



Harris County Judge Ed Emmett  
Director

# HARRIS COUNTY

## Hurricane Ike After Action Report

MARCH 2009

*Prepared by Beck Disaster Recovery, Inc. on behalf of Harris County Office of Homeland Security and Emergency Management*







Harris County Emergency Management Partners:

The goal of Harris County's Office of Homeland Security & Emergency Management (OHSEM) is to be a national model of best practices in emergency planning, preparation, response and recovery. Working toward that goal is a team of dedicated emergency management professionals and county employees who improve our region's emergency management capabilities when it makes the greatest difference — when our lives are free from disaster. They are creating a culture of preparedness within government and in the community. Preparation and planning are constant. Seeking out ways to do their jobs better is part of the daily routine.

Planning and practice pays off, but real events test how ready we truly are. Hurricane Ike, a powerful Category 2 hurricane, was the third costliest tropical storm in our nation's history. It left almost 98% of area residents without power and flooded a total of 3,700 homes. The storm washed away entire communities but our residents are proving their resilience. Ike's test of our hurricane response plans highlighted both remarkable successes and areas for improvement. Applying those lessons learned will certainly make us better prepared for the next disaster.

This Hurricane Ike After Action Report (AAR), while representing a substantial effort by both the county and its partners, is only one of many tools to be used by Harris County in striving to better serve its residents. In fact, that initiative is well underway. Many of the lessons outlined here are already in place and the process for identifying next steps continues.

Harris County is proud of its heroic first responders, emergency management officials and dedicated employees who were a shining example of public service. As director of our county's emergency management department, I am thankful for the unwavering commitment of our emergency management partners, the countless volunteers who served wherever needed, and the neighbor-helping-neighbor spirit that jump-started the recovery immediately after the storm passed.

While Harris County works to improve its response to future disasters, it continues to focus on the long road to recovery facing our most devastated communities.

Sincerely,

A blue ink signature of Ed Emmett, written in a cursive style.

Ed Emmett  
County Judge





## HANDLING INSTRUCTIONS

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Questions or concerns related to this After Action Report (AAR) should be directed to:

Harris County OHSEM  
(713) 881-3100  
[www.hcoem.org](http://www.hcoem.org)







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## EXECUTIVE SUMMARY

The Harris County Office of Homeland Security and Emergency Management (HCOHSEM) initiated the effort to develop a Countywide Hurricane Ike After Action Report (AAR) to identify strengths and areas for improvement observed during response and recovery activities. The strengths and weaknesses identified in this AAR affect the ability of the County, as a whole, to respond and recover from a disaster and are not specific to any one organization. As such, identifying and implementing solutions to ensure that strengths are repeatable and weaknesses are remedied rests in the hands of all County departments, other government agencies, not-for-profit organizations, and other private sector partners. The resulting improvement plan serves as a roadmap to enhance the outcome of emergency management efforts and potentially guide funding decisions. This roadmap is applicable to all County organizations involved in a broad array of emergency response and recovery activities.

While this process is focused on the events surrounding Hurricane Ike, it is designed to strengthen our capacity to effectively respond as a region in a highly coordinated way to any catastrophic event, whether that disaster is natural or man-made.

The AAR addresses the following issues:

- Emergency Operations Center (EOC) Capabilities (size, space, and functionality)
- Relief Points of Distribution (ice, water, and food)
- Evacuation and Sheltering Hubs (for both special needs and general populations)
- Joint Information Center
- Command Structure (Incident Command System and National Incident Management System)
- Citizen Preparedness and Participation (Harris County Citizen Corps)
- Housing
- Debris Management
- Federal, State, and Local Coordination (including County to City)
- Communication Interoperability
- Coordination with Utilities (water, power, etc.)

The AAR is composed of the following sections:

- The introduction and Hurricane Ike Timeline describes the impetus for this AAR along with important events and impacts of Hurricane Ike.
- The AAR Methodology describes the process used to develop this AAR.
- The Analysis of Strengths and Areas for Improvement includes a comprehensive summary of the strengths and challenges observed by those involved in the Hurricane Ike emergency response and recovery activities.
- The Improvement Plan can serve as a standalone document and provides a roadmap for County organizations to improve overall emergency response and recovery capabilities.
- The conclusion provides a summary of the overall AAR.
- Appendices A through E include documents that were used during the development of this AAR. These documents can serve as a template for other jurisdictions wishing to complete a similar analysis following future incidents.



## HURRICANE IKE EVENTS

Hurricane Ike was the third-costliest tropical system to strike the United States in 150 years. As the ninth named storm of the active 2008 hurricane season, Hurricane Ike made landfall over Galveston Island at 2:10 a.m. on Saturday, September 13, 2008. As a powerful Category 2 hurricane with sustained winds of 110 miles per hour, Hurricane Ike produced a storm surge far greater than a typical Category 2 storm due to its massive size and track over shallow waters.

Hurricane Ike also set a record for the highest storm surge along the upper Texas coastline since 1915, which resulted in flooding along a significant portion of southeast Harris County. The cities of Shoreacres, Clear Lake Shores, Seabrook, La Porte, Baytown, El Lago, Taylor Lake Village, portions of Pasadena, and surrounding communities were the most devastated. Excessive, widespread rainfall occurred along the track of Hurricane Ike with an average of six to eight inches across Harris County. The flooding of approximately 2,500 homes was due to storm surge and another 1,200 homes were flooded due to the heavy rainfall.

Eleven deaths have been attributed to Hurricane Ike within Harris County.



*Harris County residents heeded the call from emergency management officials to prepare for a strong Category 2 hurricane.*

## AAR METHODOLOGY

This AAR was developed in four phases or steps over a six-week period immediately following Hurricane Ike.



The key to the successful development and completion of this AAR was the active participation of stakeholder groups. A significant effort was dedicated to stakeholder engagement throughout this project. Over one hundred individuals representing over thirty different agencies contributed to every aspect of this AAR.

## **MAJOR STRENGTHS**

The following are major strengths identified during Hurricane Ike response and recovery<sup>1</sup>:

1. County personnel demonstrated an impressive level of commitment to protect the residents of Harris County and the region.
2. Commitment and active participation of elected officials during response and recovery efforts.
3. Relationship between HCOHSEM and other County departments emphasized partnerships.
4. The Joint Information Center (JIC) was a successful collaboration between County agencies, as information was shared with the media and other organizations in an accurate and timely manner.
5. Harris County Citizen Corps volunteers were well-trained and provided essential support to the response and recovery efforts throughout the community.
6. Federal, State and local agencies worked well to provide Emergency Support Function (ESF) 10 - Hazardous Materials (HazMat) Response.

## **PRIMARY AREAS FOR IMPROVEMENT**

The following challenges were identified during one-on-one interviews and approved by regional stakeholders during the improvement planning meeting.

7. County departments navigated through overlapping roles and responsibilities as their operations evolved.
8. County departments had to modify how they identified and utilized essential personnel in transitioning from normal operations to disaster response.
9. Personnel exhibited an operational understanding of the Incident Command System (ICS) and National Incident Management System (NIMS), but could have benefited from more practical experience.
10. Past exercises have prepared County personnel for most emergency planning and response efforts, but a renewed focus on recovery activities is desirable.
11. JIC capabilities successfully met expectations, but could have operated more efficiently with additional resources.
12. The County's public outreach and education efforts should be expanded to meet the County's rapidly growing population.
13. Emergency procurement procedures are not as well understood by County organizations as the normal purchasing process.

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<sup>1</sup> The numbering matches the numbering used in Chapter 3 and can be used as a reference to find out more about each issue.

14. The list of vendors with whom the County has an agreement to supply goods and services during an emergency should be expanded.
15. The County's database of resources available for emergency response and recovery activities should be revised.
16. The process for submitting, tracking, and closing out resource requests should be streamlined to maximize efficient management.
17. The criteria and prioritization for fulfilling logistics requests should be driven by the nature and circumstances specific to each phase of a disaster.
18. County employees responding to the event experienced delays due to limited access to fuel.
19. Loss of power, lack of generators, and limited access to fuel hindered the restoration of services among County departments.
20. The County Emergency Operations Center (EOC) at TranStar can only provide limited support to response and recovery efforts.
21. EOC operations were hindered by insufficient space for staff over an extended period of time.
22. Due to the size and scope of the incident, the County utilized subject matter experts who made invaluable contributions to response but lacked previous exposure to emergency management in catastrophic incidents.
23. Demobilization encountered numerous challenges due to the scope of the incident, staff size, and office space restraints.
24. Handheld radios did not work well in the EOC at TranStar and volunteers lacked training on radio use.
25. Many County buildings are not sufficiently hardened to remain operational during response and recovery efforts.

## **NON-COUNTY AREAS FOR IMPROVEMENT**

Stakeholders identified several areas for improvement that are not within the domain of Harris County to fix. The observations are included in this report simply to document and acknowledge these issues. The recommendations are suggestions from a County perspective and the County acknowledges that these are difficult issues that may require complex solutions. The County applauds the hard work of its State and Federal emergency management colleagues and looks forward to working with them on these issues.

26. Multiple channels for coordination with State and Federal partners were often the source of confusion in the allocation of resources.
27. Federal and State organizations superseded requests for resources and disrupted the utilization of previously established local memorandums of understanding (MOUs).
28. Conference calls held by the State were broad in nature and required a more focused setting to conduct business related to local impacts of the disaster.
29. The resource request procedure was cumbersome in meeting the needs of some County departments in a timely manner.
30. The process for setting up, staffing, determining locations of, and closing the relief points of distribution (PODs) was complex and initially contradicted local input.
31. The State Evacuation and Sheltering Plan is broad in nature with limited focus on the complexities of repatriation from the perspective of local decision making.

This AAR and the support from all stakeholders throughout its development represents the commitment of Harris County to improve its overall emergency response and recovery capabilities. The action items and next steps listed in this report will be implemented with the full support of all County departments and elected officials. Some of the suggested solutions listed in the improvement plan are quick fixes, while others will require a major long-term investment of time and resources. By working together, we can make a difference for the residents we serve.

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## INTRODUCTION

The Harris County Office of Homeland Security and Emergency Management (HCOHSEM) strives to be a national model of best practices in emergency planning, preparation, response, and recovery. Its core function is to help prepare, safeguard, and protect the residents of Harris County and their property from disaster. During times of crisis, HCOHSEM is the lead coordinating agency for regional response. HCOHSEM activates the County EOC and supports the efforts of its regional emergency management partners. HCOHSEM initiated the development of the Hurricane Ike AAR in an effort to improve the County's ability to respond to future disasters.

This AAR serves to document the strengths and areas for improvement observed during response and recovery activities. The strengths and weaknesses identified in this AAR affect the ability of the County, as a whole, to respond to and recover from a disaster and are not specific to any one organization. As such, identifying and implementing solutions to ensure that strengths are repeatable and weaknesses are remedied rests in the hands of all County departments, other government agencies, not-for-profit organizations, and other private sector partners. The resulting improvement plan serves as a roadmap to enhance the outcomes of emergency management efforts and potentially guide funding decisions. This roadmap is applicable to all County organizations that are involved in the broad array of emergency response and recovery activities.

*The After Action Report reflects the County's emergency management strengths and weaknesses, and provides a roadmap for future assessments and improvements.*



*Lt. Col. Mark Carter of the Air Force Reserve Hurricane Hunters finishes nine hours of flying.*

## HURRICANE IKE STRIKES HARRIS COUNTY

Hurricane Ike proved to be an impressive storm, ranking as the third costliest tropical system to strike the United States in 150 years, behind only Hurricane Katrina (2005) and Hurricane Andrew (1992). It was the ninth named storm, the fifth named hurricane, and the third major hurricane of the 2008 Atlantic Hurricane Season. HCOHSEM had actively prepared for threats posed by Hurricane Dolly, Tropical Storm Eduoard, and Hurricane Gustav in the weeks prior to Hurricane Ike.

Hurricane Ike originated from a well-defined tropical wave that moved off the coast of West Africa on August 28<sup>th</sup> and tracked over the Turks and Caicos Islands, the Great Inagua Island in the southeast Bahamas, and Cuba before moving into the Gulf of Mexico on September 9<sup>th</sup> as a Category 3 storm with sustained winds of 125 miles per hour.

The powerful storm developed a large wind field as it moved northwest across the Gulf of Mexico and intensified greatly as it approached the U.S. coastline. Hurricane Ike also posed a considerable amount of uncertainty among forecasters as they tried to determine where it would eventually make landfall. For much of the time, the cone of error ranged from anywhere between Louisiana and Mexico. On September

11<sup>th</sup>, forecasters had narrowed the projected path to between Galveston Island and Corpus Christi, still approximately 200 miles of coastline.<sup>2</sup>

On September 11<sup>th</sup>, Harris County Judge Ed Emmett ordered evacuations of low-lying areas based on zip codes. The approximately 245,000 residents living in the evacuation area benefited from a project spearheaded by HCOSHEM and its regional partners that developed a zip code-based evacuation map. Based on lessons learned from the traffic conditions associated with Hurricane Rita, this collaborative project included the work of multiple counties and local jurisdictions working together to identify evacuation areas by a simple-to-understand zip code system. This method proved invaluable in public education and was a significant factor in the success of the Hurricane Ike evacuation. See Appendix A for a copy of the Zip Code Evacuation Map.

Hurricane Ike made landfall over Galveston Island at 2:10 a.m. on Saturday, September 13, 2008. As a powerful Category 2 hurricane with sustained winds of 110 miles per hour, Hurricane Ike produced a storm surge far worse than a typical Category 2 storm because of its massive size and track over shallow waters. Immediately post-landfall, almost ninety-eight percent of area residents were left without power.

Hurricane Ike also set a record for the highest storm surge along the upper Texas coast since 1915, which resulted in flooding in a significant portion of southeast Harris County. The cities of Shoreacres, Clear Lake Shores, Seabrook, La Porte, Baytown, El Lago, Taylor Lake Village, portions of Pasadena, and surrounding communities were the most devastated. Widespread and excessive rainfall also occurred along the track of Hurricane Ike with an average of six to eight inches across Harris County. The flooding of approximately 2,500 homes is attributed to the storm surge and another 1,200 homes were flooded due to the heavy rainfall. Eleven deaths have been attributed to Hurricane Ike in Harris County.



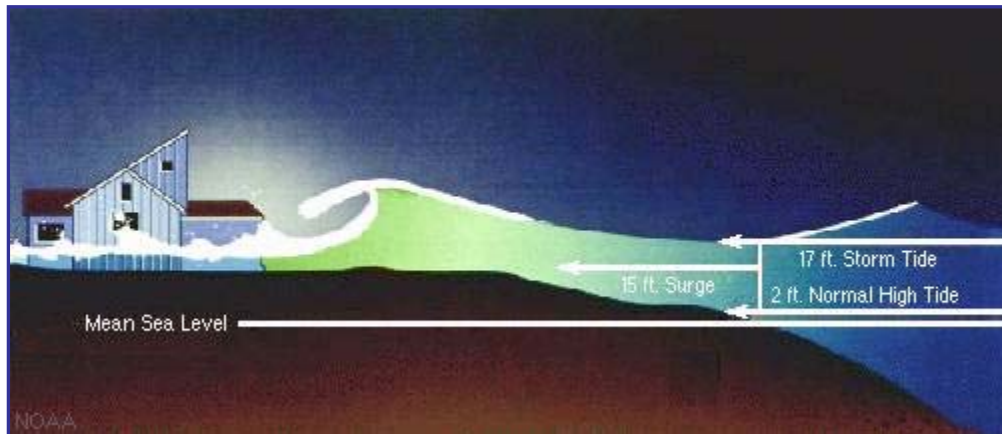
**NASA photo of Hurricane Ike on September 10<sup>th</sup>, as seen from the International Space Station.**

The overall response and recovery efforts by HCOHSEM and its partners demonstrated an exemplary level of planning, coordination, and collaboration among a large number and diverse set of government organizations and private sector partners. Harris County alone had to collect over ten million cubic yards of debris while it managed forty-four points of distribution (PODS) over a crucial eight-day period. While managing this large-scale response, the County grappled with damage in excess of \$103 million to its own infrastructure.

The response was also a testament to the extraordinary results that are achieved when residents invest in their communities through adopting a culture of preparedness. Volunteers from Harris County's Medical Reserve Corps delivered 81,410 meals to homebound individuals and families immediately after Ike struck their own community. The Harris County Citizen Corps has proved to be an invaluable resource of volunteers in previous years. Efforts led by Harris County Citizen Corps, its partners, and volunteers helped distribute 1.1 million gallons of water, 10.5 million pounds of ice and 2.8 million ready-to-eat meals to devastated residents.

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<sup>2</sup> National Hurricane Center - National Oceanic and Atmospheric Administration. *Hurricane Season Tropical Cyclone November 2008 Summary*. Available at <http://www.nhc.noaa.gov/pastall.shtml> (December 30, 2008)



*Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the United States' densely populated Atlantic and Gulf Coast coastlines lie less than 10 feet above mean sea level, the danger from storm tides is tremendous. The picture above shows the potential flooding due to storm surge.<sup>3</sup>*

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<sup>3</sup> The National Hurricane Center - National Oceanic and Atmospheric Administration. Available at [http://www.nhc.noaa.gov/HAW2/english/storm\\_surge.shtml](http://www.nhc.noaa.gov/HAW2/english/storm_surge.shtml) (December 30, 2008)

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## AFTER ACTION REPORT DEVELOPMENT PROCESS

This AAR was developed in four phases or steps over a six-week period immediately following Hurricane Ike:



One of the key goals for this project was to ensure that the process used to create this AAR followed national best practices and could be replicated in the future by not only HCOHSEM, but other jurisdictions as well. The AAR-development methodology described below was time-intensive and corresponded to the magnitude of the event. However, for less significant events or for jurisdictions with less time and resources, this methodology can be scaled down. All communications, including the interview tool, meeting agendas, and other AAR-developed documents are included as appendices and can serve as a template for other entities wishing to follow the same methodology.

### STEP I – IDENTIFY PROJECT GOALS AND ENGAGE STAKEHOLDERS

HCOHSEM personnel met to discuss the issues that the AAR should cover and the timeline for completing the AAR, and to review the major activities and meetings required to successfully develop the AAR. Two members of the HCOHSEM planning team were identified to lead the project and work with a contractor to complete the AAR. The results of this meeting were documented in a project work plan.

A secure web-based AAR collaboration site was established using Microsoft SharePoint. The site served as a document repository for efficient document management that allowed designated users to access current and past versions of documents. Drafts of this AAR were placed on the site to provide an easy means of disseminating information to all stakeholders.

The key to the successful development and completion of this AAR was the active participation of stakeholder groups.

Throughout this project, significant effort was dedicated to stakeholder engagement. To ensure that the resulting AAR accurately reflected the observations of all stakeholders and included specific recommendations they would implement, it was essential to engage them throughout the AAR development process and the resulting conclusions.

The project sponsor identified a list of over thirty organizations who participated in Hurricane Ike response and recovery efforts. At the start of the AAR development, the lead coordinator for HCOHSEM

distributed a letter to identified stakeholders describing the process and requesting their support and participation. The letter was distributed by the HCOHSEM Public Information Officer (PIO) using an electronic mail system. The stakeholders in the region are accustomed to receiving all correspondence from HCOHSEM through the PIO and using this strategy helped ensure that the letter would be delivered, read, and internalized by the stakeholders. A copy of this letter is included in Appendix B.

## **STEP II – REVIEW INCIDENT DOCUMENTATION AND CONDUCT AAR INTERVIEWS**

The AAR personnel task leaders reviewed incident documentation, emergency operation plans, and previous AARs (from Hurricanes Rita, Edouard, and Gustav) to get an understanding of County roles and responsibilities, as well as emergency management capabilities and processes. Previous AARs for Hurricane Rita, Hurricane Gustav, and other events provided a baseline for comparison with the Hurricane Ike response. This review served as the foundation for identifying strengths and areas for improvement in the overall emergency management process.

Using the information learned during the plan review, the AAR task leaders developed an interview tool. A copy of this interview tool can be found in Appendix C. The interview tool asked a series of questions focusing on the following areas, which were identified by the HCOHSEM senior staff during the project kickoff meeting:

- Emergency Operations Center (EOC) Capabilities (size, space, and functionality)
- Relief Points of Distribution (ice, water, and food)
- Evacuation and Sheltering Hubs (for both special needs and general populations)
- Joint Information Center
- Command Structure (Incident Command System and National Incident Management System)
- Citizen Preparedness and Participation (Harris County Citizen Corps)
- Housing
- Debris Management
- Federal, State, and Local Coordination (including County to City)
- Communication Interoperability
- Coordination with Utilities (water, power, etc.)

Two-hour interviews were arranged with over thirty different stakeholder organizations, which included elected officials, traditional emergency management agencies, other County departments, representatives of industry, and faith-based nonprofit organizations. These interviews were conducted over a four-week period from November 3<sup>rd</sup> to December 5<sup>th</sup>.

Conducting one-on-one interviews with each stakeholder organization resulted in a comprehensive examination of strengths and areas for improvement. The interviewees felt more comfortable sharing and discussing areas for improvement in the setting offered by smaller meetings. This also allowed the interviews to be customized to match the responsibilities and activities performed by stakeholder organizations. If a jurisdiction was unable to conduct one-on-one interviews with each stakeholder organization, a general meeting was held instead, with all of the stakeholders. Prior to the meeting, an invitation was sent to stakeholders inviting them to submit their observations and assuring them that their submission would be anonymous.



### STEP III – HOST IMPROVEMENT PLANNING MEETING

Once all of the one-on-one interviews were completed, HCOHSEM hosted an improvement planning meeting. The purpose of this meeting was to review and confirm findings identified during the interviews, to offer solutions and recommendations to address areas for improvement, and to assign an organization(s) to implement the solutions.

Again, significant effort was given to encourage stakeholder participation. Invitations were e-mailed to stakeholders and followed up with phone calls.

The improvement planning meeting was held on December 16, 2008 and was well attended by approximately one hundred individuals, representing approximately thirty organizations. The meeting started at 9:00 A.M. and ended at 2:30 P.M. The first ninety minutes were dedicated to reviewing the issues identified and ensuring that stakeholders agreed with the scope of the issues. The group was then divided into three workgroups:

- Planning, Joint Information Center (JIC), and Public Outreach
- Finance, Administration, and Logistics
- Operations and General Issues

Each workgroup was assigned approximately six to nine issues with the purpose to offer solutions, designate lead and supporting organizations, identify potential resources needed, and provide a timeline. Stakeholders were allowed to select which workgroup they attended based on their role and responsibility during Hurricane Ike.

Copies of the improvement planning meeting invitation, agenda, and presentation slides are included in Appendices D, E, and F.



*A broad spectrum of organizations worked together for the benefit of Harris County residents before, during, and after the storm and helped improve future responses by contributing to the AAR.*

### STEP IV – DRAFT AAR AND SUBMIT FOR COMMENTS AND APPROVAL TO STAKEHOLDERS

The purpose of this AAR is to identify strengths, areas of improvement, and present a roadmap for any additional assessments and improvements that may need to be made. The AAR draft was distributed to all stakeholders. Comments from stakeholders were incorporated into the AAR prior to finalization.

The AAR consists of these sections:

- Introduction and Hurricane Ike Timeline describes the impetus for this AAR along with important events and impacts of Hurricane Ike.
- AAR Methodology describes the process used to develop this AAR.
- Analysis of Strengths and Areas for Improvement includes a comprehensive summary of the strengths and challenges as observed by those involved in the Hurricane Ike emergency response and recovery activities.

- The improvement plan can serve as a standalone document and provides a roadmap for County organizations to improve overall emergency response and recovery capabilities.
- The conclusion provides a summary of the overall after action report.
- Appendices A to E include all of the documents used during the development of this AAR. These documents can serve as a template for other jurisdictions wishing to complete a similar analysis for future incidents.

## ANALYSIS OF STRENGTHS AND AREAS FOR IMPROVEMENT

This section of the report reviews the performance of the County's response and recovery capabilities.

### STRENGTHS

#### Observation 1

*County personnel demonstrated an impressive level of commitment to protect the residents of Harris County and the region.*

**Analysis:** Most County employees felt a sense of duty and responsibility to protect the residents of Harris County and the region. Many employees worked extensive shifts and went beyond compensated time to support response and recovery operations. There were numerous examples of County employees going beyond the call-of-duty and taking the initiative to ensure that colleagues and residents received the support they needed.

Harris County employees performed heroically, often showing a sense of personal obligation in providing for the safety and security of the residents they serve.

#### Recommendations:

- Elected officials should acknowledge the efforts of County employees who went beyond what was expected of them during response and recovery efforts.
- Elected officials should acknowledge and empower department directors to make the decisions necessary to support response and recovery efforts.



*County EOC personnel maintain situational awareness.*

## Observation 2

***Commitment and active participation of elected officials during response and recovery efforts.***

**Analysis:** Elected officials demonstrated leadership and worked together to expedite decision making and develop policies to bolster response and recovery efforts.

The elected officials of Harris County demonstrated a high level of situational awareness, led a determined approach to regional collaboration and made open and ongoing communication a priority.

### Recommendations:

- Response and recovery agencies should continue to reach out to elected officials prior to an incident and provide guidance and direction about the decisions and issues that they will face during an emergency activation.
- Continue to invite elected officials to participate in exercises and drills.
- Develop fact sheets and/or other short documents that describe the roles, responsibilities, and the overall response and recovery framework.
- Continue to assign liaisons to support and answer questions for elected officials when they visit the EOC.



***DHS Secretary Michael Chertoff is briefed by Harris County Judge Ed Emmett & Houston Mayor Bill White immediately after Hurricane Ike passed through the nation's third largest county.***

## Observation 3

***Relationship between HCOHSEM and other County departments emphasizes partnerships.***

**Analysis:** A successful emergency response and recovery system is based on the professional relationships of those responding. Because it is important for these relationships to be formed prior to an incident, HCOHSEM has been reaching out to other County departments, private sector organizations, and regional emergency management partners in an effort to build trusted relationships.

A core strength of HCOHSEM is its commitment to creating a regionally sustainable system that addresses the challenges of any multi-agency, multi-jurisdictional emergency of any kind.

### Recommendations:

- HCOHSEM should continue to reach out to other organizations and continue to develop strong working relationships.
- Identify HCOHSEM liaisons to work with key stakeholders.
- Include key stakeholders in preparedness efforts such as plan development, exercises, and drills.

- Ensure that the list of points-of-contacts for all stakeholder organizations is regularly maintained, including emergency contact information (home phone, cell phone, etc.).

#### Observation 4

*The Joint Information Center (JIC) was a successful collaboration between County agencies and information was shared with the media and other organizations in an accurate and timely manner.*

**Analysis:** The JIC provided regular updates to keep all stakeholders informed on response and recovery efforts. The public received a consistent message, key messages were reinforced and misinformation was quickly corrected. Many of the agencies also said that they were able to get their message out to the public using the JIC even though they did not have a PIO present. The planning and outreach for JIC activities prior to the incident was a cornerstone of this success.

The Harris County Regional JIC was the driving force in creating a high level of situational awareness and robust government-wide information sharing, and served as the centerpiece of an impressive public information effort.

#### Recommendations:

- None. (See observation 11 for more details on JIC areas for improvement.)

#### Observation 5

*Harris County Citizen Corps volunteers were well-trained and provided essential support to the response and recovery efforts throughout the community.*

**Analysis:** Harris County Citizen Corps volunteers were used in several different operations, but their help was especially appreciated in the call center and supporting EOC operations. Prior to Hurricane Ike, CERT (Community Emergency Response Team) volunteers had received basic NIMS and ICS training. This training provided them with a better understanding of emergency management and helped them to understand and assist with response and recovery operations.

Harris County Citizen Corps is nationally respected as a model of community preparedness.

#### Recommendations:

- Continue to provide training to Citizen Corps groups and volunteers to ensure that they are adequately prepared for response and recovery activities.
- Pre-identify areas where volunteers may assist and create training sheets or develop training that can be provided to those volunteers on the spot as they “register” for these tasks or activities.



*Volunteers at POD sites helped distribute more than 10.5 million pounds of ice and 1.1 million gallons of water.*



### Observation 6

*Federal, State, and local agencies worked well to provide Emergency Support Function (ESF) 10 – Hazardous Materials (HazMat) Response.*

**Analysis:** Federal, State, and local organizations successfully worked together to establish an ESF 10 system to respond to HazMat incidents. After some initial confusion surrounding the arrival of Federal and State assets, the three levels of government worked well together to respond effectively. The leadership of this effort was honored by the U.S. Department of Homeland Security for its contributions to the large-scale effort.

#### Recommendations:

- Harris County Fire Marshal's Office HazMat Team should continue to develop relationships with Federal and State partners to ensure organizations from outside the region know whom to contact for assistance.



*First responders work to clean up a hazardous material spill.*

## AREAS FOR IMPROVEMENT

### PLANNING

### Observation 7

*County departments navigated through overlapping roles and responsibilities as their operations evolved.*

**Analysis:** Several County departments had overlapping roles and responsibilities during this large-scale disaster. While many of the departments knew that they had emergency responsibilities outlined in the County EOP (Emergency Operations Plan) due to previous drills and exercises, some employees were unclear how the EOP would determine their specific roles during Hurricane Ike. This confusion was a contributing factor to staffing challenges encountered in the County's EOC.

Any confusion or lack of clarity among employees not typically engaged in emergency response was addressed in a timely manner by peers who had more experience in an



*Failure was not an option for Harris County employees.*



emergency management environment. Future drills and exercises should reinforce the need for adaptability based on the unique circumstances of each disaster.

**Recommendations:**

- Review EOP and annexes to identify more specific responsibilities for each department. Revise EOP annexes with the full participation of County departments and other organizations that assist during an emergency. Identify technology that will allow the EOP to be stored, revised, and easily accessible to all stakeholders.
- Identify key emergency planners within all County departments, nonprofit, and private sector organizations. Once these emergency planners have been identified, hold regular meetings to improve understanding of overall roles and responsibilities during an emergency and build relationships between stakeholders.
- Continue to provide ongoing training and outreach to all departments and organizations on emergency planning and preparedness.

**Observation 8**

*County departments had to modify how they identified and utilized essential personnel in transitioning from normal operations to disaster response.*

**Analysis:** While County agencies have a solid grasp on what staffing levels are needed to ensure continued operations prior to, during, and following a hurricane, a need arose to supplement pre-identified lists of essential personnel. Aside from additional staff, departments relied on recruited volunteers to fill potential gaps. Strains on around-the-clock staffing escalated after landfall as many employees were directly affected by the storm's widespread destruction.

Departments reported that their calling tree procedures worked well, but acknowledged that a system that would allow them to communicate directly with all of their employees more swiftly is desirable. Such a system would be beneficial throughout County government, including during normal operations.

**Recommendations:**

- Create a Countywide policy to identify and support essential personnel.
  - Each County department should review and revise current job descriptions and essential services categories accordingly.
  - Provide additional training for individuals affected by essential personnel changes and support them with backup that is suitable for 24/7 operations.
  - Identify a standard payroll compensation policy and additional resources such as family preparedness assistance.
- Create a callback system for all County personnel to streamline the notification of employees that need to report for duty. For example, categorize all County personnel into a color-coded classification that corresponds to when and where they should report to duty.
- Human Resources and Risk Management (HRRM) should lead an effort to review and revise the continuity of operations plan (COOP) for all County departments.
- Obtain approval from Commissioners' Court for resulting policies and plans.

### Observation 9

*Personnel exhibited an operational understanding of the Incident Command System (ICS) and National Incident Management System (NIMS) but could have benefitted from more practical experience.*

**Analysis:** Harris County has trained over 4,500 employees in NIMS/ICS. This core group was the backbone of EOC support and exhibited a functional understanding of how to apply these skills in their assigned roles. However, some support personnel also reported that they would have benefited from more hands-on experience in real-world scenarios. Several of the individuals supporting EOC operations did not have regular opportunities to practice use of ICS forms prior to Hurricane Ike, resulting in slower documentation of their activities.

Employees noted that the initial ICS 100, 200, 700 and 800 courses were useful, but could be improved upon with follow-up training.

More operational and in-depth training, including ICS 300 and 400, is needed to develop a sharper working understanding of the ICS. Additional position-specific training could be required of employees who have predetermined roles in emergency response.



*EOC personnel receive a briefing on the incident.*

### Recommendations:

- Enhance the existing NIMS and ICS training program by developing supplemental EOC and position-specific training.
  - Provide NIMS training to surge support individuals, private sector, and nonprofit stakeholders.
  - Train new employees and offer this training to a wide-range of personnel who might be involved in a future incident.
  - Create a refresher course for personnel who have already completed NIMS and ICS training.
  - Use exercises to test and practice these specialized skills.
  - Develop an EOC orientation course and offer it regularly.

### Observation 10

*Past exercises have prepared County personnel for most emergency planning and response efforts, but a renewed focus on recovery activities is desirable.*

**Analysis:** County departments and their emergency management partners have participated in a myriad of regularly scheduled drills and exercises that contributed to their successful response to Hurricane Ike. In large part, these activities have tested and strengthened planning and response capabilities. Those playing a role in the Hurricane Ike response noted that non-traditional response agencies could have also benefited from such hands-on opportunities to exercise their roles in a region-wide emergency.

State-led exercises also appear to be shifting towards a renewed focus on the intensive recovery phase. Specific County-level objectives in the recovery phase of a disaster should be included or tested more regularly as well.



*In early 2008, Harris County departments practiced hurricane readiness plans during the largest hurricane exercise in the nation's history.*

### Recommendations:

- HCOHSEM should create a multi-year training and exercise plan (TEP) that provides an increasingly challenging environment for County departments and other private and nonprofit stakeholders.
  - Implement exercise plans and invite private sector, nonprofit, and County departments that may have a supporting role during an emergency to participate.
  - Develop mini-exercises to test specific goals and objectives identified at planning meetings.

## JOINT INFORMATION CENTER

### Observation 11

*JIC capabilities successfully met expectations but could have operated more efficiently with additional resources.*

**Analysis:** The JIC provided regular updates to keep all stakeholders informed about response and recovery efforts. The public received a consistent message, key messages were reinforced, and misinformation was quickly corrected. Many of the agencies also said that they were able to get their message out to the public using the JIC even though they did not have a PIO present. The planning and outreach for JIC activities prior to the incident was a cornerstone of this success. In the end, the JIC achieved its mission to be the most reliable source for accurate and timely information.

Despite its success, the JIC staff reported that they needed additional telephones, TV monitors, computers, and work space. These additional resources could have resulted in more efficient information sharing and media monitoring, and smoother integration with the call center. In the absence of technology and separate stand-alone capability, the JIC took on the role of managing a phone bank operation that operated twenty-four hours a day with thousands of calls daily at its peak.

A few agencies that did not directly participate in the JIC process expressed concern that the inability to provide on-site presence might hamper the ability to get the message out during future incidents. However, it may not be beneficial to have more personnel in the JIC given the level of overcrowding at the TranStar facility. Using technology that allows more organizations and departments to provide and submit information virtually may be a better system.

The JIC pushed information out to County employees using e-mail and sometimes overwhelmed the individuals receiving them. JIC leadership noted that a system that allows updates to be distributed based on recipient preferences would also improve their “information band of tolerance.”



*The Joint Information Center was staffed for over a month, including three weeks of 24-hour operations.*

### **Recommendations:**

- Identify technology needed to support JIC operations and work with the Information Technology Center (ITC) to acquire these assets.
  - Ensure that any technology is interoperable with other systems being used by the County.
  - Identify how to expand the JIC virtually to allow more County departments to communicate with County residents.
- Revise and document steps required for creating a dedicated space and process for smooth information flow to the phone bank.
  - Ensure that the call center is getting the same message as the media.
  - Create a FAQ document for all-hazards.
  - Create one recognizable phone number, find a location(s) that would work for the phone bank, and create a mechanism to ensure seamless transfer/routing of the number.
- Adjust the rollover phone system at TranStar to allow calls to be sent and answered by the appropriate individuals and not to be sent to the wrong EOC section.
- Identify supplemental individuals that can be trained to work in key JIC areas, such as talking to the media.
- Identify a technology that will allow for the JIC to distribute information to County personnel without clogging their e-mail boxes and overwhelming them with too much information.
- Invest in technology that will allow the JIC to communicate directly to County employees and the public without having to use the media as an intermediary.

## PUBLIC OUTREACH

### Observation 12

*The County's public outreach and education efforts should be expanded to meet the rapidly growing population.*

**Analysis:** Despite ongoing and continuous efforts to build a culture of preparedness throughout the year, some residents continue to have misperceptions about the services they can expect from the County prior to, during, and following a disaster. These misperceptions often result in unwarranted critique of response and recovery operations and create pressure to make operational decisions based on those with the loudest voice, not necessarily the greatest need. Based on lessons learned during Hurricane Ike, the County should continue and expand its emphasis on those most at risk.

Persons with medical special needs, those requiring transportation assistance, and communities lacking the resources to be self-sufficient during times of crisis have benefited from public awareness campaigns, but still require additional education.



*Harris County Citizen Corps trains residents for disaster throughout the year, with over 17,000 disaster trained volunteers to date.*

### Recommendations:

- HCOHSEM should continue to provide disaster training in the community.
- HCOHSEM should increase communication and coordination with cities and jurisdictions within the County. Identify a primary point of contact for each city or jurisdiction to work with on planning, response, and recovery issues.
- Have a mechanism such as broad-based media that educates the public about the roles and responsibilities of various County departments, nonprofit groups, and federal and state organizations. Provide this information to the public using the media immediately prior to and during response and recovery activities.
- Continue to reach out to the community and special population segments.
  - Identify who and where these special populations are located and the types of challenges they face.
- Continue to utilize mechanisms that allow the public to obtain the information based on their preferences.
  - Identify systems that work without power.
- Continue to provide information to the public about how they can become better prepared with little effort and minimal cost on their part.



## FINANCE AND ADMINISTRATION

### Observation 13

***Emergency procurement procedures are not as well understood by County organizations as the normal purchasing process.***

**Analysis:** The County has a well-defined set of procedures for procurement during the normal course of operations and also outlines what steps should be taken during a disaster. With a limited need to activate the latter system, the process for identifying vendors, getting purchase orders, and obtaining services was time consuming and cumbersome for some personnel. This made the process difficult for departments that were unfamiliar with both sets of guidelines. Delays in the procurement process during emergencies can result in much needed goods and services being given to other customers when those resources are scarce.

Additionally, several County departments did not understand whether they should acquire goods and services through their internal processes or if they should be requested from HCOHSEM.



***Hundreds of trailers stocked with supplies are staged in and around Reliant Park.***

### Recommendations:

- Streamline emergency procurement procedures by defining and documenting “emergency procurement procedures” for declared and non-declared disasters.
- Pre-identify key personnel with authority to make purchases during times of disaster.
- Develop a “quick look” guidance document for purchasing procedures/criteria for use during times of disaster.

### Observation 14

***The list of vendors with whom the County has agreements to supply goods and services during an emergency should be expanded.***

**Analysis:** The County maintains an emergency vendor list that proves valuable during incidents that are not catastrophic or region-wide. Hurricane Ike’s impact, however, caused difficulty in acquiring goods and services from some vendors listed on this roster. In some cases, emergency contact information was unavailable or vendors did not respond to calls because they had evacuated or were without power.

In several instances, vendors had depleted their inventory. It was noted that the County does not receive preferential access to goods and services offered by these vendors.

### Recommendations:

- Develop a survey tool to disseminate to all stakeholders to identify areas of improvement and include recommendations in the updated vendor list.



- Review and expand the emergency vendor list as necessary, create redundancies to ensure backup vendors are identified, ensure updated agreements are established, and ensure 24-hour contact information is documented.

## LOGISTICS

### Observation 15

*The County's database of resources available for emergency response and recovery activities should be revised.*

**Analysis:** To maintain rapid deployment capabilities and to meet compliance requirements, the County maintains a response inventory system that catalogs assets by type, capability, and other specifications. This resource inventory is especially important for all items purchased with grant dollars or federal funds. While the County is expanding this list and enhancing it regularly, these improvements are challenging because the inventoried resources are owned by numerous agencies.

Currently, HCOHSEM relies on all departments to accurately report owned and available assets in order to effectively coordinate resource-sharing during emergencies. To mitigate shortcomings in this process, HCOHSEM relies on its partnerships and relationships to acquire resources when they are not obtainable through this inventory list.

Harris County had to submit most of its requests to the State during the first 72-hours of this incident, but even automated systems are challenged by large catastrophic events that overwhelm local resources.

#### Recommendations:

- Define resources needed during an emergency such as vehicles, equipment, and people. Query existing resource lists to compile relevant information and identify areas in need of improvement.

### Observation 16

*The process for submitting, tracking, and closing out resource requests should be streamlined to maximize efficient management.*

**Analysis:** During large-scale disasters, resources are deployed across a large geographic area to destinations such as PODs, shelters, staging areas, medical providers, public works facilities, and other locations important to the success of the response. Each resource destination has varying degrees of management and supervision. These circumstances make resource tracking difficult. As a result, several resource items were not returned to their points of origin or delays in accounting for them added to costs.

Harris County is committed to full transparency and accountability in the use of government resources, even in the course of conducting business swiftly in times of large scale disasters.

#### Recommendations:

- Develop procedures to improve requesting, tracking, and demobilizing of all resources, including those at POD locations. This process has to work with the state process for requesting resources.

### Observation 17

*The criteria and prioritization for fulfilling logistical requests should be driven by the nature and circumstances specific to each phase of the disaster.*

**Analysis:** County logistics and administrative personnel in the EOC are required to make real-time decisions with financial consequences in order to fulfill resource requests in a timely fashion. They act responsibly, striking a delicate balance to prioritize requests that impact public safety while managing other requests that are important to agencies seeking their support. In juggling this balance, some requests were denied during Hurricane Ike.

Harris County recognizes that regardless of size or cost, all requests are of critical importance to the agency from which the request originates. To serve partner agencies better, the County should develop strategies that streamline decision making so that requests are filled in a way that is both compatible to the overall strategy of the response and keeps agencies informed about the status of their request.

### Recommendations:

- Refine the process that describes the criteria, authority, and funding levels for fulfilling logistics requests and train EOC personnel tasked with logistics.

### Observation 18

*County employees responding to the event experienced delays due to limited access to fuel.*

**Analysis:** County employees experience the same limited access to fuel as their neighbors following a hurricane. This caused some employees to not be able to report to work or delays in arriving at the location to which they were assigned. Fuel access was hindered mostly by power outages, but some fuel shortages were also noted.

Current policy allows only employees driving County vehicles to access County operated gas pumps, even though most employees responding to the incident used their personal vehicles. While mileage is reimbursed, issues impacting efficient use of time involving fuel during an emergency should be revisited.



*Harris County residents line up with containers to fill up at gas stations.*

### Recommendations:

- Evaluate and research current policies regarding delivering fuel for County employees' and volunteers' vehicles.

#### Observation 19

*Loss of power, lack of generators, and limited access to fuel hindered the restoration of services among County departments.*

**Analysis:** Like most of the region, many County departments were left without power. In the case of government organizations, power is critically important to restore services and quickly begin recovery efforts. Accordingly, emergency management personnel invested a significant amount of time and energy providing several departments with the generators, fuel, and technical support essential to restoring power at their facilities.

#### Recommendations:

- Identify County buildings that require generator support and take appropriate steps to ensure generators are installed at these facilities.
- Develop a contingency plan to ensure that fuel and repair services are provided immediately following an emergency. If this service is contracted out, the vendor should have sufficient contingency plans to adequately support the County.

### OPERATIONS

#### Observation 20

*The County Emergency Operations Center (EOC) at TranStar can only provide limited support to response and recovery efforts.*

**Analysis:** TranStar struggles with limited space on a daily basis and HCOHSEM staff members are located at three separate locations. When the County EOC is activated the problem is exacerbated, forcing employees to work in extremely limited spaces, without adequate resources, and in an environment that is not conducive to efficiency. Despite the incredible efforts of TranStar staff to overcome these challenges, the limitations impede the work of emergency management and transportation officials in the course of normal operations. During disasters like Hurricane Ike, and even during smaller emergencies, these conditions impede critical response and recovery activities.

In addition to more space, TranStar lacks accommodations that are in place at other EOCs such as sleeping quarters, food preparation areas, showers, and other necessary facilities.

#### Recommendation:

- Assess EOC staffing needs and essential functions that will be required to support incident-specific operations. Consider moving non-essential personnel off-site based on event type and duration of activation.



*Over 500 emergency management partners created makeshift dormitories throughout the TranStar facility during Hurricane Ike.*

- Research mobile facilities, RVs, trailers, showers, and bunks for employee support functions during activations.
- Research food distribution sites with area school systems to utilize buildings and kitchen facilities to feed staff and responders across the County to maintain operational sustainability.
- Develop and assess lockdown and shift-change procedures for the EOC to alleviate overcrowding and ensure smooth transitions from one shift to the next.
- Identify web-based technology that allows emergency response personnel to work remotely and still be integrated within the County EOC.

#### Observation 21

*EOC operations were hindered by insufficient space for staff over an extended period of time.*

**Analysis:** Due to overcrowding at Houston TranStar, some key functions of the operation that normally take place in the EOC were performed remotely or virtually from other facilities. Understanding that managing an incident from a single location enhances situational awareness, interagency coordination, and overall management, TranStar staff found innovative solutions to limited work space. Additionally, persons already working in the EOC were assigned to help facilitate support needs of personnel who were contributing to the response from an off-site location.

The solutions offered during Hurricane Ike for this problem should be improved upon and outlined in detail to avoid potentially negative impacts on future incidents.

#### Recommendations:

- Evaluate staffing plans for each EOC section and assign personnel accordingly.
- Identify roles and responsibilities of individuals assigned to the EOC based on event type to alleviate overcrowding issues by moving non-essential functions out of the EOC.
- Create a system or position to identify underutilized staff and reassign them to fill needed EOC positions.

#### Observation 22

*Due to the size and scope of the incident, the County utilized subject matter experts who made invaluable contributions to the response but lacked previous exposure to emergency management in catastrophic incidents.*

**Analysis:** HCOHSEM takes an all-hazards approach to a broad spectrum of activities including response planning, training, and exercises, and identifying preparedness goals, emergency management strategies, and mitigation. It also values the highly specialized experience offered by subject matter experts who can assist with technically complex issues. Numerous subject matter experts were called on to support response and recovery operations,



*TranStar officials work to maintain communication systems as landfall approaches.*

many of whom had varying degrees of experience in disaster scenarios.

Emergency managers and decision makers rely heavily on subject matter experts and should seek out training opportunities for these partners.

**Recommendations:**

- Establish an ongoing NIMS and ICS training schedule with frequent refresher courses that allow individuals to test their skills. (See observation 9 for related recommendations.)
- Pre-identify subject matter experts to serve in specific roles at the EOC to advise incident commanders and general staff during activation.
- Create and frequently update a list of EOC personnel that documents their experience, expertise and ICS training so managers and decision makers can adequately assign mission objectives to those individuals.

**Observation 23**

*Demobilization encountered numerous challenges due to the scope of the incident, staff size, and office space restraints.*

**Analysis:** HCOHSEM provided indispensable planning, operational, and logistical support not only to County departments but to thirty-four local municipalities, various emergency service districts, first responders, the business sector, nonprofit agencies, and countless other emergency management partners. After the initial impact of the disaster, many of the staff supporting the massive operation returned to their home agencies to be part of equally important missions. This aspect of the operation reduced the number of personnel that could be dedicated to the demobilization.

**Recommendations:**

- Review current EOC staffing needs to assure adequate personnel are assigned to the planning section demobilization unit to ensure a coordinated, efficient demobilization.

**Observation 24**

*Handheld radios did not work well in the EOC at TranStar and volunteers lacked training in their use.*

**Analysis:** The Tactical Interoperability Communication Plan (TICP) played an integral role in the flow of critical information between many agencies during the Hurricane Ike operation. The effectiveness of the TICP could have been improved if all response participants had a better understanding of how to effectively use radios, as well as their channels and frequencies. Additionally, the physical architecture of TranStar blocks handheld radio waves and is not conducive to cell phone reception.

These two situations contributed to periodic delays in a high level of situational awareness.

**Recommendations:**

- Review current TICP regional plan and work towards TICP compliance to ensure communications plans are adequate for the incident.
- Review current Incident Communications Plan – ICS 205 documentation and develop policies to compensate for any weaknesses in the system.

- Identify a system that allows EOC personnel to boost the radio frequencies used by handheld radios, such as partnering with agencies that have a system located in TranStar.
- Develop a just-in-time training program for using radios for non-first responders who assist emergency management during an incident. Quick-tip cards should be included as part of the just-in-time training.
- Develop a radio-use training program to include periodic emergency training throughout the year for all individuals, including County personnel, nonprofit groups such as the American Red Cross, Citizen Corps, Salvation Army, and other organizations who may potentially participate in an emergency response.

## GENERAL ISSUES

### Observation 25

***Many County buildings are not sufficiently hardened to remain operational during response and recovery efforts.***

**Analysis:** While many key County facilities are concentrated in the central business district, numerous similar facilities are dispersed throughout 1,770 square miles. Most of these buildings house departments that maintain essential equipment, computers, documents, and other assets that are susceptible to damage. Further, some of these facilities lack backup power.

The efforts to restore services and secure the assets associated with these facilities during Hurricane Ike should serve as a template for improving sustainability and continuity of operations in the future.

### Recommendations:

- Create a list of county buildings that are used for various types of emergency response activities. Better identify which elements of the facility have been hardened and areas that may require additional security measures.
- Implement mitigation measures for facilities in accordance with priority based on the services conducted at that facility.
- Sustain and improve the mechanism in place to prioritize repairing facilities affected by a disaster.



## NON-COUNTY AREAS FOR IMPROVEMENT

Several areas for improvement are not within the domain of Harris County to fix, but were identified by stakeholders in the AAR process. The following section is included in this report to simply document and acknowledge these issues. The recommendations are suggestions from a County perspective and the County acknowledges that these are complicated issues that may require complex solutions. Harris County applauds the hard work of its State and Federal emergency management colleagues and looks forward to working with them on these issues.

### Observation 26

*Multiple channels for coordination with Federal and State partners were often the source of confusion in the allocation of resources.*

**Analysis:** Federal, State, and County organizations responding to Hurricane Ike communicated with each other through multiple channels, leading to some confusion on roles, responsibilities, and capabilities. Local jurisdictions expressed frustration about the amount of time it took to get a response from some Federal or State agencies.

#### Recommendation:

- Federal and State emergency management agencies should consider having decision makers from their organizations represented in the local jurisdictions.

### Observation 27

*Federal and State organizations superseded requests for resources and disrupted the utilization of previously established local Memorandums of Understanding (MOUs).*

**Analysis:** Critical resources become scarce during times of emergency. In several instances, Federal and State agencies requested and obtained response and recovery resources on which County departments were depending based on established MOUs. This meant that County departments had to look elsewhere and expend a significant amount of time and money to try to find replacement resources.

#### Recommendations:

- Federal and State agencies should honor local MOUs.

### Observation 28

*Conference calls held by the State were broad in nature and required a more focused setting to conduct business related to local impacts of the disaster.*

**Analysis:** Conference calls hosted by the State of Texas were sometimes long and overwhelmed participants with either too much information or were at a level that was not useful to participants who were interested only in a localized view. Sometimes conflicting information was passed on during the conference calls due to the unpredictability of the storm.

#### Recommendations:

- Have separate jurisdiction-specific conference calls to discuss major issues like evacuation and sheltering.



- Develop a clear message that is accurately and consistently portrayed on the conference calls.

#### Observation 29

*The resource request procedure was cumbersome in meeting the needs of some County departments in a timely manner.*

**Analysis:** The process for requesting state resources was time-consuming and cumbersome. This prompted many jurisdictions to use informal mechanisms to obtain resources or to circumvent the process. At times, this resulted in redundant requests and unnecessary expenditures of time and energy to track and locate resources that were no longer needed.

#### Recommendations:

- Obtain local input to revise the process and better educate personnel who are assigned to logistical support functions at all levels of government.

#### Observation 30

*The process for setting up, staffing, determining locations of, and closing the relief PODs was complex and initially contradicted local input.*

**Analysis:** Despite a bumpy start, PODs delivered over 1.1 million gallons of water, 10.5 million pounds of ice, and 2.8 million ready-to-eat meals to families in great need after Hurricane Ike. Nonetheless, more detailed operational POD plans should be developed.

Once the POD sites were identified, specific procedures and better guidance on how to operate a POD with greater efficiency was needed.

Issues to examine in this review process include traffic flow, security, use of volunteers, and other management functions.

#### Recommendations:

- Obtain local input on developing detailed POD plans that clearly describe the parties responsible for the various components of opening, hosting, and closing a POD site.
- Educate regional jurisdictions about the process used to select POD locations.



*Harris County officials take charge of the POD operation and work with Federal and State officials to make the process more efficient.*

### Observation 31

*The State Evacuation and Sheltering Plan is broad in nature, with a limited focus on the complexities of repatriation from the perspective of local decision making.*

**Analysis:** Hosting communities noted that they received inaccurate estimates of how many evacuees to expect, resulting in confusion on how many shelters to open and the amount of resources needed. It was noted that more accurate information could be shared if mechanisms of communication with hosting jurisdictions were refined.

Suggestions for improvement included reviewing and revising the repatriation section of the State Evacuation and Shelter Plan. Host communities were looking for additional information regarding what specific jurisdiction evacuees were originating from. Such information would enhance general coordination, finding transportation back to home communities, and a broad range of other repatriation components.



*Attention to medical special needs, transportation and pet care were instrumental to evacuation and sheltering throughout the 2008 hurricane season.*

### Recommendation:

- The State should revise the State Evacuation and Shelter Plan to include repatriation and incorporate local input into the plan.

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