighting a wildfire can last days or weeks. Droughts in Texas can contribute to the strength and destruction of a wildfire. One week long fire in a 1,200 acre area destroyed over 24 homes and even when it was 80 percent contained it still threatened 200 homes.<sup>53</sup>

One example of fire preparedness success is that of the city of Tahitian Village, Texas. Located east of Austin, Tahitian Village has experienced wildfire in the past, such as when a 1984 fire burned 900 acres. Blame was placed on the narrow roads and confusing street names, which made it difficult for firefighters to respond to the fire in a timely manner. No major attempts were made to improve preparedness until 1998 when “the extreme drought that year and Florida’s wildfire experience put people in Texas on high alert.” However, the improvements made a large impact on community capacity building in Tahitian Village and can potentially serve as a model for other cities in their preparedness efforts.<sup>54</sup>

Through cooperation with the Texas Forest Service, Tahitian Village residents volunteered to create a demonstration area to show how fire behaves. Residents talked about how proud they were to be a part of the demonstration area. A Fire Citizens Advisory Panel (FireCAP) was created to teach volunteers and citizens wildfire preparedness. “One city official observed about these citizen groups that ‘[It] is really empowering, in my judgment, for the local folks to do whatever they can see... [This is] going to build local capacity.’” Through training courses such as the Tahitian Village Wildfire Mitigation Program, residents made hazard assessments and learned what they could do in the event of a wildfire.<sup>55</sup>

The Texas Fire Service relies on local preparedness and volunteer efforts to fight wildfires and prevent fire damage. Localities would benefit from the Tahitian Village model as a method of building capacity. “The ability of local citizens to apply their knowledge and skills to community wildfire preparedness demonstrates the value of the individual to the overall process, and empowers others within the community to become involved.”<sup>56</sup> This allowed community members to feel that they are an active part of the efforts to protect their own community and contributes to public safety through capacity building.

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<sup>52</sup> Newsday. March 2, 2009. “Wildfires destroy 25 homes in central Texas,” *Newsday* Accessed: March 8, 2009. <<http://www.newsday.com/news/printedition/nation/ny-usnatl026055296mar02,0,4180650.story>>.

<sup>53</sup> CNN. March 3, 2009. “Texas Wildfire Fight May Last Into Next Week.” *CNN.com* Accessed: March 23, 2009. <<http://www.cnn.com/2009/US/03/03/texas.wildfire>>.

<sup>54</sup> Pamela Jakes, et al. “Improving Wildfire Preparedness: Lessons from Communities across the U.S.” *Human Ecology Review* 14 (2007): 193.

<sup>55</sup> Ibid.

<sup>56</sup> Texas Forest Service. “Wildfire Awareness Week.” Texas Forest Service. <<http://texasforests-service.tamu.edu/uploadedFiles/FRP/UWI/WAW.pdf>>.

## Floods

Floods and flash floods can be unpredictable and devastating after effects of hurricanes and storms. Preparedness for potential flood damage can prevent millions of dollars in loss. But prevention is not the only element of flood management in Texas. Even if residents evacuate, the loss of land and property needs to be evaluated and response efforts must focus on economic recovery. After Hurricane Ike, a 60,000 acre ranch became a part of the Gulf of Mexico as one part of the economic impact on farms and livestock that totaled around \$433 million.<sup>57</sup>

San Antonio is an area of Texas that is often at risk of flooding. In the article “San Antonio develops comprehensive flood-safety strategy” the city has demonstrated a positive direction in flood preparedness and citizen information sharing. “San Antonio is located in a region of Texas known as Flash Flood Alley. This is one of the highest-risk flash-flood areas in the entire country.”<sup>58</sup> The city of San Antonio established an emergency management plan creating a “Flood Emergency (SAFE) System, a Wireless Notification System, Advanced Flood Warning System, a Low Water Crossing Remediation Plan and the Water Rescue Prop”<sup>59</sup> for fire fighters to train in case of floods.

San Antonio also established a flood preparedness website ([www.safloodsafe.com](http://www.safloodsafe.com)) and a hotline to promote awareness. The city is recognizing the dangers at hand and is using monetary resources to help mitigate the effect of flood damage and lives lost. This is a recently developed plan, so its effect is not yet known, but it is establishing local awareness. The information has been put into place, but it still requires active citizens to read through the awareness information.

This editorial from the Houston Chronicle looks at financial resources through the Texas Catastrophe Fund to counteract flood damage costs and place money into future training for future floods. The high cost of flood damage and recovery after strong rainstorms and hurricanes shows that similar insurance policies and future flood preparedness should be local and statewide priorities. While dams and levees might provide flood protection, the history and presence of floods in Texas proves that there is always a need for preparation and strong economic recovery. Insurance for flood recovery is often complicated because many residents lack adequate flood insurance. “Catastrophe Plan: Hurricane Ike reminds us of the need for planning. Texas CAT fund would help do so” is an editorial which discusses the problems and possible solutions for statewide flood insurance. “The CAT fund would be seeded with \$10 million in state funds, then rely on payments from private insurers, now used to buy reinsurance, to build up a literal “rainy day” fund. The idea would be to pre-fund insurance coverage for losses from major natural disasters. Some of the money would also go into tasks such as mitigating the impact of future

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<sup>57</sup> Cindy Horswell. March 8, 2009. “Ike’s salty floods leach ranches of life: Crops and cattle suffer where storm surge left barren fields.” *Houston Chronicle* Accessed: March 8, 2009.  
<<http://www.chron.com/disp/story.mpl/metropolitan/6299481.html/>>.

<sup>58</sup> San Antonio Business Journal. March 16,2009. “San Antonio develops comprehensive flood-safety strategy.” *San Antonio Business Journal* Accessed: March 23, 2009.  
<<http://sanantonio.bizjournals.com/sanantonio/stories/2009/03/16/daily7.html>>.

<sup>59</sup> Ibid.

natural disasters, boosting the training and improving the equipment of first responders and improving public education on dealing with disasters.”<sup>60</sup>

## Hurricanes

Unlike tornadoes and floods, hurricanes are constantly tracked and measured, but the preparedness and recovery process requires similar economic inputs, city to city communication and capacity building. Hurricanes Rita and Ike are cases where Texas cities put lessons learned from Katrina and its evacuation process and exposed health problems to work during a crisis. “Legislators want changes to health facilities after Ike” was the title of an article demonstrating the statewide efforts to improve what Ike exposed as flaws.

Many public health organizations in Houston and throughout Texas felt the strain of Ike. The legislators tried to address how Ike required more hospital resources and tried to better prepare facilities for the next potential natural disaster. “Some bills attempt to address what hospitals and first responders said were an unexpected strain from the sheer number of nursing home and other health-facility patients who streamed into Texas hospitals before the September 13 storm and in the weeks the coast went without power.”<sup>61</sup>

Hurricane preparedness affects residents directly facing storms near the Gulf Coast but also involves rescue efforts from other areas of Texas. Hurricane Katrina and Rita brought many evacuees from flooded regions of Louisiana and Texas to other cities in Texas and the U.S. The article “Plano pushes bill to make Texas pay more of cities' emergency shelter costs” looks at cities that sought financial resources to assist evacuees in cities that do not receive direct hurricane recovery aid. “FEMA distributes aid through a 1988 law known as the Stafford Act. Under it, the federal government picks up 75 percent of certain costs such as meals and supplies. Local budgets cover the rest.”

Disaster recovery after Hurricane Katrina, Rita and Ike show the importance of city to city cooperation, especially with housing and assistance for hurricane evacuees. “Most states and cities set aside at least some money for disaster recovery. But few communities in Texas and elsewhere earmark much money, if any, for sheltering evacuees.”<sup>62</sup> While not physically affected by the hurricane, a community is monetarily affected by evacuees and shelter costs. This demonstrates a need for capacity building in areas where a city might not immediately be affected.

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<sup>60</sup> Houston Chronicle. March 25, 2009. “Catastrophe plan: Hurricane Ike reminds us of the need for planning. Texas

CAT fund would help do so.” *Houston Chronicle* Accessed: March 25, 2009. <<http://www.chron.com/disp/story.mpl/editorial/6342196.html>>.

<sup>61</sup> Jackie Stone. March 8, 2009. “Legislators want changes to health facilities after Ike” *Houston Chronicle* Accessed: March 8, 2009. <<http://www.chron.com/disp/story.mpl/metropolitan/6299937.html>>.

<sup>62</sup> Theodore Kim. March 8, 2009. “Plano pushes bill to make Texas pay more of cities' emergency shelter costs” *The Dallas Morning News* Accessed: March 8, 2009. <[http://www.dallasnews.com/sharedcontent/dws/news/localnews/stories/DN\\_disasterrelief\\_08met.ART.Central.Edition1.48d970a.html](http://www.dallasnews.com/sharedcontent/dws/news/localnews/stories/DN_disasterrelief_08met.ART.Central.Edition1.48d970a.html)>.

“Lessons From Hurricane Rita Not Practiced During Hurricane Ike” shows what happened after the traffic congestion caused by Rita and the effect this played on the Ike evacuations. “In non-evacuation zones during Hurricane Rita, 40 percent of residents evacuated. These ‘shadow evacuees’ were largely responsible for the road congestion. During Hurricane Ike, that number fell to 21 percent.”<sup>63</sup> After the highway congestion during Hurricane Rita, a study found less Houston residents evacuated just prior to Hurricane Ike. Had Hurricane Ike been more severe, more residents say they would have evacuated, including those from non-evacuation areas, which raises concerns that lessons from Rita had not been followed during Ike. In the wake of Hurricane Rita and Ike, it is crucial for lawmakers and state agencies to emphasize hurricane preparedness, but pass on information with caution in order to avoid problems similar to those that accompanied the Rita evacuation.

## Tornadoes

Media reports serve not just as a documentation of past events, but a method of communicating awareness. For tornadoes, the actual events are preceded by warning through radio and television, but pre-tornado season preparedness is crucial. Citizens are advised of “Weather Service Watch: Tornadoes and Severe Weather Awareness Week.” For Texas and residents of Tornado alley, there is a responsibility towards communicating tornado awareness and preparedness. Storm awareness weeks should emphasize better preparedness for tornadoes and other often unpredictable storms. This requires the cooperation of local media and government.

Websites on tornado preparedness from the state and local media offer information to both adults and children. This dual approach is beneficial in helping different age groups prepare for events. “In Texas peak tornado season is during the months of March through June. Nearly 70 percent of all Texas tornadoes occur during this time period. The month of May is the single most active tornado producing month in Texas. The ‘Lone Star State’ ranks first in the country in the number of reported tornadoes [and] averages more than 130 tornadoes each year.”<sup>64</sup>

The *Dallas Weather Examiner* examined the current tornado landscape in 2009 and discussed tornado preparedness. Hurricanes follow a certain historical record, but tornadoes leave no historic trace. However, there are patterns that suggest Texas might see fewer hurricanes in 2009 compared to 2008. “Texas has seen just three tornadoes so far this year, all on February 10th. One of these, an EF-1, slogged through Colleyville with a ½-mile long damage path. Contrast this with eight Texas tornadoes reported through March 14th of last year. The national tornado total so far this year is below the 5-year average for 2004-2008, and right around the half-century average of the period 1954-2007.”<sup>65</sup> The slower weather season for tornadoes relates to the current dry period and awareness but preparedness for tornadoes should still be practiced.

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<sup>63</sup> Science Daily. March 19, 2009. “Lessons From Hurricane Rita Not Practiced During Hurricane Ike” *ScienceDaily.com* Accessed: March 25, 2009. <<http://www.sciencedaily.com/releases/2009/03/090313110752.htm/>>.

<sup>64</sup> John Dawson. February 24, 2009. “Weather Service Watch: Tornadoes and Severe Weather Awareness Week” *My Fox Houston* Accessed: March 8, 2009. <[http://www.myfoxboston.com/dpp/weather/090224\\_tornadoes\\_severe\\_weather\\_awareness\\_week](http://www.myfoxboston.com/dpp/weather/090224_tornadoes_severe_weather_awareness_week)>.

<sup>65</sup> Steve LaNore. March 14, 2009. “Tornadoes in 2009; storm preparedness.” *Dallas Weather Examiner* Accessed: March 26, 2009. <<http://www.examiner.com/x-5182-Dallas-Weather-Examiner~y2009m3d14-Tornadoes-in-2009-storm-preparedness>>.

## Droughts

For the past two years drought has been the billion dollar concern for many areas of Texas: “Texas drought losses approaching \$1 billion.” While some cities face floods, areas of the south and central Texas are losing millions in livestock and crops, raising costs for consumers and paralyzing Texas farmers and ranchers. The 2006 drought had an estimated \$4.1 billion in drought losses--\$2.5 billion in crops and \$1.6 billion in livestock. “The current drought equals the multi-year dry period of the 1950s and could go down as the worst ever without substantial rainfall by the end of the year.”<sup>66</sup>

“Texas drought conditions are near historic levels” says one recent article, citing data from Texas A&M University’s AgriLife Extension Agency. Eighty-eight percent of the state is experiencing dry conditions and 18 percent is experiencing exceptional drought conditions. “Drought conditions for most of the state have gone from bad to worse over the past few months...Many counties that were experiencing moderate drought are now in either extreme or exceptional drought conditions. We’re seeing more and more of the state becoming drier and drier.”<sup>67</sup> Burn bans are in effect around Texas in order to prevent wildfires. Preparedness for these interrelated hazards is integral for Texas wildlife and residents.

“Texas farmers and ranchers are rapidly approaching \$1 billion in drought losses this year, according to figures from a report by the Texas AgriLife Extension Agency. The report shows that cattle producers have lost around \$852 million in the last year, \$569 million of that since November...More than 60 percent of the beef cattle in Texas are in counties listed at severe drought status or worse.”<sup>68</sup> The financial cost of drought affects farmers, consumers, and industries. Drought preparedness involves conscious involvement by localities in implementing information from the Texas Drought Preparedness Council on current burn ban laws, as well as water preservation.

## Technological Hazards

Technological hazards cover a range of potential disasters including accidents and man-made mismanagement in oil, chemical and nuclear agencies and possible incidents of biochemical terrorism and public health concerns. The Texas State Legislature is currently working on transportation bills to help make travel safer. “Two bills presented in Senate committees this week would help metropolitan areas prepare for an anticipated population boom and make travel safer.”<sup>69</sup> These bills would permit local elections to create fees to benefit transportation projects. Evacuations preceding a natural disaster might create more damage than the actual disaster, as in the case of Hurricane Rita. The gridlock traffic and deaths in travel during Hurricane Rita are just some of the incentives to improving public traffic, highlighting the relationship between

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<sup>66</sup> Blair Fannin. August 11, 2006. “Texas Drought Losses Estimated At \$4.1 Billion” *Ag News and Public Affairs* Accessed: March 8, 2009. <<http://newagnews.tamu.edu/dailynews/stories/DRGHT/Aug1106a.htm>>.

<sup>67</sup> Alpine Avalanche. March 24, 2009. “Texas drought conditions are near historic levels” *Alpine Avalanche* Accessed: March 25, 2009. <<http://www.alpineavalanche.com/articles/2009/03/24/news/news03.txt>>.

<sup>68</sup> Gene Deason. March 16, 2009. “Texas drought costs \$1 billion” *Brownwood Bulletin* Accessed: March 25, 2009. <<http://www.brownwoodbulletin.com/articles/2009/03/16/news/doc49bdd3b337234563868950.txt>>.

<sup>69</sup> Brian Porter. March 22, 2009. “State Legislature: Senate begins work on transportation bills” *Lewisville Leader* Accessed: March 22, 2009. <[http://www.scntx.com/articles/2009/03/22/lewisville\\_leader/news/12.txt](http://www.scntx.com/articles/2009/03/22/lewisville_leader/news/12.txt)>.

natural disasters and potential man-made accidents. Legislation to regulate traffic flow might benefit drivers and passengers on Texas highways.

Other technological hazards include spillover and leaks from oil and gas companies. Houston's oil and gas industry provides a boon to the local economy, but also carries the peril of oil spills and gas leaks. Oil spills can cause pollution, fires, and energy shortages. "Cleanup Begins at Texas Oil Spill" describes one such oil spill and the work efforts to stop oil leakage to prevent energy shortages and limit pollution. When an offshore pipeline south of Galveston ruptured, 42,500 gallons of oil leaked out. One coastal cleanup crew expects to react to "1,000 spills along the Texas coastline each year."<sup>70</sup>

In Texas City, Texas, 15 workers at BP died after a 2005 explosion, demonstrating the dangers of industrial fires and explosions to workers and residents. BP's guilty charge equaled a payment of \$50 million; "the largest U.S. criminal environmental fine ever."<sup>71</sup> While homeland security looks out for terrorist activities willfully plotting against the US, there is not an equivalent corporate watch dog for blind eyes to flaws and corporate mismanagement. "The Texas fatalities occurred on 23 March, 2005, after gas vapors ignited at BP's southernmost US refinery and caused an explosion that ripped through employee accommodation on the site. Fifteen people died and more than 170 were injured, making it the worst industrial accident in the United States for more than a decade."<sup>72</sup>

How do localities prepare and respond for chemical or radioactive material and accidents? Recent chemical plant accidents include "Feb. 16, 2007 --Valero McKee Refinery, Sunray, Texas. A propane fire began following a leak and spread quickly. Three workers suffered serious burns and the refinery was shut down."<sup>73</sup> While small scale this incident demonstrates the potential for serious disasters, and the most crucial type of preparedness for localities is in the area of public health.

There are numerous public health concerns over potential chemical, nuclear, radiological or biological hazards. "A critical asset in response to a chemical or biological attack is the public health system...Public health agencies are being tasked with increasingly important jobs in the response system."<sup>74</sup> The anthrax scare after 9/11 raised numerous concerns that the next attack on U.S. soil would be biological. Disease control, public health and limiting panic are crucial to public health entities in case of a biological scare or attack.

This requires the efforts of trained medical professionals and dedication to efforts to include new knowledge of what to do in an attack. "In Fort Worth, the public health agency would be the lead agency in the event of a biological weapons attack. To prepare the agency for this role,

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<sup>70</sup> Fox News. December 27, 2006. "Cleanup Begins at Texas Oil Spill. *Fox News* Accessed: March 15, 2009. <<http://www.foxnews.com/wires/2006Dec27/0,4670,OilSpill,00.html>>.

<sup>71</sup> Reuters. March 12, 2009. "US judge approves BP guilty plea in 2005 explosion" *Reuters* Accessed: March 16, 2009. <<http://www.reuters.com/article/rbssEnergyNews/idUSN1235834720090312>>.

<sup>72</sup> Jennifer Anderson. January 22, 2007. "Inquiry Into BP Refinery Explosion Blames Corporate Culture" *Ergonomics Today* Accessed: March 17, 2009. <<http://www.ergoweb.com/news/detail.cfm?id=1693>>.

<sup>73</sup> Associated Press. April 23, 2007. "Recent Chemical Plant Accidents." *USA Today* Accessed: March 16, 2009. <[http://www.usatoday.com/news/washington/2007-04-23-1580048183\\_x.htm](http://www.usatoday.com/news/washington/2007-04-23-1580048183_x.htm)>.

<sup>74</sup> Robie Robinson, et al. "Texas Homeland Defense Preparedness." *The Century Foundation* (2003): 12-13.

training has been conducted to teach public health workers the ICS. In addition to its leadership role, Fort Worth has also tasked its public health agency with medical operations and planning in the city's response plan."<sup>75</sup> Other public health agencies would benefit from similar planning routines, particularly the largely populated cities like Austin, San Antonio and Houston.

### **Other Hazards**

Terrorism, border and gang violence affect south Texas and could spill over into other areas of Texas. Texas's contingency plan was "developed under the umbrella of Operation Border Star, multiagency law enforcement offensive led by [Gov. Rick] Perry's homeland security office. The plan, which has not been released publicly, envisions scenarios of violence, such as kidnappings or a takeover by hit squads, with a corresponding response by law enforcement."<sup>76</sup>

The concern over Mexico-Texas border violence extends to U.S. efforts to combat the drug trade with Mexico. "The U.S. government is working on an integrated plan to address Mexico's escalating war with drug traffickers and could complete work on the initiative as early as this week, a top U.S. military official said on [March 17, 2009]." Likely priorities for Texas and the U.S. in Mexico-Texas border relations include: "measures to deal with violence that spills over the U.S. border, the flow of small arms from the United States to Mexico, support for the Mexican military, tightening border security and the spreading presence of Mexican cartels in U.S. cities."<sup>77</sup> In addition to violence concerns, are the efforts to help refugees of violence financially as more cross the border from Mexico to Texas. Like cities that prepare for evacuees from natural disasters, many Texas cities will need to determine what resources are needed to aid a possible arrival of evacuees/refugees from border area violence.

### **Texas Hazards Summary**

Media reports of natural disasters and man-made hazards in Texas provide information and guidelines for preparedness warnings to residents. These articles and cases highlight the importance of city wide information sharing, building capacity and communication in localities and careful use of monetary resources. Residents, legislators and disaster response teams in Texas must learn from past incidents and plans in order to be better prepared for future hazards.

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<sup>75</sup> Robie Robinson, et al. "Texas Homeland Defense Preparedness." *The Century Foundation* (2003): 12-13.

<sup>76</sup> Dave Montgomery. March 8, 2009 "Texas makes emergency plans in case violence spills over from Mexico" *Fort Worth Star Telegram* Accessed: March 8, 2009. <[http://www.star-telegram.com/state\\_news/story/1245213.html](http://www.star-telegram.com/state_news/story/1245213.html)>.

<sup>77</sup> David Morgan. March 17, 2009. "US preparing integrated plan on Mexico drug war" *Reuters* Accessed: March 17, 2009. <<http://www.reuters.com/article/latestCrisis/idUSN17499117>>.

# Field Research: Texas Jurisdictions

In FY 2008 the Department of Homeland Security's Homeland Security Grant Program issued Texas \$65,440,000. The money is crucial for training and response efforts. Cities receiving funding are divided into two tiers. Within Texas, Houston is categorized as a Tier I city, while the remaining localities receiving funding are classified as Tier II. Areas in Texas received the following Urban Area Security Initiative Allocations (UASI):

- Houston Area: \$37,500,000
- Austin Area: \$1,822,500
- Dallas/Fort Worth/Arlington Area: \$20,321,500
- El Paso Area: \$5,665,000
- San Antonio Area: \$6,547,500
- Metropolitan Medical Response System (MMRS): \$4,175,873
- Citizen Corps Program (CCP): \$798,047
- Operation Stonegarden: \$13,040,000<sup>78</sup>

In an effort to explore the key implementing/contextual factors for achieving stated preparedness goals discussed in the previous section, we interviewed local homeland security and emergency management officials from Austin, Dallas/Fort Worth, San Antonio and Houston as well as state officials from the Preparedness Operations division of the Governor's Division of Emergency Management (GDEM) in Austin. We chose to use a structured interview approach (deductive in design) whereby all interviews followed a standardized format consisting of a predetermined set of nine open-ended questions. These questions were asked in concert with a pre-identified list of key contextual/implementation factors identified from academic literature and professional reports.

A list of the interview questions and associated key factors may be found in Appendix A. The basic form letter used to explain the purpose of the study and prepare interview candidates may be found in Appendix B. For reporting purposes, the nine questions and associated list of preparedness contextual/implementation factors were condensed into five primary analytical categories: organizational structure/roles and responsibilities, preparedness goals and understanding, critical successes factors and challenges, threat and risk issues, and looking forward.

Following are the specific jurisdictional observations, associated findings and subsequent analyses derived from the interviews with preparedness officials from the state level, Austin, Dallas/Fort Worth, Houston and San Antonio.

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<sup>78</sup> Homeland Security Grant Program (SHSP) \$65,440,000--Urban Area Security Initiative (UASI) \$71,856,500--Metropolitan Medical Response System (MMRS) \$4,175,873--Citizen Corps Program (CCP) \$798,047--Operation Stonegarden \$13,040,000. Figures obtained from: U.S. Department of Homeland Security. 2008. "State Contracts and Grant Award Information." Accessed: April 2, 2009. <<http://www.dhs.gov/xgovt/grants/>>.

## ***Texas State Governor’s Division of Emergency Management***

On Monday, March 30, 2009 two team members met with Ms. Johnna Cantrell in Austin. She is the State Coordinator for the Office of Preparedness Operations within the Governor’s Division of Emergency Management. Ms. Cantrell oversees all preparedness planning efforts for the state.

### **Organizational Structure / Roles and Responsibilities**

*Communications:* According to Ms. Cantrell, the Governor’s Division of Emergency Management (GDEM) is responsible for establishing preparedness and emergency response policies for the state. When discussing organizational structure, roles, and responsibilities, she noted how administratively the GDEM reports to the Texas Department of Public Safety but that it draws its policy-making authority from the office of the Governor. The GDEM is divided into six functional areas—Preparedness Operations, Mitigation, Response, Recovery, Border Security Operations, Administration, and the State Administration Agency responsible for securing all DHS grants. It appeared that communications between each area were limited as Ms. Cantrell indicated that routine update meetings between each unit do not currently occur; rather communications across units tend to happen on an ad-hoc basis.

*Common Homeland Security Culture:* Ms. Cantrell suggested that a common understanding of homeland security and preparedness does not exist within Texas. She believed that the concept of a homeland security culture was currently stove-piped according to the various functional elements and agency entities comprising preparedness and emergency operations such as police operations, firefighting operations, medical services, logistics, etc and that such stove-piping was not conducive to effective preparedness implementation efforts. This finding supports the literature conclusions regarding the lack of a homeland security culture and the associated negatives likely generating misunderstandings of individual and organizational role, mission creep and communications breakdowns. Ms. Cantrell highlighted the reality of how homeland security planning and emergency response efforts draw on the resources of many who on a daily basis do not interact. As such, she affirmed the conclusions of preparedness literature noting how the lack of a common culture surrounding preparedness and homeland security efforts is an area of concern, especially as Texas works to formalize preparedness implementation efforts.

### **Preparedness Goals and Understanding**

*Understanding of Preparedness:* When asked, what was her definition of preparedness, Ms. Cantrell responded, “Ensuring the safety of every Texas citizen.” This broad definition may reflect the wide range of citizens impacted by Texas preparedness. Ms. Cantrell subsequently discussed Texas’ new priority (coinciding with HSPD—21) concerning the needs of special needs citizens. The priority of focusing attention on special needs citizens also surfaced in the interviews with local officials from Houston and Austin.

*Preparedness Planning:* When asked to further discuss preparedness planning, Ms. Cantrell outlined the need for preparedness planning to encompass a greater role and respect for bottom-up communications/input when designing preparedness plans. Her description indicated that the state itself utilizes a top-down approach in preparedness planning. According to Ms. Cantrell, Texas maintains a version of the *National Response Framework* (NRF) for its overall state plan and it subsequently uses that plan to establish a set of preparedness planning criteria for local

governments. While each locality is allowed to craft its own preparedness plan, each locality is required to adhere to predetermined planning criteria of which they had little-to-no input in designing.

## **Critical Success Factors and Challenges**

*Public/Private Partnerships:* Ms. Cantrell stated that Texas routinely collaborates with private sector and nonprofit organizations regarding preparedness planning and implementation. According to her, the Preparedness Operations office maintains a living database of private sector and nonprofit partners. This database includes a priority call list—three persons deep—and associated core competencies, capabilities and capacity for each partnering organization. Associated preparedness planning meetings invite specific partners, as needed, and organize them by planning and emergency response task and function. For example, Wal-Mart participates in logistics and communications discussions. Joint training exercises with external partners occur at least twice a year. Some notable external partners include HEB, Wal-Mart, Home Depot, the Red Cross, and the Salvation Army.

*Personal Leadership:* When asked about which factors are the most important for state's success in meeting preparedness goals, Ms. Cantrell responded, "The leadership of my boss (Jack Colley)." She said it was the ability of her boss to admit mistakes and undertake course corrections when necessary that stood out as a critical success factor for the GDEM, in particular her office. Ms. Cantrell's statement is consistent with those of local preparedness officials for the city of Austin we also interviewed. In addition, her identification of leadership as a critical success factor supports existing findings in crisis management and organizational literature demonstrating the significance of leadership with respect to effectiveness and goal/task achievement in the realms of preparedness implementation, homeland security and crisis management.

*Regional Partnerships:* Current research highlights how regionalism can counter effects of limited resources, serve as a link between local and state government and facilitate coordination. Ms. Cantrell discussed how Texas has a history of working together with its FEMA region six partners and those states outside its immediate neighborhood. For example, Texas is currently assisting North Dakota in its Red River flooding disaster (April 2009). Although partnerships often experience instances of resource hoarding and sovereignty issues, and Texas is no exception, she stated that Texas largely sees great reciprocal value in partnering and providing assistance to those in need. Ms. Cantrell commented that Texas has recently reached out to FEMA region six to create a unified command structure that would work to formalize and expedite partnership services and assistance in the event of an emergency. Ms. Cantrell said this new proposal seeks to expedite the existing Emergency Management Assistance Compact (EMAC) by streamlining steps five (A-Team helps affected state determine costs and availability of resources) and six (States complete requisitions and negotiation of costs) of the EMAC process.<sup>79</sup> Ms. Cantrell said that Texas is seeking to develop a way by which resources can be pre-staged and distributed before working out all the paperwork and compensation costs so resources can reach affected areas sooner.

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<sup>79</sup>National Emergency Management Association. 2009. "Emergency Management Assistance Compact." Accessed: April 3, 2009. <<http://www.emacweb.org/?142>>.

*Human Capital Skills:* According to Ms. Cantrell, preparedness planners in the GDEM office of Preparedness Operations are required to have two years of college plus four years of experience, or four years of college and two years of experience. Operations personnel are encouraged to possess a strong technical background and do not need a college degree. They must have four years of experience with each year of college counting as one year of experience. Many GDEM planners are former military and former law enforcement.

## **Threat and Risk Issues**

*Terrorism as a Priority:* According to Ms. Cantrell, terrorism is neither the top nor near-to-top priority for the state of Texas. She noted that Texas maintains the federally mandated terrorism annexes but state preparedness operations understandably consider hurricanes to be the greatest risk.

*Risk Management Theory:* Asked about risk tolerances and resource allocation decision, Ms. Cantrell did not directly respond. Texas preparedness documents indicate that Texas advocates a “risk based approach” to preparedness planning, but the details of this approach is not explicitly stated.

## **Looking Forward**

*Changing Administrations and Policy:* According to Ms. Cantrell, all preparedness plans must be updated every five years. Minor policy changes within that five year timeframe place large financial and time burdens on the state by requiring the unplanned updating of all preparedness strategies and plans. Furthermore, she noted that continued technical components/updates to preparedness requirements (such as NIMS) poses significant implementation challenges for the state because Texas has “several localities without internet access and so communicating policy changes and mandating technological components is extremely difficult and costly.”

## **Summary**

Ms. Cantrell commented on all of the preparedness implementation/contextual factors found in our review of existing preparedness literature; thus it appears that Texas’ primary preparedness planning officials are aware of the significant factors affecting preparedness implementation efforts. Organized around the primary components of preparedness, (Preparedness Operations, Mitigation, Response, Recovery) as defined by HSPD—8, the Governor’s Division of Emergency Management is the state entity responsible for developing preparedness policies. Ms. Cantrell’s statements depicted an organization with well defined roles and responsibilities. Although structurally organized along commonly referenced preparedness components, Ms. Cantrell noted the lack of a common homeland security culture within Texas. According to Ms. Cantrell, the understanding of a homeland security culture is stove-piped according to the various functional elements and agency entities comprising preparedness and emergency operations. Ms. Cantrell’s comments to this effect support the literature conclusions regarding the lack of a common interpretation of a homeland security culture. Discussing preparedness planning, Ms. Cantrell reiterated the findings found within the literature regarding the need for bottom-up communications/input when designing preparedness plans. However, according to Ms. Cantrell, Texas currently requires each locality to adhere to predetermined planning criteria of which they had little-to-no input in designing. In support of the literature findings for more structured partnerships, both regional and non-governmental, Ms. Cantrell stated that the Preparedness

Operations office maintains a living database of private sector and nonprofit partners. With respect to regional collaboration, Ms. Cantrell stated that Texas sees great value in partnering and providing assistance to regional and non-regional partners in need and she commented how Texas has recently reached out to FEMA region six to create a unified command structure; essentially seeking to expedite the processes of the existing Emergency Management Assistance Compact. Commenting on threat and risk issues, Ms. Cantrell stated that terrorism is neither the top nor near-to-top priority for the state of Texas. Lastly, looking forward Ms. Cantrell discussed how even minor policy changes inside the mandatory policy update window of five years often place large financial and time burdens on the state.

### ***Austin Area***

The Austin area that receives UASI funding includes the three counties of Hayes, Travis, and Williamson, which also includes the cities of Austin and Round Rock.

In Fiscal Year 2008, the Austin area received \$1,822,500 in UASI grant funding out of the \$34,266,500 UASI grant funding allocated to the State of Texas. The Austin area received the lowest amount of UASI funding in Texas.

Two team members visited the City of Austin Office of Emergency Management on March 30, 2009. Interviews were conducted with the following:

1. Otis Latin: Director, City of Austin Office of Homeland Security and Emergency Management
2. Scott Swearengin: Assistant Director, City of Austin Office of Homeland Security and Emergency Management
3. Lindy McGinnis: Senior Emergency Plans Officer, City of Austin Office of Homeland Security and Emergency Management
4. Billy Atkins: Emergency Plans Officer, City of Austin Office of Homeland Security and Emergency Management
5. Scott Hawkins: Emergency Plans Officer, City of Austin Office of Homeland Security and Emergency Management

### **Organizational Structure / Roles and Responsibilities**

*City of Austin Office of Homeland Security Structure:* Those interviewed said there is complete collaboration to guarantee that all planning components are addressed with each job responsibility. The office structure is made up of the Director, Assistant Director, Senior Emergency Plans Officer, Emergency Plans Officers, Duty Officer, Grant Coordinator, and multiple grant funded positions. Specifically, the Duty Officer is a weekly assigned position and acts as a floater position as one of the previously mentioned staff positions. The Duty Officer serves as the one single contact that is made aware of a possible emergency situation and the situation is then evaluated by the Duty Officer based on the threat.

*One EOC for Travis County:* The Travis County Emergency Operations Center (EOC) is housed in one building called the Combine Transportation, Emergency, and Communications Center (CTECC). The representatives noted that this allows for all agencies and partnerships to be collaborated in one location during an emergency for more efficient and timely response. The

CTECC houses local and state transportation management entities as well as Texas Department of Transportation, Emergency Communication Center (i.e. 911 call center), and the Travis County EOC.

The emergency communication center of the CTECC houses members of the Austin Police Department, Austin Fire Department, Emergency Medical Services (EMS), Travis County Sheriff's Department, and Capitol Metro. The representatives claimed that these different entities in the emergency communication center on a daily basis provide a collaborative effort if any emergency situation arises.

*Medical Operations Center:* The representatives suggested that Medical Operations Centers (MOCs) are becoming a new topic of discussion in the Emergency Management field. The MOCs are the sister coordination effort of the EOCs. They claimed that the MOC is intended to be housed in a separate facility from the EOC, but that efforts between both are coordinated. The MOCs coordinate efforts between all of the medical entities within the local and state-wide area. In Austin, the MOC is housed in the EOC at the CTECC in a separated section designated for the representatives from the local medical entities. Once an emergency is designated that requires the MOC to be activated, the medical representatives report to the CTECC and begin emergency management collaboration efforts.

### **Preparedness Goals and Understanding**

*No Perfect Plan:* The City of Austin representatives believe that preparedness is a very critical process within emergency management. The representatives think that continually practicing emergency exercises will help to get everyone prepared. Though emergency planning is implemented, accounting for every mistake remains impossible. When mistakes do arise, the plans must be updated so they are addressed. Updates to the plans provide a more accurate account given the emergency. But as previously stated, no matter how many updates are made, no plan will ever account for every situation. Therefore, the representatives stated that a perfect plan is not attainable.

*Worst-Case Scenario Planning:* Representatives continually plan for the worst-case scenarios. The rationale the representatives provided for this planning aspect is that if planning for a worst-case scenario is handled and executed well in training and exercises, the management of an everyday emergency situation can be handled well.

*Planning Education:* One of the top goals for the representatives is educating the general public of preparedness efforts. Recently, 10,000 City of Austin employees were educated on the pandemic flu. Employees were educated on the emergency process, potential plans of action, and preparedness information to take home to their friends and family.

The representatives have coordinated many planning groups throughout the public service entities within the area. These groups include public and private partnerships which meet once a month to discuss potential collaboration efforts and resource availability during an emergency. The representatives stated that meeting monthly allows each entity's representative to become familiar with his or her counterpart during an emergency. This familiarity allows for a more coordinated and smooth emergency management process.

*Preparedness Planning:* The representatives stated that when an emergency situation arises, emergency management officials are trained to pull preparedness efforts from any preparedness plan that seems applicable. It should be noted that not each emergency situation can be prepared for under one plan, and that some may require the use of more than one plan. Preparedness plans are intended to provide decision makers with options, and are not considered the standard operating procedure for an emergency. The plans are also not meant to provide a step-by-step instruction of what to do during the specific emergency situation. The Basic Preparedness Plan which Austin allows for public use, which offers a general knowledge on what to do prior to an emergency situation.<sup>80</sup> This plan supplies emergency phone numbers, shelter advice, and possible preparedness measures.

### **Critical Success Factors and Challenges**

*Collaboration Efforts:* The representatives continually addressed their many collaborative efforts within the area. They stated that the collaboration is aided by the EOC because it provides the structure for multiple agency collaboration. The CTECC houses the EOC which is the only EOC in the Travis County. Therefore, they noted that the EOC establishes a joint effort between the City of Austin Office of Homeland Security and Emergency Management and Travis County. The two local entities work side by side on a daily basis to ensure the quality of emergency management. The representatives explained that these provide for pre-existing working relationship and collaboration efforts during an emergency situation. Placing the two local entities in the same facility on a daily basis is rarely found within Texas. This system creates a unified front for the public to look at during an emergency situation and every local official has the same understanding of what is expected of them.

*Weekly Preparedness Meetings:* As stated by the representatives, each Monday morning staff at the EOC on the city and county side meet to discuss the week ahead. If the week is filled with significant preparedness efforts, sometimes the meeting can be more of a briefing of events. On the other hand, representatives state that many times meetings are spent discussing the possible seasonal emergencies that soon may be encountered (i.e., flooding or hurricanes). The meeting is designed to bring in both city and county officials to encompass their preparedness efforts and to determine if additional efforts are needed.

*FEMA Relationship:* The regional FEMA office in Denton, Texas, provides as a point of contact for the localities within the region. According to the representatives, the Denton FEMA regional office and the City of Austin Office of Homeland Security and Emergency Management had a good working line of communication including several annual meetings until the past few years. In the past, the Denton FEMA region office provided valuable advice and information on FEMA grants, but today that is no longer the case.

*New Technology Challenges:* Representatives claimed that being completely prepared is a goal that seems unattainable. Preparedness at this level is unattainable due to the constantly changing technology sector which makes preparedness efforts needing to be continually updated. When

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<sup>80</sup> City of Austin. 2007. "Emergency Operations Plan: Basic Plan 2007-2011." Accessed: 3 April 2009. <<http://www.ci.austin.tx.us/oem/downloads/basicplan.pdf>>.

new technology is made available the preparedness plans are updated with the information that is presented. Technological changes can result in new protocols, efforts, and alert systems.

The representatives explained their experience from the March 2009 State of Texas Homeland Security Conference in San Antonio, Texas, there were hundreds of vendors promoting new emergency management technologies. Some of the technologies seen were the latest advanced warning systems and the concept of using social networking tools to educate the general public.

### **Threat and Risk Issues**

*Flooding:* The City of Austin Basic Preparedness Plan provides a Hazard Risk Index which provides a ranking of the emergencies which are seen as hazards. Officials stated that these “hazards were identified based upon a review of historical records, national data sources, existing plans and reports and discussions with local, regional and national experts.”<sup>81</sup> The number one risk for the City of Austin is flooding. The representatives stated that flooding will always be a major risk to the Austin area and continually, people die from flooding situations. For example, getting caught in the raging waters and attempting to drive over a flooded bridge is very common. Floods and efforts to save lives from flooding will continue. This hazard is consistent with the literature review; however, according to the academia, the loss of land and the cattle on that land is a potential hazard which can cost millions of dollars.

*Every Threat Equal:* According to the representatives, each threat no matter where it is ranked on the Hazard Risk Index will all be addressed with the same amount of time, planning, and resources. Furthermore, addressing each of the threats equally requires the plans to become more detailed, and to provide the ability to pull information from different plans during an emergency.

### **Austin Area Summary**

The interviewees continued to emphasize the collaborative efforts of emergency management divisions of the City of Austin and Travis County which provides an informed and well-prepared Austin area. Both offices are integrated in the planning process and act as one united effort of emergency management before, during, and after an emergency. The representatives stated that the collaborative efforts appear to understand their need for preparedness planning and a smooth execution of those plans. They noted that public and private partnerships, collaborative efforts, and communication structure allow for the smooth execution of preparedness planning. The representatives also added that both offices are continually seeking new knowledge in order to update preparedness plans and efforts. The preparedness efforts found in and around the Austin area are cohesive and are willing to extend to any partnership which may be necessary during any emergency.

### ***North Central Texas (Dallas/Fort Worth/Arlington Area)***

In Fiscal Year 2008, the North Central Texas Dallas/Fort Worth/Arlington, TX area received an Urban Area Security Initiative grant totaling \$20,321,500.

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<sup>81</sup> City of Austin. 2007. “Emergency Operations Plan: Basic Plan 2007-2011.” Accessed: 3 April 2009. <<http://www.ci.austin.tx.us/oem/downloads/basicplan.pdf>>.

The population of the region is 4,083,946 based on 2007 population estimates. The area contains the tenth most educated workforce among major urban areas within the nation. The area houses the Dallas-Ft. Worth (DFW) airport, a large international airline hub and the world's third busiest airport. Three other airports, Love Field, Addison, and Red Bird Airport, are located within the region and serve as smaller municipality and private airports. The region has a roadway system containing five interstate highways as well as 19 major U.S. and state highways. The area's public transportation is also dependent upon its integrated bus and light rail system. Fourteen rail carriers service the area, mostly freight operations.

On April 2, 2009, a telephone interview with Mr. Kenny Shaw was completed. Mr. Shaw is the director of the Office of Emergency Management for Dallas, Texas. He was joined by his colleague, Mr. Matt Garrett. Mr. Shaw and Mr. Garrett provided information regarding preparedness planning across the North Central Texas region. Additionally, on April 3, 2009, a telephone interview was conducted with Ms. Alicia Rollins. Ms. Rollins handles the UASI funding for the North Central Texas Council of Government (NCTCOG).

### ***Organizational Structure / Roles and Responsibilities***

The Dallas Office of Emergency Management (OEM) implements state and federally required preparedness measures. The OEM organization begins with hazard vulnerability assessment, prioritizing preparedness, and establishes comprehensive plans based on those evaluations. The North Central Texas Council of Government coordinates emergency preparedness measures for the 294 jurisdictions located in the four counties included in the region.

### **Preparedness Goals and Understanding**

*Strategies and Assessments:* Mr. Shaw noted that the Dallas Office of Emergency Management utilizes the HSPD – 8 preparedness definition for emergency and security preparedness matters. Ms. Rollins added that after-action reports and the implementation of lessons learned from an incident assist in the development of preparedness measures.

Mr. Shaw noted that Dallas OEM's end goal for preparedness objectives is to educate citizens, business, and non-profit partners. This educational campaign is an on-going process.

Ms. Rollins added that the use of Target Capabilities List, as well as state and federal strategies, improves North Central Texas' ability to prepare, respond, and recover.

### **Critical Success Factors and Challenges**

*Relationships/Partnerships:* Mr. Shaw noted the lack of contextual differences in North Central Texas reduces partnership challenges. He said that preparedness issues may differ slightly, but that groups across the region share thoughts and ideas through established communications like e-mail listservs. Localities within the region are independent and often do not follow universal guidelines, but the shared communications assist in information-sharing throughout the area. Ms. Rollins confirmed that coordination among the localities is essential to preparedness.

Mr. Shaw did not identify factors which are considered unimportant to preparedness measures, but did note the importance of relationship-building. The relationships between police, fire and school departments should be cultivated in order to establish and maintain cohesive preparedness

planning. Ms. Rollins suggests that prioritizing competing initiatives and coordination among the metropolitan areas can be challenging.

*Resources:* The most important factors for success, Mr. Shaw stated, are financing and educational campaigns. Financing for police and fire departments, including their equipment, is essential to success in preparedness planning. Additionally, educational programs targeting public awareness requires a well coordinated effort among preparedness organizations and programs.

*Relationship with the State:* Future challenges to the locality's preparedness planning are posed by shrinking state-issued funding. Mr. Shaw stated that localities will be reluctant to use their own money toward preparedness efforts, especially during a tough economy. Shortages in grant funding allocations will impact regional preparedness as well, hindering collaborative emergency management measures. These shortages are likely to impact emergency personnel in smaller jurisdictions. Projected shortages, such as those resulting from grant expirations, have also caused some projects to be stalled. Though the region has not seen major cuts across emergency programming, there have been programs which the OEM was unable to pursue fully due to budget constraints. Grant allocations issued post 9/11 have been used mainly to purchase new emergency response equipment, such as radio communications and fire trucks.

Ms. Rollins added that the State intends to serve as a preparedness liaison and sharing information from FEMA to the localities. Often localities do not receive full information and NCTCOG serves to coordinate and disseminate these measures throughout the region.

*Relationship with FEMA:* Mr. Shaw noted that FEMA does not have any directives for local government, unless the locality participates in a federally directed grant program. The state also has requirements which are linked to grant money. In order to be eligible for state-issued grant funding, emergency operation plans must meet certain preparedness criteria. These localities must also implement yearly training modules and annual preparedness exercises to meet these grant requirements.

## **Threat and Risk Issues**

*Diversity of Threats:* Dallas' OEM evaluates risk tolerance by utilizing a hazard vulnerability assessment tool. Addressing the area's threats, Mr. Shaw recognizes floods and severe weather as the most important, while earthquakes are ranked as a low priority for preparedness planning.

*Risk Tolerance of Terrorism:* Mr. Shaw noted that terrorism is a high priority because Dallas is a major metropolitan area. The city hosts high-profile events as well as houses large industries and firms. While the large international airport, DFW, plays an important role in terrorism preparedness, it has its own emergency management planners. Ms. Rollins added that preparing for terrorism leads localities to address other threats as well.

## **Looking Ahead**

Ms. Rollins noted that the near future will present challenges regarding organizational coordination in light of potentially reduced grant funding.

## **North Central Texas Area Summary**

North Central Texas utilizes the HSPD – 8 preparedness definition for emergency and security preparedness matters. After-action reports and the implementation of lessons learned assist in the development of preparedness measures. The region’s preparedness end goal is to educate citizens, business, and non-profit partners. Continual use of the Target Capabilities List, as well as state and federal strategies, improves North Central Texas’ ability to prepare, respond, and recover. Preparedness challenges are prioritizing competing initiatives and coordination among the metropolitan areas. However, factors for success include coordinated financing and education campaigns among preparedness organizations and programs. Future challenges to the region’s preparedness planning are presented with shrinking state-issued funding. The state acts as a preparedness liaison, one that shares information from FEMA to the localities. Often localities do not receive full information and NCTOG serves to coordinate and disseminate these measures throughout the region. While FEMA does not have any directives for local government, unless the locality participates in a federally directed grant program, they must implement yearly training modules and annual preparedness exercises to meet those requirements. In the North Central Texas region, floods and severe weather are the most important threats addressed by emergency preparedness. However, terrorism is a high priority because the region houses major metropolitan areas. Preparing for terrorism leads localities to address other threats as well. The future will present challenges regarding organizational coordination in light of potentially reduced grant funding.

## ***Houston***

According to Fiscal Year 2008 funding, Houston received \$37,500,000 in UASI funding.<sup>82</sup> The City of Houston’s Office of Emergency Management Plan consists of a strategic guide for citywide response to and recovery from major emergencies and disasters. This document is an all-hazards plan that is applicable to all areas within the City of Houston which provides the general, conceptual framework for a coordinated multi-agency response and efficient use of resources during a major emergency or disaster.<sup>83</sup> Houston’s Office of Emergency Management’s (OEM) mission statement encompasses a design of preparedness that it would like to achieve accordingly, “We conduct programs and activities designed to provide our customers, internal and external, with the ability to prepare for, cope with, and recover from the effects of disasters.”<sup>84</sup>

While at the Homeland Security Conference in San Antonio, three team members met with and interviewed Mr. Terry Moore, CEM Deputy Emergency Management Coordinator for the City of Houston on March 24, 2009.

## ***Organizational Structure / Roles and Responsibilities***

The City of Houston’s OEM is a staff of about 11 personnel. They are responsible for the coordination aspects of city planning for emergencies and disasters; they consider their work to have an all-hazards approach. The office particularly examines many technological hazards

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<sup>82</sup> *FY 2008 Overview*. U.S. Department of Homeland Security. July 25, 2008, 9. <<http://www.dhs.gov/xlibrary/assets/grant-program-overview-fy2008.pdf>>.

<sup>83</sup> *City of Houston Emergency Management Plan Volume I, Basic Plan*. Office of Emergency Management. September 2005. 1.

<sup>84</sup> *Disaster Preparedness Guide*. City of Houston Office of Emergency Management., 3.

because of the large chemical industry present in the city. Additionally, the Port of Houston is considered a great terrorist target, but mother-nature is considered to be most common threat the office is for preparedness, specifically flooding. While heat is considered the area's number one killer, Houston is the only city in the United States that has addressed all 17 Federal Critical Infrastructure Categories.

## **Preparedness Goals and Understanding**

*Resilient City:* While Mr. Moore did not explicitly state an end goal of preparedness, he did note that the OEM has done a pretty good job of making Houston a disaster resilient city for he believes the city can recover very quickly and very well from any disaster.

*Preparedness:* Mr. Moore said the OEM strives for the HSPD-8 definition of preparedness being the existence of plans, procedures, policies, training, and equipment necessary to maximize the ability to prevent and respond to any major event is consistent to which they strive. He said that Houston is like many other metropolitan areas in the country differing only in the size of the issue rather than the issue of preparedness itself when compared to cities such as New York, Los Angeles, or Chicago. Therefore, he believed that the greater issue in emergency management today is that the effectiveness of an emergency manager in changing the mindsets of how people prepare, then there must be adaptation of how the message of preparedness is being delivered, discussed in more detail below.

*Identifying their Gaps:* While community preparedness efforts are underway, Mr. Moore did mention that the OEM has gaps relating to the medical/special needs populations. This was a major theme during the discussion. Houston identifies this populace for preparedness planning, consistent with the risk management literature according to the 2004 Executive Order building on Americans with Disabilities Act, which was first passed in 1990. Mr. Moore said that this population presents a significant preparedness issue because Houston houses the Texas Medical Center, the largest medical complex of facilities organized in one area in the world. In addition, home medical care is a larger issue than many other areas of the country. This complicates preparedness activities such as evacuation with the required movement of home care devices such as pediatric ventilators. Additionally, the extended loss of power for these home care patients were, such as, seven to ten days, creates difficulties for emergency managers. Mr. Moore believes that preparedness gaps concerning their medical/special needs citizens needs more attention across the city.

*Strategies to Improve Reaching Medical/Special Needs Populace:* In order to reach the medical/special needs population, Mr. Moore said the city has begun to examine planning methods and have tried to cater to the specific types of assistance this populace will need. This effort would require specifically questioning, "How many people are power-dependants for mobility? How many people are power-dependants for life support in the home? How many of these people need assistance for transportation for evacuation because they're in a storm-surge-risk area?" He mentioned dialysis as a perfect example of planning needs to address if a resident cannot get to scheduled dialysis. Currently the OEM is creating a database of the special needs population that presently lists forty to sixty thousand, approximately 15 to 25percent of the actual medical/special needs inhabitants in the Houston area.

Additionally, Mr. More said that Texas has a system for categorizing special needs to further aid in planning. For example, this would include categorizations ranging from those in the population who need a ride to power-dependency for ventilators, also those in need of chemotherapy, dialysis and those that require more of a continuity of care rather than the acuity of care.

*Strategies to Adapting Message of Preparedness:* Mr. Moore said that changing the way emergency managers communicate the message of preparedness is an ongoing issue that most OEMs have only begun to encounter. Because technology has rapidly changed over time, the manner in which emergency managers educate their citizens will also have to adapt. For example, he said that while brochures are still distributed at community events, “generation next” is looking for information on YouTube, MySpace, Twitter, and Facebook. Mr. Moore notes that in order to get their message out, emergency managers are going to have to start using social networks so that meaningful change will adhere to “generation next.”

### **Critical Success Factors and Challenges**

*Social Network Utilization:* As mentioned earlier, Mr. Moore stated that the utilization of social networks is a difficult idea for emergency managers to conceptualize as the median age of an emergency manager is 50 plus. These older managers are not familiar with and do not use the medias of Facebook or YouTube. Instead, they are more comfortable with public service announcements and pamphlets. Houston does have the Ready Houston TX Campaign on YouTube and will also be using Twitter.

Mr. Moore pointed out that Philadelphia is using the emerging technologies to get the message of preparedness out to the general public. Plano, Texas was also noted as a city that has really begun to capture the idea of social networks.

*Relationship with FEMA:* Mr. Moore said that Houston views FEMA as a very strong partner in overall community preparedness and disaster resiliency. While Houston is a very resource-rich area, there are aspects of a disaster that could not be done without Federal partners. While local government can assist in temporary housing, Mr. Moore said it remains an issue as the city does not own the housing; FEMA is therefore an important partner for Houston. Following a disaster, FEMA provides citizens temporary emergency shelters. The local government then is responsible for placing these citizens into a transitional shelter and eventually within long-term temporary housing. FEMA also assists the city with transportation by leveraging other federal agencies like the Transportation Security Administration and the Department of Transportation. This makes all methods of transit available to the city.

*Relationship with the State:* Mr. Moore said that Houston also views the State of Texas to be a key partner in the city’s efforts. He described Texas as taking care of “their own” and using only Texas resources. While Mr. Moore described this as a possible element of state pride, pride can act at times as a detriment because it runs counter to the using federal assets, which might mitigate a problem more effectively. Mr. Moore notes that, “Being the 800 pound gorilla on the coast, if you don’t reach into that tool box, it makes what we have to do a lot harder.” An explanation for the “take care of their own” mentality within Texas could be due to the financial

restraints limiting state and local officials, consistent with the literature description of resource factors of availability and sustainability.

## **Threat and Risk Issues**

*Diverse Amounts of Threats:* Mr. Moore said that outside of the metropolitan areas; Texas is a very rural state. The Houston metropolitan statistical area and its counties face threats of terrorism, technological hazards, and chemical spills. In contrast, the more rural vicinities of Walker and Walter County, which are on the periphery of Houston, face other threats such as wildfire and agricultural threats, such as mad-cow, equine and syphilis events. However, when questioned about where Houston money is being spent in comparing mitigation and preparation for a natural disaster or a terrorist attack, Mr. Moore said that much more is being spent on mitigating and being prepared for natural hazards. However, he mentioned that much of the UASI funding is really broad based, essentially for all-hazards, as opposed to spending preparing for a specific event that may never happen. Mr. Moore said that the city has emphasized improving the city's capability to deal with day-to-day events, while improving our capability to deal with the potential events.

*Risk Tolerances:* Mr. Moore identified the importance of hazard analysis as the key to hazard understanding. He described hazard understanding as knowing where you can afford to tolerate different risks. Previous regional collaboration projects aided in the practice of communication in the event of a disaster using management software. This management software is in place in about 17 counties. The regional hazards work has had another benefit in building of commonalities between the players so that they are more comfortable working together. Additionally, the Houston law enforcement efforts, fusion centers, and intelligence sharing has improved greatly.

Mr. Moore explained that despite these knowledge gains of understanding Houston's risk tolerance, admittedly, Houston still tolerates a lot of risk, especially in the special needs population, specifically those of power dependence. Using an example, Mr. Moore explained, "Taking grandma that is fragile from a nursing home and moving her 800 miles twice, you have a negative impact. And so, we tolerate that risk. He noted that the choice is not a good one, but the city has to consider the needs of a population of 5 million people within 125 miles of a coastline prone to hurricane threat. The city cannot call on any inland jurisdiction 250 miles from the city that could accept a surge of 60,000 of medical/special needs from Houston.

Mr. Moore identified the vast petro-chemical and chemical industry in Houston as a terrorist target. However, he stated that terrorism, in the grand scheme of things, plays a pretty small role in Houston's risk tolerance of preparedness. He said that Houston's intelligence centers do a good job of information sharing and their large medical infrastructure has demonstrated repeatedly that they have the ability to surge and coordinate well with each other. In addition, as he emphasized earlier, the city accepts the risk of terrorism given the overwhelming costs of have a meaningful preparedness gain above an all-hazards approach. Asked about port security, Mr. Moore said that the port has considerable security and he does not view it as subject to a major terrorism threat. He said, "It's far easier to drive a Timothy McVeigh-style U-haul into Houston, than sneaking something into the port."

## **Looking Ahead**

Continuing his theme of communication, Mr. Moore said that the most important preparedness implementation challenge Houston faces is social networking. Beyond this point, the medical/special needs population being at home will continue to be a struggle. Also, he said trying to address some of the risk tolerances and mitigating the things Houston is capable of mitigating is an issue continually on the horizon, such as heat-related deaths

## **Houston Summary**

The City of Houston's OEM strives for an all-hazards approach. Mr. Moore indicated that while the Port of Houston is considered a great terrorist target, mother-nature is the most common threat the OEM is responsible for preparing for, specifically flooding. He claimed that Houston is the only city in the United States that is responsible for preparing for all 17 Federal Critical Infrastructure Categories. The largest gap in community preparedness was reaching the medical/special needs families. Mr. Moore did not explicitly state an end goal of preparedness. He stated that his office recognizes that the biggest issue facing emergency management is communicating how the message of preparedness is delivered. Therefore the utilization of social networks presents the greatest factor to success while acting as its greatest challenge as there is a generation gap between the target audience and the emergency managers. Houston's threats range from terrorism nexus of the urban center to wildfires within the rural vicinities. Funding is mostly spent on mitigating and being prepared for natural hazards, but more importantly Houston has focused on improving the capability to deal with the everyday threat while maintaining the capability to deal with the potential threats. Looking ahead, social networks will be fundamental in excelling the message of preparedness which will aid in meaningful impacts in the future.

## ***San Antonio***

San Antonio is the seventh largest city in the United States, with a population about 1.3 million people. In Fiscal Year 2008, the city received \$6,547,500 from the UASI Program as a Tier 2 Risk Area.<sup>85</sup> San Antonio also received a Fiscal Year 2008 allocation in the Metropolitan Medical Response System of \$321,221.<sup>86</sup>

Two team members conducted interviews on March 24, 2009 with San Antonio District Fire Chief Nim Kidd and his wife, Dr. Emily Kidd. The interview took place at the Henry B. Gonzales Convention Center in San Antonio during the Texas Homeland Security Conference. Mr. Kidd is the Emergency Management Coordinator for the City of San Antonio Office of Emergency Management (SAOEM). Mr. Kidd is a firefighter by civil service rank, and has been serving in his capacity as coordinator for nearly five years. The San Antonio Office of Emergency Management general fund budget falls under the fire department, so a fire chief holds the highest position within the organization.

## ***Organizational Structure / Roles and Responsibilities***

Mr. Kidd attributed the organizational structure of San Antonio's Office of Emergency Management as a primary reason for San Antonio's success in emergency preparedness. He described the structure as following the concept of a "One Stop Shop" for all things preparedness

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<sup>85</sup> Homeland Security Grant Program, 2008, 3.

<sup>86</sup> Homeland Security Grant Program, 2008, 4.

and homeland security. Since the early 1980s, the SAOEM has been the only organization responsible for emergency preparedness, homeland security, and related homeland security grants. Mr. Kidd characterized other cities' divided preparedness structures as having leaders on the same level horizontally, but not in the same pipe vertically. He stated his belief that this structure other cities use may make obtaining funding easier for intergovernmental relations with a legislature, but that this smoothness does not translate well operationally.

While other major Texas cities usually have multiple different factions within their government to handle these responsibilities, San Antonio has consolidated these areas. The SAOEM is chiefly responsible for both emergency management preparedness and response. While major incidents, such as an attack on the Alamodome, will have a command post established on-site, the SAOEM will still manage the organization and response to such an event. In all other events where there is not a single field incident command post -- widespread flooding, a pandemic outbreak, or a similar health care crisis -- the emergency management center becomes that focal point for command and response.

In addition to Mr. Kidd, the SAOEM is also staffed by two members of the law enforcement community, a police captain and a police officer. The rest of the office is civilian. The SAOEM is housed in a \$24.5 million emergency operations center (EOC) that was built from a general bond given in 2003 and completed on January 1, 2008. It is one of the largest in the state at 36,000 square feet, strong enough to withstand an F-3 tornado, and has generators and water supplies that can be activated in an emergency for structural self sufficiency.

The SAOEM maintains a general emergency management basic plan and 22 functional annexes that are in accordance with the state. The organizational hierarchy is based around the mayor-manager-city council government of San Antonio. The city manager is responsible for personnel hiring, and answers to the mayor and the city council. Mr. Kidd is on a tri-reporting track: he answers to the fire chief, the assistant city manager, and the mayor.

## **Preparedness Goals and Understanding**

*Strategies and Assessments:* When posed with the question of an end goal for preparedness in the city of San Antonio, Mr. Kidd had a pointed response: There is no end goal. For example, while the SAOEM recently moved into its new EOC, a new \$1 million addition is planned, as evidence of the primary strategy his office maintains -- sustainability and renewal. Mr. Kidd stated that preparedness must be kept fresh, otherwise it will become stagnant and complacent, and it is complacency that kills preparedness. Thus, he emphasized, there is no end in preparedness."<sup>87</sup>

The preparedness definition provided in HSPD-8 -- "the existence of plans, procedures, policies, training and equipment necessary to maximize the ability to prevent, respond to, and recover from major events" -- was deemed an appropriate mission statement by Mr. Kidd. He emphasized the circular nature of the major tenets -- protect, prepare, respond, recover, mitigate -- as being seen in some blend by DHS and the state.

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<sup>87</sup> Nim Kidd interview, 1.

## Critical Success Factors and Challenges

*Relationships/Partnerships:* The San Antonio Office of Emergency Management maintains a weekly partnership forum on Monday mornings that Mr. Kidd labeled as both unique and essential for San Antonio's success. To his knowledge, they are the only locality in the state with such a practice, and it has been going on for nearly four and a half years. These meetings involve around 40-60 people, with public players from the city, county, and state governments, and functional areas such as law enforcement, fire, emergency medical services, public health, public works, information technology, and legal. He emphasized the critical role played by the non-government players – volunteer-based agencies such as the Red Cross and Salvation Army, private companies such as USAA, AT&T, H-E-B, and local universities such as St. Mary's and the University of Texas-San Antonio. Mr. Kidd stated that these conferences serve to enhance communication between all of the possible major players in a city-wide emergency and a forum where these organizations can voice their concerns, challenges, upcoming exercises, and grant opportunities, among other ideas.

Mr. Kidd said that this forum does not equal the capabilities of an official fusion intelligence center, but it does bring all players to the table in advance of an event.<sup>88</sup> Furthermore, it familiarizes the leaders of these various organizations with both the EOC and each other, and fosters understanding of the needs of the organizations so as to determine negative and positive impacts of major decisions on all of these key players. The literature has referenced the struggles of multi-agency collaboration within the Incident Command System, particularly among public health, public works, and information technology sectors. San Antonio's forum system should improve collaboration and more effectively integrate those three sectors into emergency management and can address information-sharing barriers preventing collaboration between public and private sectors.

Another partnership factor which Mr. Kidd labeled as critical in meeting preparedness goals involved increasing collaboration between emergency management planning and the healthcare community. Mr. Kidd expressed his concern that the Center for Disease Control (CDC) was able to grant federal funding to community readiness initiatives, which results in a planning process conflicting with traditional emergency management. Without smoother communication between the emergency management and healthcare, these initiatives tend to confuse players unfamiliar with the hazily defined relationship between the two sectors. Mr. Kidd said that requiring these public health players to go through the process of writing entirely new plans is both burdensome and wasteful and that the community could easily review existing plans and contributes to a more comprehensive outlook. However, the CDC's varying distinctions prevent this effective collaboration from occurring. He emphasized the need for these two processes to be unified, under the risk of a detrimental effect upon emergency preparedness.

The classic division between homeland security and emergency management was another key area that the Mr. Kidd found problematic. In essence, Mr. Kidd recognizes the enormous success of San Antonio's unification of the three traditional areas of preparedness discussed earlier (emergency management, homeland security, and homeland security grants), and believes unification should be expanded to other localities. He noted that the separation of offices dealing

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<sup>88</sup> Nim Kidd interview, 3.

with homeland security and emergency preparedness creates confusion with too many variable lines of communication and lines of authority.

Mr. Kidd believes that SAOEM is the only emergency management organization in the state that, in a major disaster, has their disaster district committee (DDC), DDC chair, and the federal government inside their EOC. He attributes this to two factors. The first is that sheer size of San Antonio's EOC. The second is more intangible - the personalities and the mission that they have brought together, trying to get the right people at the right table. Mr. Kidd said that the San Antonio approach protects organizational autonomy and individual mission responsibilities, but that these responsibilities are completed under one management umbrella.

*Resources:* Resource availability and funding are considered by Mr. Kidd to be the key challenges facing his EOC (in addition to maintaining sustainability and freshness). Specifically, Mr. Kidd addressed government accountability and reimbursement for resources that the SAOEM devotes to preparing for certain emergencies. San Antonio spends hundreds of thousands of dollars each year preparing for another community's disaster; these finances are not tracked by the federal government, not reimbursed to the city, and are written off as local preparedness. Mr. Kidd stated that he will regularly have half a dozen police officers and a dozen firefighters dedicated to preparing for a coastal strike or another big event.

Mr. Kidd said that the Stafford Act does not consider these activities reimbursable, and San Antonio is forced to pay the cost. While the federal government will award millions of dollars for homeland security funds, they do not classify the planning, meeting, and organizing for coastal emergencies as homeland security issues. He believes that this issue of uncompensated resources is a critical issue as his locality struggles to absorb these costs and continues to keep their own mission strong. Financial constraints as the key challenge for the SAOEM are not unusual – the literature has indicated that this is the leading obstacle to emergency preparedness according to many state homeland security officials.

*Human Capital and Skills:* The San Antonio Office of Emergency Management has benefitted recently from a fresh infusion of human capital and skill that Mr. Kidd believes was critical to his strategy of sustainability. Three years ago, San Antonio hired a new City Manager, Sheryl Sculley that resulted in a massive personnel change in the staff of city government with an infusion of 70 new managers out of approximately 90 executive positions. These new hires are not from San Antonio and had not lived there before and brought fresh experiences and knowledge to the city. Mr. Kidd believed this the new managers resulted in more interest in the SAOEM and its mission. Their arrival perpetuated his critical strategy of sustainability and renewal.

Mr. Kidd also believes after action reports for major events has been important for preparedness. For example, in 1998, San Antonio experienced a major flood. Mr. Kidd gathered the new director of public works, the director of solid waste, and assistant directors of the fire police departments, and asked them to review the issues identified in the eleven year old after action report. They analyzed what had accomplished or left undone, and these new directors consulted veteran staff to see how these problems had been tackled. This spurred new education and

thought, and motivated various organizations to follow-up on issues from over a decade ago that had still not been addressed.

## **Threat and Risk Issues**

The major threats addressed in the San Antonio Emergency Management Plan that Mr. Kidd discussed were flooding and hurricanes. In particular, flooding is the number one hazard to the San Antonio community. Mr. Kidd stated that San Antonio does not have as many terrorist cells or threatening factions as other major cities, but that these issues are still on the periphery, particularly because of San Antonio's close proximity to the U.S.-Mexico border. However, weather related hazards are considered to be the city's main threats. Mr. Kidd stated that on average, San Antonio activates the EOC 16 times a year, and between eight to ten of these activations are weather related. The others are HAZMAT events. As far as low probability-high consequence events, such as a bombing of a convention center or other major terrorist attacks, Mr. Kidd expressed confidence in San Antonio's ability to respond to such a threat. He stated that the focused strategy on renewal and sustained exercise plays a huge part in this. The SA EOC is able to get all hospitals same page within a matter of minutes; they know the availability of local resources, and capacity to transfer EMS units from every surrounding jurisdiction. The annual exercises in dealing with floods and the hurricanes have given the SA OEM the experience and knowledge to handle a prompt, comprehensive, and effective response to an unexpected major crisis or event.

## **Looking Ahead**

When asked about any future issues on the horizon concerning emergency preparedness in San Antonio, Mr. Kidd had plenty to say about the collaboration of healthcare and emergency management. He believes this to be a critical issue on the forefront of emergency preparedness planning, and the next big obstacle to overcome. There needs to be enhanced education amongst emergency room physicians, amongst hospital administrators, and at least a minimal disaster records database, according to Mr. Kidd. He voiced concern at the complex process of transferring patients between hospitals in different cities. Mr. Kidd stated that there needed to be more widespread integration of emergency management and the public health system. EMS agencies and hospitals are rarely included in traditional disaster management, and this is a cause for concern. Victims of disasters may be saved, but then they are left waiting for an ambulance or a bus to take them to receive medical care. The "handshake" that exists between those first responders and the more involved medical caregivers needs to be made much smoother.

Mr. Kidd and his wife, Dr. Emily Kidd, who was present in the interview, expressed excitement at a new concept that could potentially resolve this issue – Medical Operation Centers (or MOCs). Operating just like an EOC, MOCs will serve as a "one stop shop" for all things medical, and function adjacent to the EOC in a crisis. This is a relatively new concept, implemented in the aftermath of Hurricane Katrina and Rita in response to the pressing demands for medical care that was seen in those crises. San Antonio has a Regional Medical Operations Center, as does Houston. Mr. Kidd and Dr. Kidd indicated that MOCs truly address all medical issues in a crisis – coordinating with shelters of last resort, supporting ambulances and buses, aiding in the distribution of food and gasoline for evacuations, and other potential duties. Another critical issue that Mr. Kidd believes should be dealt with is repatriation – refugees and victims from disasters may have the means to flee, but not the means to get back. The Stafford

Act does not provide for this type of repatriation, and this is a challenge that MOCs may be forced to address. However, Mr. Kidd stated that more players from the public health care community need to be brought in on the front end and educated about the process. The first step is to have the different areas of Texas form their own MOCs, and then next to establish lines of communication with between them.

**San Antonio Summary**

The San Antonio Emergency Operations Center stands out for one primary reason: its unique organizational structure that handles all three aspects of preparedness – emergency management, homeland security, and homeland security grants. Emergency Management Coordinator Mr. Kidd is confident in this structure of his organization, and credits it with much of the success San Antonio has had in Emergency Preparedness. The SAEOC has run so smoothly in the past that Mr. Kidd is a staunch advocate of closing the divide between homeland Security and emergency management. The main challenges he identified for his own organization were limited resources and funding.

Mr. Kidd has insisted on a strategy of sustainment and renewal for emergency preparedness (as opposed to a defined end goal), mitigates against complacency in preparedness goals and objectives. San Antonio’s recent influx of new executives across the municipal government appears to have been critical in the success of Mr. Kidd’s renewal strategy. Furthermore, these new arrivals have contributed greatly to enhanced communication in the weekly community forums hosted by the SAOEM, presented as another powerful concept that Mr. Kidd’s organization advocates.

On the horizon of emergency management, Mr. Kidd sees a major challenge with the integration of the traditional emergency preparedness sector and the public health sector. Experiences with Katrina and Rita illustrated the imperative need for better integration between these two sectors, and San Antonio and Houston are two major localities that have made strides in this area with the development of Medical Operation Centers – MOCs. Mr. Kidd and Dr. Kidd heavily emphasized this as a major challenge to the Emergency Preparedness community across Texas, and encouraged the interviewers to include this issue within the San Antonio case study. The future success of San Antonio’s Office of Emergency Management appears to stem from organizational structure and culture, fluid communication channels between public and private sectors, and solid leadership.

***Jurisdictional Summary of Key Findings***

Through these interviews conducted with Texas preparedness officials and a review of academic literature, key similarities and differences emerged. A summary description of these findings is shown in Table 1 below. The areas analyzed include organizational structure, preparedness goals and understanding, critical success factors and challenges, threat and risk issues, and future challenges.

**Table 1: Summary of Interview Key Findings by Jurisdiction**

<i>Interview Findings</i>	Texas	Austin	Dallas / Fort Worth – Arlington	Houston	San Antonio	Literature
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<i>Interview Findings</i>	<b>Texas</b>	<b>Austin</b>	<b>Dallas / Fort Worth – Arlington</b>	<b>Houston</b>	<b>San Antonio</b>	<b>Literature</b>
<b>Organizational Structure/Roles Responsibilities</b>	Stovepiped homeland security culture	One EOC for all of Travis County  Use of Medical Operations Center (MOC)	NCTCOG and regional OEM	OEM responsible for coordination of planning  Responsible for all 17 critical infrastructure categories	One Stop Shop: One office handling emergency management, homeland security, and homeland security grants	Roles and responsibilities not clearly defined  Top-down bureaucratic structure hampers quick response
<b>Preparedness Goals and Understanding</b>	“Ensuring the safety of every Texas citizen”  New priority given to special needs citizens  Should use bottom-up planning / input but in reality top-down direction is utilized	Utilization of “worst-case scenario” planning  Emphasis on educating citizens and city employees	Use of HSPD – 8 preparedness and after-action reports/lessons learned assist in the development of preparedness  End goal is to educate citizens, businesses, and nonprofit partners	Focus on disaster resiliency for the city  Utilize an all-hazards approach to planning	No “end goal” of preparedness, strategy is sustainability and renewal	No preparedness “end-state”  State and local governments want to be more involved in the planning
<b>Critical Success Factors and Challenges</b>	Regional public and nonprofit partnerships ( <b>success</b> )  Personal leadership skills ( <b>success</b> )	Public and regional collaboration efforts ( <b>success</b> )  Routine weekly/monthly preparedness meetings ( <b>success</b> )  Weakened FEMA relationship ( <b>challenge</b> )  Possible use of new communications mediums , specifically social networking ( <b>challenge</b> )	Use of the Target Capabilities List improves ability to prepare, respond, and recover ( <b>success</b> )  Prioritizing competing initiatives and coordination ( <b>challenge</b> )  Coordinated financing and education campaigns ( <b>success</b> )	Communicating the message of preparedness via social networks ( <b>success/challenge</b> )  Emphasis on medical/special needs populace ( <b>challenge</b> )	Partnership forum [Public-Private sector collaboration] ( <b>success</b> )  One Stop Shop ( <b>success</b> )  Limited funding ( <b>challenge</b> )	Leadership is a “critical factor” for surviving disasters  Leaders’ “buy-in” is essential for motivation and to attract/retain competent employees  Keeping qualified employees once you have hired them  Funding new programs once federal grant money has run out
<b>Threat and Risk Issues</b>	Hurricanes are the greatest risk  Ad-hoc risk management theory	All threats/hazards considered equal  Ad-hoc risk management theory	Primary threats/hazards include floods and severe weather	Vary from metro to rural jurisdictions  Emphasis on natural hazards  Focus to improve everyday capabilities and manage potential threats	Weather related events – flooding and hurricanes	Strategic planning efforts hampered due to lack of “best practices”  Risk management difficult because of the amount of privately-owned infrastructure (85%)  Interdependence of multiple infrastructures that cross jurisdictions makes it hard for proper risk management

<i>Interview Findings</i>	<b>Texas</b>	<b>Austin</b>	<b>Dallas / Fort Worth – Arlington</b>	<b>Houston</b>	<b>San Antonio</b>	<b>Literature</b>
<b>Looking Ahead</b>	Minor policy changes outside the 5 year update window generate large cost/time burdens  Uncertainty in future federal homeland security funding	Due to time constraints, this issue was not covered.	Challenges with respect to organization/ coordination in light of potentially reduced grant funding	Social networks are the future way of communicating the message of preparedness  Focus on special needs citizens— emphasis on medical concerns	Challenge of public healthcare/emergency management integration  Developing Medical Operation Centers (MOC)	

A review of organizational structure among jurisdictions revealed that structure and responsibilities varied. While San Antonio and Austin appear to have a centralized approach to emergency management, Dallas/Fort Worth/Arlington had a more regional view of preparedness. These collaborative partnerships were considered a critical part of the region’s preparedness plan. Viewed from an organizational structure perspective, the state takes a literal translation of homeland security/preparedness as witnessed by the GDEM’s organization around the common components of preparedness—preparedness, mitigation, response and recovery. When contrasted with the literature, it appears that, while roles and responsibilities may be well-defined, the structure of each emergency management office may vary from one locality to another.

Similarly, preparedness goals and understanding also varied between jurisdictions. While many agreed with the definition of preparedness provided in HSPD-8, each jurisdiction utilized a different approach to understanding and achieving preparedness. Austin employs worst-case scenario planning and conducts citywide education campaigns for both the public and city employees to increase its preparedness. Dallas/Fort Worth/Arlington uses after-action reports to improve its preparedness efforts. However, both Houston and San Antonio stated that they do not have a preparedness “end goal” guiding their preparedness strategies. These responses align with the literature, which states that preparedness is continually evolving and does not have an “end-state.” However, the GDEM mentioned a specific preparedness end goal to be that of “ensuring the safety of every Texas citizen.”

The critical success factors and challenges identified by each jurisdiction yield several commonalities. Collaboration and partnerships were listed as a key success factor by officials in Austin, Dallas/Fort Worth/Arlington, and San Antonio, as well as by officials at the state level. This finding indicates the importance of partnerships, as well as the efforts by jurisdictions to increase collaboration with one another. The literature identified leadership as a prerequisite to successful preparedness; however, the state office was the only study to list leadership as a critical success factor. Additionally, academia recognized maintaining and funding new programs following the loss of federal grant money as a key challenge to preparedness. Both Dallas/Fort Worth/Arlington and San Antonio classified funding as a challenge to their preparedness efforts.

Across the jurisdictions, natural hazards were viewed as the greatest threat. Dallas/Fort Worth/Arlington, Houston, San Antonio, and the state all identified natural hazards as the most important threat they faced. Specifically, hurricanes, flooding, and severe weather were most commonly identified. Only Austin and Dallas/Fort Worth/Arlington identified terrorism as a major concern.

When asked to look ahead and identify future challenges, emergency management officials provided a variety of responses ranging from funding to new communication mediums to difficulties corresponding to physically updating preparedness plans according to non-routine time frames. Dallas/Fort Worth/Arlington and the state of Texas specifically identified funding as a future challenge. Houston and San Antonio considered public health and needing to care for those with special medical needs as upcoming challenges. Time constraints limited the ability for Austin local officials to reflect and comment on future challenges. The reviewed literature provided recommendations addressed at overcoming existing preparedness implementation inhibitors but it did not address any specific implementation challenges likely to develop in the future.

Although the case study findings aligned with the literature in many areas, it was surprising to find that terrorism was not considered to be a top priority by many of the officials interviewed. Most emergency officials seemed to be more focused on natural hazards in their preparedness capabilities. However, it seemed promising that many of the officials identified partnerships as an important element of preparedness. This recognition may signal a willingness to work together that will play an important role in emergency preparedness.

## Appendix A (1 of 2)

### **Case Study Interview Guidelines**

#### **Introduction (Interview Opening)**

Talk about the project [consult letter distributed to locality].

In particular, we are interested in the key implementation/contextual factors for achieving preparedness. For example, our preliminary findings indicate that perhaps factors such as organizational structure, resources, and political support may be important factors for successful implementation. Of course, there may be many others and that is in part why we're here today to talk to you.

#### **The Interview**

So that we have a shared understanding of your organization, could you talk a little bit about your organization and your roles/responsibilities?

What is your end goal for preparedness? What are you doing to achieve that goal? What difficulties are you encountering?

One definition of preparedness is, "the existence of plans, procedures, policies, training, and equipment necessary to maximize the ability to prevent, respond to, and recover from major events." If you use a definition that is somewhat different, what is that definition and how does it fit better with your locality (the state)?

What are the factors that you think are most important for the success of your city (the state) in meeting preparedness goals? Why are they important? Would these be unique to this area (state) or do they apply to other cities (states) as well?

What would be some of the factors that you think are not important for the success of your city's (state's) preparedness goals?

What differences, if any, do you see in the contextual challenges facing cities and counties? What differences, if any, do you see across the state?

What is your understanding of preparedness from FEMA and from the state level? How does it affect your preparedness efforts?

What is your risk tolerance? How is it determined? What role does the threat of terrorism play in your preparedness planning?

In our reading and/or discussions with other cities, other factors such as X, Y, Z have popped up. To what extent, if any, are these factors important to your city (state)?

#### **Concluding Questions**

We've talked a lot about implementation factors. Looking forward, what do you see as the most important preparedness implementation challenges over the next three years?

## Appendix A (2 of 2)

Is there anyone else that we should or could speak to while we are here?

We really appreciate your time. I hope you don't mind if we contact you in the future if we have additional questions.

**If Time Ask...**

We noticed that in your plan you listed the following threats: X, Y, Z. Which threats are the ones that you believe are the highest priority for your city (state)?

We know from reviewing your plans that you have goals in the following areas: X, Y, and Z. As you revise your plan, what changes, if any, would you make?

We understand that responsibility for homeland security preparedness is split between the governor's Office of Homeland Security and Texas Department of Public Safety, Governor's Division of Emergency Management. What difficulties, if any, does that pose for local officials in terms of planning or executing preparedness policies?

**List of key contextual/implementation factors regarding preparedness**

- Organizational structure (e.g. preparedness authority/responsibility, chain of command, unique management processes/practices)
- Relationships with federal/state governments (e.g. direction/guidance, information sharing, understanding of roles)
- Preparedness policies/strategies (e.g. utilization of homeland security plans, EOPs, etc.)
- Risk management (e.g. capability, capacity, and how recent)
- Partnerships (e.g. other localities, the private sector, non-governmental organizations; regional planning)
- Resource availability and sustainability (e.g. federal, state, and local budget priorities; technological capabilities)
- Human capital skills (e.g. initial and ongoing skill development)
- Preparedness assessment (e.g. exercises, testing, measurement and management of performance)
- Changing priorities (e.g. competition with other locality programs, anticipated federal changes)
- Other (e.g. any other factors related to preparedness)

**Appendix B Note:** This letter was distributed to all interviewed officials via electronic mail.



Thursday, February 26, 2009

The Bush School of Government and Public Service  
Texas A&M University  
4220 TAMU  
College Station, Texas 77843

Dear **Name:**

The U.S. Government Accountability Office (GAO), Congress's evaluation arm, has asked The George Bush School of Government and Public Service to study preparedness across the levels of government. For our purpose, preparedness is defined as the existence of plans, procedures, policies, training, and equipment necessary to maximize the ability to prevent, respond to, and recover from major events. As part of the study, the GAO has asked us to study preparedness specifically in the state of Texas and for larger localities in the state. We would like to discuss preparedness in **your locality using phone interviews and on-site visits.**

In Texas, the localities include: Austin, Dallas/Fort Worth, El Paso, Houston, and San Antonio. These areas are the five localities within Texas receiving direct federal funding related to preparedness efforts. We specifically would plan to cover with you or staff you might designate the key factors in implementing your preparedness goals. For example, these might include:

- Organizational structure (e.g. preparedness authority/responsibility, chain of command, unique management processes/practices)
- Relationships with federal/state governments (e.g. direction/guidance, information sharing, understanding of roles)
- Preparedness policies/strategies (e.g. utilization of homeland security plans, EOPs, etc.)
- Risk management (e.g. capability, capacity, and how recent)
- Partnerships (e.g. other localities, the private sector, non-governmental organizations; regional planning)
- Resource availability and sustainability (e.g. federal, state, and local budget priorities; technological capabilities)
- Human capital skills (e.g. initial and ongoing skill development)
- Preparedness assessment (e.g. exercises, testing, measurement and management of performance)
- Changing priorities (e.g. competition with other locality programs, anticipated federal changes)
- Other (e.g. any other factors related to preparedness)

At the conclusion of our study, we would be pleased to share with you a summary of our findings. We will contact you during the week of March 2 to arrange a meeting with you or who you might designate to discuss our study and the steps forward. If you have any questions about the study, please contact our project manager, Lindsay Taylor, at [ltaylor@bushschool.tamu.edu](mailto:ltaylor@bushschool.tamu.edu) or (443) 243-3764, or Whitney Erxleben, at [wexleben@bushschool.tamu.edu](mailto:wexleben@bushschool.tamu.edu) or (512) 695-3175. The study's sponsor is Dr. William O. Jenkins, Homeland Security and Justice Team, U.S. Government Accountability Office.

Thank you in advance for your help with this matter.

Sincerely,

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