

**HOUSTON STRONG: HURRICANE HARVEY LESSONS
LEARNED AND THE PATH FORWARD**

FIELD HEARING

BEFORE THE

**COMMITTEE ON HOMELAND SECURITY
HOUSE OF REPRESENTATIVES**

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

APRIL 9, 2018

Serial No. 115-56

Printed for the use of the Committee on Homeland Security



Available via the World Wide Web: <http://www.govinfo.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

30-894 PDF

WASHINGTON : 2018

COMMITTEE ON HOMELAND SECURITY

MICHAEL T. MCCAUL, Texas, *Chairman*

LAMAR SMITH, Texas
PETER T. KING, New York
MIKE ROGERS, Alabama
LOU BARLETTA, Pennsylvania
SCOTT PERRY, Pennsylvania
JOHN KATKO, New York
WILL HURD, Texas
MARTHA MCSALLY, Arizona
JOHN RATCLIFFE, Texas
DANIEL M. DONOVAN, JR., New York
MIKE GALLAGHER, Wisconsin
CLAY HIGGINS, Louisiana
JOHN H. RUTHERFORD, Florida
THOMAS A. GARRETT, JR., Virginia
BRIAN K. FITZPATRICK, Pennsylvania
RON ESTES, Kansas
DON BACON, Nebraska

BENNIE G. THOMPSON, Mississippi
SHEILA JACKSON LEE, Texas
JAMES R. LANGEVIN, Rhode Island
CEDRIC L. RICHMOND, Louisiana
WILLIAM R. KEATING, Massachusetts
DONALD M. PAYNE, JR., New Jersey
FILEMON VELA, Texas
BONNIE WATSON COLEMAN, New Jersey
KATHLEEN M. RICE, New York
J. LUIS CORREA, California
VAL BUTLER DEMINGS, Florida
NANETTE DIAZ BARRAGÁN, California

BRENDAN P. SHIELDS, *Staff Director*
STEVEN S. GIAIER, *General Counsel*
MICHAEL S. TWINCHEK, *Chief Clerk*
HOPE GOINS, *Minority Staff Director*

CONTENTS

	Page
STATEMENTS	
The Honorable Michael T. McCaul, a Representative in Congress From the State of Texas, and Chairman, Committee on Homeland Security:	
Oral Statement	1
Prepared Statement	3
The Honorable Bennie G. Thompson, a Representative in Congress From the State of Mississippi, and Ranking Member, Committee on Homeland Security:	
Oral Statement	4
Prepared Statement	5
WITNESSES	
PANEL I	
Mr. George A. "Tony" Robinson, Regional Administrator, Region VI, Federal Emergency Management Agency (FEMA), U.S. Department of Homeland Security:	
Oral Statement	6
Prepared Statement	8
Rear Admiral Paul F. Thomas, Commander, Eighth Coast Guard District, United States Coast Guard, U.S. Department of Homeland Security:	
Oral Statement	11
Prepared Statement	12
Colonel Lars N. Zetterstrom, Commanding Officer, Galveston District, United States Army Corps of Engineers (ACE), Department of the Army, U.S. Department of Defense:	
Oral Statement	15
Prepared Statement	18
Ms. Beth Van Duyne, Regional Administrator, Region VI, U.S. Department of Housing and Urban Development (HUD):	
Oral Statement	20
Prepared Statement	22
PANEL II	
Mr. R. Jack Cagle, Commissioner, Harris County, Texas:	
Oral Statement	51
Prepared Statement	53
Hon. Sylvester Turner, Mayor, Houston, Texas:	
Oral Statement	57
Prepared Statement	59
Hon. Allen Owen, Mayor, Missouri City, Texas:	
Oral Statement	60
Prepared Statement	63
Mr. Mark Sloan, Emergency Management Coordinator, Office of Homeland Security And Emergency Management, Harris County, Texas:	
Oral Statement	74
Prepared Statement	75
Ms. Carol Moore, Disaster Chair, Texas State Conference, National Association for the Advancement of Colored People:	
Oral Statement	77

IV

Prepared Statement	Page 78
--------------------------	------------

FOR THE RECORD

The Honorable Michael T. McCaul, a Representative in Congress From the State of Texas, and Chairman, Committee on Homeland Security: Map	25
The Honorable Michael C. Burgess, a Representative in Congress From the State of Texas: Statement of the American Hospital Association	40
Letter Submitted by the Texas Hospital Association	45
The Honorable Michael T. McCaul, a Representative in Congress From the State of Texas, and Chairman, Committee on Homeland Security: Statement of George P. Bush, Commissioner, General Land Office, State of Texas	79
The Honorable Sheila Jackson Lee, a Representative in Congress From the State of Texas: Article, 2018 Hurricane Season Will Bring Another Battery of Storms	93
Article, Houston police chief recalls drowned officer as “sweet, gentle”	108
Photos	110
The Honorable John Culberson, a Representative in Congress From the State of Texas: Article, Flood Threat Known Early—Corps Predicted the Reservoir Spill Before Harvey Hit	97
The Honorable Al Green, a Representative in Congress From the State of Texas: Information Submitted by the Texas State Conference of NAACP Units	102

APPENDIX

The Honorable Al Green, a Representative in Congress From the State of Texas: Article, Survey Finds Unprecedented Psychological Distress After Harvey ...	115
Article, Record reservoir flooding was predicted even before Harvey hit Houston	117
Article, U.S. Army Corps of Engineers to release water from two Houston-area dams: statement	120
Article, \$500 million in Ike relief is still unspent. Will Texas do better after Harvey?	120
Article, Climate change displacement is becoming the new gentrification—here’s how to stop it	123
Article, Federal housing agency announces \$57.8 million to Texas for Harvey recovery	128
Article, Four months after Hurricane Harvey, four major questions about recovery for 2018	129

HOUSTON STRONG: HURRICANE HARVEY LESSONS LEARNED AND THE PATH FORWARD

Monday, April 9, 2018

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
Cypress, TX.

The committee met, pursuant to notice, at 11:12 a.m., at the Berry Center, 8877 Barker Cypress, Cypress, Texas, Hon. Michael T. McCaul [Chairman of the committee] presiding.

Present: Representatives McCaul [presiding], Bacon, Thompson, and Jackson Lee.

Also present: Representatives Burgess, Culberson, Gene Green, and Al Green.

Chairman MCCAUL. The Committee on Homeland Security will come to order.

The committee is meeting today as a follow-up to our previous hearing in March on the lessons learned from the 2017 hurricane season by specifically focusing our efforts to respond to and recover from Hurricane Harvey.

Before I begin, I would like to note that we have a number of Members that are not on the Committee of Homeland Security attending today, and I would ask unanimous consent that they be allowed to participate in today's hearing.

Without objection, so ordered.

In accordance with committee rules, the Chairman and Ranking Member are entitled to an opening statement of 5 minutes each. Other Members may submit opening statements for the record.

I appreciate the effort taken on behalf of all those involved to have this important field hearing take place, and I especially want to thank the Berry Center for hosting us.

This is an official Congressional hearing, so we must abide by certain rules of the Committee on Homeland Security and the House of Representatives. I kindly wish to remind our guests today that demonstrations from the audience, including applause and verbal outbursts, as well as any use of signs or placards, are a violation of the rules of the House of Representatives. It is important that we respect the decorum and the rules of this committee.

I have also been requested to state that photography and cameras are limited to accredited press only.

I now recognize myself for an opening statement.

We are here today to ensure that we continue to shine a light on the needs of our region post-Hurricane Harvey in a building that was integral to the response efforts. When the waters were

rising, everyone was paying attention, but now that they have receded, we must not forget.

There were many cities and towns across the country that felt the wrath of a devastating natural disaster in 2017. However, few were impacted like the communities in this area where we sit.

When Harvey hit last August, it was the first Category 4 hurricane to make landfall on the continental United States since 2004. Approximately 34 trillion gallons of rainwater punished our State. This led to 1.4 million Texans evacuating their homes and 300,000 households without power.

In the aftermath, over \$160 billion in damage was left behind. It was the second most expensive storm in American history and the most expensive storm in our State's history.

But these are numbers and stats anyone can read about. I was on the ground during the hurricane to oversee response efforts and toured many neighborhoods immediately afterwards. Roads had turned into rivers and front yards looked like lonely islands. Cars were abandoned, homes were destroyed, and despair was everywhere I looked.

But as I visited shelters and met with the victims, I could see with my own eyes just how personally and emotionally devastating this storm had been.

Moms and dads, brothers and sisters, even small children were taken from us. I will never forget how painful it was to see so many people suffer.

While this has been one of the greatest natural disasters known to mankind, it was one of the most compassionate humanitarian missions I have ever witnessed and even though our State was hurting, I have never been more proud to call myself a Texan.

Brave first responders rescued people who were stranded on rooftops or stuck in vehicles. Thousands of ordinary citizens became extraordinary heroes, hopping into their own boats and searching for anyone who needed help.

There are so many untold stories of heroic actions of bravery. It really was a shining light during such a dark time. Seeing our communities come together, Texans saving Texas, is a true testament to what our State is really all about.

But this went beyond Texas. I was proud of our country's efforts and the outpouring of support we received during this tragedy.

There was strong coordination between Federal, State, and local officials, with FEMA, the Coast Guard, and the Army Corps of Engineers playing key roles. Not only were about 20,000 lives saved—think about that, 20,000 lives saved. My grandfather survived the Galveston hurricane where 10,000 lives were taken, but these brave heroes saved 20,000 lives. Over 5 million meals and 5 million liters of drinking water were delivered to those in need. This is the kind of teamwork that is vital to a successful recovery, and I am proud that my State has the great capacity to carry that out.

Since that time, I am proud to say also that both parties in Washington have come together, and those here on this panel, to pass supplemental relief packages that provide billions of dollars for FEMA's Disaster Relief Fund, HUD's Community Development Block Grants, and Army Corps of Engineers flood mitigation projects. We must always make sure that FEMA and other rel-

evant agencies have the resources they need to respond to these disasters.

Last July, the House passed the first-ever comprehensive reauthorization of the Department of Homeland Security with bipartisan support. This will strengthen our first responders and front-line defenders, and I am encouraged the Senate is finally taking action. This bill has many key provisions that will help the Department of Homeland Security better prepare for natural disasters.

So while recovering from Harvey continues to be a struggle and a challenge for people affected in Texas, I want Texans to know that the Nation is still behind them, and I and these Members remain here to help.

I would like to personally thank each of today's witnesses for being here to discuss how we are continuing to work to recover from Harvey and how we can better prepare for the next dangerous natural disaster. This committee is grateful for your service and for all of your hard work during Hurricane Harvey, and we look forward to hearing your testimony.

[The statement of Chairman McCaul follows:]

STATEMENT OF CHAIRMAN MICHAEL T. MCCAUL

APRIL 9, 2018

We are here today to ensure that we continue to shine a light on the needs of our region post-Hurricane Harvey in a building that was integral to the response efforts. When the waters were rising, everyone was paying attention, but now that they've receded, we must not forget.

There were many cities and towns across the country that felt the wrath of a devastating natural disaster in 2017. However, few were impacted like the communities in this area.

When Harvey hit last August, it was the first Category 4 hurricane to make landfall on the continental United States since 2004. Approximately 34 trillion gallons of rainwater punished our State. This led to 1.4 million Texans evacuating their homes and 300,000 households were without power.

In the aftermath, over \$160 billion in damage was left behind. It was the second most expensive storm in American history and the most expensive storm in our State's history.

But these are numbers and statistics anyone can read about. I was on the ground during the hurricane to oversee response efforts and toured many neighborhoods immediately after. Roads had turned into rivers and front yards looked like lonely islands. Cars were abandoned, homes were destroyed, and despair was everywhere I looked.

As I visited shelters and met with victims, I could see with my own eyes just how personally and emotionally devastating this storm had been.

Moms and dads, brothers and sisters, even small children were taken from us. I will never forget how painful it was to see so many people suffer.

While this was one of the greatest natural disasters known to mankind, it was one of the most compassionate humanitarian missions. Even though our State was hurting, I have never been prouder to call myself a Texan. Brave first responders rescued people who were stranded on rooftops or stuck in flooded vehicles.

Thousands of ordinary citizens became extraordinary heroes, hopping into their own boats and searching for anyone who needed help.

There are so many untold stories of heroic actions of bravery. It really was the shining light during the dark times.

Seeing our communities come together—Texans saving Texas—is a true testament to what our State is all about.

But this went beyond Texas. I was proud of our country's efforts and the outpouring support we received during this tragedy.

There was strong coordination between Federal, State, and local officials, with FEMA, the Coast Guard, and the Army Corps of Engineers playing key roles. Not only were about 20,000 lives saved, but over 5 million meals and 5 million liters

of drinking water were delivered to those in need. This is the kind of teamwork that is vital to a successful recovery.

Since that time, I am proud to say that both parties in Washington have come together to pass supplemental relief packages that provide billions of dollars for FEMA's Disaster Relief Fund, HUD's Community Development Block Grants, and Army Corps of Engineers flood mitigation projects. We must always make sure FEMA and other relevant agencies have the resources they need to respond to disasters.

Last July, the House passed the first-ever comprehensive reauthorization of the Department of Homeland Security with overwhelming bipartisan support. This will strengthen our first responders and front-line defenders and I am encouraged the Senate has finally started to take action on this. This bill has many key provisions that will help DHS better prepare for natural disasters.

While recovering from Harvey continues to be a struggle and challenge for people affected in Texas, I want Texans to know that the Nation is still behind them and I remain here to help.

I would like to personally thank each of today's witnesses for being here today to discuss how we are continuing to work to recover from Harvey and how we can better prepare for the next dangerous natural disaster.

This committee is grateful for your service and for all of your hard work during Hurricane Harvey and we look forward to hearing your testimony.

Chairman McCAUL. With that, the Chair recognizes the Ranking Member, the gentleman from Mississippi, Mr. Thompson.

Mr. THOMPSON. Thank you, Mr. Chairman, for holding today's hearing on lessons learned and a path forward from Hurricane Harvey.

I would like to begin today by recognizing two Houston-area Democratic Members joining us for today's hearing, Congresswoman Sheila Jackson Lee, a senior Member of the Committee on Homeland Security who represents the 18th District of Texas, and Congressman Al Green, a former Member of this committee who represents the 9th District of Texas, including part of the city of Houston and other communities in Harris and Fort Bend Counties. I am sure that Congressman Gene Green, who also represents a part of Houston, might come before this hearing is over.

We are pleased to have these Members participate in today's hearing as they continue to advocate on behalf of their constituents in the wake of Hurricane Harvey, which made landfall as a Category 4 storm in August, causing approximately \$125 billion in damages. Harvey was just one of 17 named storms in 2017. Last year's Atlantic hurricane season was one of the most active on record. Compared to the debacle in Puerto Rico and the U.S. Virgin Islands after Hurricane Maria, the Federal response to Hurricane Harvey in support of State and local efforts was, in a word, better.

FEMA had supplies and personnel pre-positioned before Harvey made landfall. FEMA also provided 3 million meals and 3 million liters of water for Harvey survivors. Soon after the storm made landfall, there were more than 31,000 Federal employees on the ground in support of the response.

That said, we know there is still significant room for improvement for how FEMA and its Federal partners responded to Harvey, particularly in underserved communities with vulnerable populations and in outlying areas. Often those with the least means live in the areas hardest hit by disasters, so we must be particularly cognizant of the needs of these communities during both response and recovery.

For the witnesses on the panel, I hope to hear about your support to and coordination with State and local partners on response

and recovery efforts after Hurricane Harvey. I also want to hear about the lessons Harvey and other 2017 storms have to teach us as we approach the 2018 hurricane season.

For the witnesses on the second panel, I hope to hear your perspectives on the Federal response efforts and learn what can we do to support your recovery going forward.

Finally, I note reports of troubling failures by the American Red Cross to provide expected assistance to those affected by Harvey to the point of being a no-show in many communities. For an agency chartered by Congress and authorized in the Stafford Act to provide much-needed assistance to Americans in times of disaster, this is unacceptable. I hope to hear from our witnesses today about their experiences with the Red Cross after Harvey.

Mr. Chairman, preparing for, responding to, and recovering from natural disasters like Hurricane Harvey takes all stakeholders coming together and doing their part on behalf of survivors. Of course, the Federal Government plays an important role in that effort.

As I said when Administrator Brock Long testified before this committee recently, FEMA's mission is supposed to be helping people before, during, and after disasters. It is our job to conduct the oversight necessary to ensure the agency fulfills that mission.

I look forward to our discussion today, as well as the testimony from the witnesses, and I yield back.

[The statement of Ranking Member Thompson follows:]

STATEMENT OF RANKING MEMBER BENNIE G. THOMPSON

APRIL 9, 2018

Hurricane Harvey made landfall as a Category 4 storm in August and caused approximately \$125 BILLION in damages. Harvey was just one of 17 named storms in 2017, last year's Atlantic hurricane season one of the most active on record.

Compared to the debacle in Puerto Rico and the U.S. Virgin Islands after Hurricane Maria, the Federal response to Hurricane Harvey in support of State and local efforts was, in a word, "better."

FEMA had supplies and personnel pre-positioned before Harvey made landfall. FEMA also provided 3 million meals and 3 million liters of water for Harvey survivors.

Soon after the storm made landfall, there were more than 31,000 Federal employees on the ground in support of the response.

That said, we know there is still significant room for improvement in how FEMA and its Federal partners responded to Harvey, particularly in underserved communities, with vulnerable populations, and in outlying areas.

Often those with the least means live in the areas hardest hit by disasters, so we must be particularly cognizant of the needs of these communities during both response and recovery.

For the witnesses on the first panel, I hope to hear about your support to and coordination with State and local partners on response and recovery efforts after Hurricane Harvey.

I also want to hear about what lessons Harvey and the other 2017 storms have to teach us as we approach the 2018 hurricane season.

For the witnesses on the second panel, I hope to hear your perspectives on the Federal response efforts and learn what we can do to support your recovery going forward.

Finally, I would note reports of troubling failures by the American Red Cross to provide expected assistance to those affected by Harvey, to the point of being a "no-show" in many communities.

For an agency chartered by Congress and authorized in the Stafford Act to provide much-needed assistance to Americans in times of disaster, this is unacceptable.

I hope to hear from our witnesses today about their experiences with the Red Cross after Harvey.

Preparing for, responding to, and recovering from natural disasters like Hurricane Harvey takes all stakeholders coming together and doing their part on behalf of survivors.

Of course, the Federal Government plays an important role in that effort.

As I said when Administrator Brock Long testified before this committee recently, FEMA's mission is supposed to be "helping people before, during, and after disasters."

It is our job to conduct the oversight necessary to ensure the agency fulfills that mission.

Chairman MCCAUL. Other Members are reminded they may submit opening statements for the record.

We are pleased to have two distinguished panels of witnesses before us today on this important topic.

Our first panel includes Mr. Tony Robinson, the Regional Administrator for FEMA, Region VI. I want to thank you, sir, for your efforts. We worked very closely both here and when we were in Austin with the Department of Public Safety, and the response efforts were done so well.

Rear Admiral Paul F. Thomas, the Commander of the United States Coast Guard, Eighth District. Thank you for all of your efforts in saving lives in Texas.

Colonel Lars Zetterstrom, the Commanding Officer of the United States Army Corps of Engineers, Galveston District. Thank you, sir.

Finally, Ms. Beth Van Duyne, the regional administrator for the U.S. Department of Housing and Urban Development, Region VI.

I want to thank all of you for being here. Your full written statements will appear in the record.

The Chair now recognizes Administrator Robinson for his testimony.

STATEMENT OF GEORGE A. "TONY" ROBINSON, REGIONAL ADMINISTRATOR, REGION VI, FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. ROBINSON. Good morning, Chairman McCaul, Ranking Member Thompson, and Members of the committee. My name is Tony Robinson, and I am the regional administrator of the Federal Emergency Management Agency's Region VI. Thank you for holding this hearing in the Houston area and providing this opportunity to discuss the lessons learned from Hurricane Harvey and the path forward for FEMA and our State and local partners.

A number of Members of this committee, including Chairman McCaul and Congresswoman Sheila Jackson Lee, have districts that were severely impacted when Hurricane Harvey made landfall in the State of Texas last August.

When Harvey hit Texas as a Category 4 hurricane, it caused a great deal of wind damage and record-breaking lingering rainfall equivalent to approximately 33 trillion gallons falling in less than a week. By the time it exited Texas, Harvey was like three weather events combined in two separate landfalls, and unprecedented flooding.

Recovering from Hurricane Harvey will take a number of years, and FEMA is committed to being responsive to our State and local partners as they continue the recovery process. There is still much

work left to do, but working in a continued partnership at all levels of government, including partners from the voluntary agencies and private sector, we will recover “Texas Strong.”

Because of Hurricane Harvey’s size and scale, we learned a number of valuable lessons, not least of which was the resiliency and bravery of the people of Texas. Neighbors helping neighbors saved the lives of untold numbers of Texans in cities like Houston and Corpus and the suburbs of Montgomery and Jefferson Counties, and in small towns like Rockport and Nederland. Citizens are our greatest assets, and just as they played a crucial role in response, they must also be the drivers of the recovery.

Governor Abbott’s leadership and the Texas Division of Emergency Management, along with local governments and municipalities and other State agencies, should be commended for the work they did in saving lives as the storm struck and lingered over the State. Their sound preparations were highly effective, and they were organized in ways that enabled FEMA and others to be highly effective partners in the response and recovery efforts.

Working with our partners in the face of the largest storm to hit the continental United States since 2005, FEMA has deployed thousands of workers and billions of dollars to help Texas with response and recovery. We have paid over \$8.6 billion to handle over 90,000 flood insurance claims. We have handled over 895,000 registrations for FEMA assistance. We have completed over 600,000 home inspections. We have approved over \$1.5 billion in housing and other disaster-related expenses. Together with our Federal partners like the Small Business Administration, we have placed \$13.5 billion into the hands of survivors.

Last month, Administrator Long testified to you about his vision of disasters being Federally-supported, State-managed, and locally-executed. To that end, we continue to innovate how we carry out our programs. An example of this concept can be seen in how we approached the housing mission in Texas, FEMA supporting the State with funds, expertise, and resources to deliver a more flexible housing approach. For Hurricane Harvey, a multi-pronged approach to the housing mission has been implemented, allowing a number of different options including a permanent housing repair program and recreational vehicles that were not available in 2016. These options were added with programs designed to allow people to return home and shelter there as they completed the needed repairs.

These options, along with the State taking a lead role, were implemented to provide scalability and flexibility to work with local jurisdictions on solutions that best matched their needs.

We recognized early in the event that solutions that work in Houston are different than what is needed in Victoria or Beaumont, and applying lessons learned from the 2016 floods in Louisiana provided additional options to meet those different needs.

While the housing mission has not been without its challenges, the lessons learned at the State, local, and Federal level will allow us to further reform and reduce the complexity of the program of the future. I commend the effort and the courage of the State of Texas and the General Land Office for partnering with FEMA to address temporary housing solutions.

Lessons learned from this historic season and FEMA's strategic plan will help us and our State and local partners handle the emergency management needs of our country to build a culture of preparedness, enhancing our capability to respond to catastrophic events, and reducing the complexity of our program delivery.

Some of the lessons we learned in Harvey reiterate these goals, such as a level of planning, training, and exercise together we did at all levels in Texas. This builds capacity and capability that serves survivors and communities.

We also learned we need to close the insurance gaps for individuals and public facilities, and we need to invest more in mitigation prior to a disaster.

At FEMA, we are constantly reviewing our program delivery, decision-making processes, and responses to ensure that we improve, minimize errors, and better serve survivors on their worst day.

Thank you for the opportunity to testify, and I look forward to any questions you may have.

[The prepared statement of Mr. Robinson follows:]

PREPARED STATEMENT OF GEORGE A. "TONY" ROBINSON

APRIL 9, 2018

INTRODUCTION

Good morning, Chairman McCaul, Ranking Member Thompson, and Members of the committee. My name is Tony Robinson, and I am the regional administrator of the Federal Emergency Management Agency's (FEMA) Region 6. Region 6 is comprised of five States, Texas, Louisiana, Arkansas, Oklahoma, and New Mexico. I'd like to thank you for holding this hearing in the Houston area and providing this opportunity to discuss the lessons learned from Hurricane Harvey and the path forward for FEMA and our State and local partners.

Many Members of this committee, including Chairman McCaul and Congresswoman Jackson Lee, have districts that were severely impacted when Hurricane Harvey unleashed massive amounts of rain on the State of Texas last August.

Together, in close partnership with the State of Texas, ably led by Governor Abbott and his excellent team at the Texas Division of Emergency Management, known as TDEM—and their partnership with mayors, county judges, and local emergency managers—we have built strong response and recovery capabilities to serve Texans. FEMA's regional and National assets integrated into this structure to work across an impacted area of more than 37,000 square miles to assist in response and recovery operations.

When Hurricane Harvey hit Texas as a Category 4 hurricane, it caused a great deal of wind damage and record-breaking rainfall equivalent to approximately 33 trillion gallons in less than the span of a week. That flooding directly impacted millions of people from our Nation's fourth-largest city, Houston, as well as small and medium-size communities along the coast and into the interior of the State.

Recovering from Hurricane Harvey will take a number of years, and FEMA is committed to being responsive to our State and local partners as they continue the recovery process. There is still much work left to do, but working in a continued partnership at all levels of government, including partners from the voluntary agencies and private sector, we will recover "Texas Strong."

HURRICANE HARVEY—LESSONS LEARNED

Because of Hurricane Harvey's size and scale, we learned a number of valuable lessons, not least of which was the resiliency and bravery of the people of Texas. The flooding caused by the unprecedented rainfall transformed many everyday Texans into heroes and first responders. Neighbors helping neighbors, whether in cities like Houston, or Corpus Christi, or in the suburbs of Montgomery and Jefferson counties, or small towns from Rockport to Nederland, saved the lives of untold numbers of Texans. At FEMA Region 6, we are constantly reminding those we serve that, "You are the help until help arrives," and Texans can be very proud of the way that they rose to the challenges created by Hurricane Harvey.

Texans weren't the only ones who answered the call. Volunteers from across the Nation, in particular those from Louisiana, including the Cajun Navy, added their boats and supplies to the rescue efforts of so many volunteers in Texas. Through their actions and unrelenting efforts, Texans, and those volunteers who came in from across the Nation, showed that "Texas Strong," was not just a slogan, but a fact. That strength was also visible in the people from the coastal bend to the border with Louisiana, who were willing to risk their lives to help out friend and stranger alike in those crucial early hours of the disaster.

The State of Texas, and TDEM in particular, along with local governments and municipalities, should be commended for the work they did in saving lives as the storm struck and lingered over the State, creating immense challenges across such a wide swath of land. The State clearly takes emergency management very seriously and it has spent considerable resources preparing for dealing with natural and man-made disasters. Their sound preparations were highly effective, and they were organized in ways that enabled FEMA and others to be highly effective partners in the response and recovery efforts.

Another important lesson that we have taken away from the impact of Hurricane Harvey is the importance of pre-disaster preparation. When FEMA's Administrator Brock Long spoke to you last month about the agency's strategic plan, he mentioned that building a culture of preparedness and readying the Nation for catastrophic disasters are two of our three main strategic goals. Hurricane Harvey is a prime example of what a difference being prepared can make.

One area where we have made progress in building a culture of preparedness is the strong relationship that was already in place between FEMA and TDEM. We worked so well together in this disaster because we have spent years developing a strong partnership. That was crucial as we supported the State of Texas in its response and rescue efforts. Because our leadership and staff already had strong working relationships, our ability to communicate and coordinate was greatly enhanced.

One area where we have not made nearly enough progress in building a culture of preparedness is in educating the public of the value of purchasing flood insurance. Too many people in Texas, and throughout the Nation, do not understand the importance of carrying flood insurance, regardless of whether they are in a flood-prone area or not. Ensuring the public knows the value of the protections provided by carrying flood insurance, which in most cases is a low-cost protective measure, would help ensure those affected by flood are made as whole as possible. As seen with Hurricane Harvey, many of us learned very painful lesson about the need to have flood insurance. As people work on their own personal recoveries they are coming to the unfortunate realization that Stafford Act programs offered through FEMA are not a form of insurance and the grant dollars we have available are not sufficient to make them whole, nor in fact was that ever the purpose of FEMA's Individual Assistance programs.

As we work to better educate the public about what assistance is available after a disaster, we must do more to promote awareness of the National Flood Insurance Program and other options to purchase flood insurance. Our agency's goal is to double the number of flood insurance policies. Hurricane Harvey provides a powerful lesson about the importance of having flood insurance with the average payout being more than \$80,000, compared to an average Individual Assistance grant that was under \$7,000. Clearly, \$80,000 is going to get you a lot further along the path of recovery than \$7,000 will. That should help us drive home the importance of investing in a flood insurance policy.

Administrator Long also testified last month about his vision of disasters being "Federally-supported, State-managed, and locally-executed." To that end, Hurricane Harvey also taught us that we need to do more to empower the States to handle the challenge of a disaster-created housing mission. Texas stepped up to the plate in response to Harvey and sought to have a multi-pronged approach to the housing mission, allowing local jurisdictions to pick from a number of different options including mobile housing units and other programs designed to allow people to return home and shelter there as they completed the needed repairs. This brings us to our agency's third strategic goal: To reduce the complexity of FEMA programs. There is still much work left to be done, but the partnership we have with the General Land Office of the State of Texas provides an innovative approach to streamline how we address disaster housing. While the housing mission has not been without its challenges, the lessons learned at the local, State, and Federal level will allow us to further reform and reduce the complexity of our housing missions in the future.

Another important lesson learned was the changing nature of communications during both the short-term response and long-term recovery phases of a disaster. The challenges and opportunities created by cellular technology, the internet, and

social media provided FEMA, TDEM, and local emergency managers new ways to interact with the general public. The public has also grown more diverse leading to additional focus on languages beyond just English and Spanish, to be inclusive of those with different communication needs such as the deaf community. During the initial response phase, people used social media to provide the locations of people needing rescue, to report on conditions, and to facilitate the coordination of volunteer activities and resources. During the recovery phase, FEMA employed tools such as the FEMA mobile application and Facebook Live to provide real-time updates and disseminate important information. As we prepare for future disasters FEMA must be mindful of changing communities and methods of communication to be certain that accurate and timely information is distributed and useful information is received.

At FEMA, we are constantly reviewing our program delivery, decision-making processes, and responses to ensure that we improve, minimize errors, and better serve survivors on their worst day. We also are eager to work with Congress, and this committee in its oversight capacity, to determine if legislative changes are required, and to ensure that we are executing our programs consistent with Congressional intent. We have learned, and will continue to learn, from this historic disaster.

THE PATH FORWARD

As we plan for the future and work on the long-term recovery from Hurricane Harvey, we must also consider future threats. We are less than 60 days out from the start of the 2018 hurricane season and we have to be cognizant of very real threats that may be on the horizon.

In response to the historic nature of Hurricane Harvey, FEMA's response will be larger and longer-lasting than normal. We are opening a Long-Term Recovery Office so that we can be an effective and responsive partner to State and local officials as they drive the recovery efforts. This office will hire additional staff and will remain open for the next few years to ensure that we can respond to the extraordinary needs generated by this disaster.

Additionally, FEMA will be working closely with our partners at all levels to increase the promotion of flood insurance so that individuals and businesses are better able to manage and fund their own recoveries from future disasters. Greater emphasis on the importance of flood insurance will be key to creating the culture of preparedness that is one of our agency's strategic goals.

We are working with our Federal, State, and local partners to review and revise procedures to streamline and simplify the delivery of our programs, so that we can provide a process that is easier for the public, eliminates duplication of effort, and will allow for a more timely response to their concerns.

To help our local and State partners build communities that are more resilient we will work on making sure that mitigation funding and planning receives greater emphasis. As an area that is no stranger to natural disasters, we must do more to ensure that construction and development takes place in a way that is consistent with mitigating the impact of future hurricanes and other potential disasters.

We will also work with our stakeholders and partners on a communication strategy meant to empower individuals and communities to prepare for the disasters that are inevitable in our region. FEMA will continue to work to improve our programs, communication strategies, and to support our partners. But from response to recovery it is local communities and individual citizens who must lead the way. We will do all we can to empower them to do so.

CONCLUSION

Hurricane Harvey caused significant damage to many jurisdictions throughout Texas. FEMA remains committed to working with our Federal, State, and local partners to make the State more resilient and to support the recovery no matter how long it takes. Through our mutual efforts, we will benefit by having learned many valuable lessons that will allow us to build a culture of preparedness in Texas and throughout the Nation.

Thank you for the opportunity to testify, and I look forward to any questions you may have.

Chairman MCCAUL. Thank you, Mr. Robinson.
The Chair now recognizes Rear Admiral Thomas.

STATEMENT OF REAR ADMIRAL PAUL F. THOMAS, COMMANDER, EIGHTH COAST GUARD DISTRICT, UNITED STATES COAST GUARD, U.S. DEPARTMENT OF HOMELAND SECURITY

Admiral THOMAS. Good morning, Chairman McCaul, Ranking Member Thompson, distinguished Members of the committee. It is my pleasure to be with you today to discuss the Coast Guard's response to Hurricane Harvey.

As the Federal Government's maritime first responder and an armed service within the Department of Homeland Security, the Coast Guard is uniquely positioned to operate across the response spectrum and serve as a bridge between the Department of Defense and local, State, and other Federal agencies in any disaster response, and we did that during Harvey.

When Harvey formed in the Gulf of Mexico, Coast Guard crews worked around the clock to ensure the safety of our people, assets, and facilities to direct actions in order to minimize the risk to commercial ports and to prepare for the search-and-rescue missions that we knew were to come. Even before Harvey made landfall in south Texas, Coast Guard air crews rescued a dozen mariners from the motor vessel Gulf Justice as she was aground and foundering in high winds and heavy seas at the leading edge of the storm.

Harvey raged on for the next 5 days, and Coast Guard crews and aircraft and shallow water boats battled tropical storm winds and near-zero visibility in a treacherous urban environment to rescue stranded victims, many of whom suffered from serious medical conditions and needed immediate treatment.

While our Coast Guard crews directly effected the rescue of more than 11,000 people in that time period, using our facilities, our command-and-control capability, and the on-scene initiative that defines our enlisted work force, Coast Guard men and women directed and facilitated the rescue of tens of thousands.

Even before the storm cleared Texas, our crews were on the water, working with partner agencies to restore critical channels and aids to navigation, and to ensure the port facilities were able to safely receive ships and restart operations here in the Port of Houston and throughout Texas. Those efforts ensured that the area refineries not severely damaged by the storm were able to receive feedback and continue to operate.

In the weeks and months following the storm, Coast Guard women and men responded to more than 670 pollution sites and removed over 58,000 gallons of oil and more than 8,500 pounds of hazardous materials that were spread through coastal Texas by the storm and the floods.

As the commander responsible for Coast Guard operations in a 26-State region, including all of Texas, I am tremendously proud of what our Coast Guard men and women accomplished in the face of this historic storm, even while many of them suffered damage to their own homes and properties alongside their fellow Texans.

But I am also acutely aware that these efforts did not come without significant costs that impacted our ability to maintain a proper response posture and to execute all missions throughout the eighth Coast Guard district. Certainly, there is a readiness cost as we operated boats and aircraft well above planned rates, and we deferred

maintenance and training in order to surge forces from around the eighth district and around the Nation here to Texas.

As you know, Coast Guard facilities along the coast of Texas suffered significant damage and must be rebuilt in order to restore the full function of those units. Of course, there is an opportunity cost associated with diverting Coast Guard resources from other missions, particularly our interdiction missions where adversaries take advantage of reduced Coast Guard presence.

Thanks to the support of this Congress and the administration, we are beginning to offset those costs. Over \$100 million of the supplemental funding provided by Congress to the Coast Guard in the wake of this hurricane season will be put to work right here in Texas. We are restoring the readiness of our aircraft and air crews, recapitalizing our shallow water rescue equipment, and rebuilding destroyed Coast Guard facilities to standards intended to withstand the storms of the future.

We have also taken steps to ensure we are even better prepared for hurricanes and all contingencies in the future. Here in Texas, we have coordinated with the Governor's staff, the National Guard, and Texas Task Force 1 to improve our joint operations for urban search and rescue, and we have engaged Marine Corps Amphibious Unit 4 in Galveston so that we can plan and train together and very quickly bring their tremendous high-water operations capability into the fight.

Throughout the Coast Guard we are working to better track and respond to calls for help that come to us through social media, and to use social media heat maps to focus our response efforts.

Mr. Chairman, Members of the committee, the men and women of the eighth Coast Guard district are proud and privileged to be members of the world's greatest Coast Guard, and we appreciate your continued strong support of our service. We continue to stand with Texas, alongside Texans, ready for whatever comes next.

Thank you for the opportunity to be with you this morning, and I look forward to your questions.

[The prepared statement of Admiral Thomas follows:]

PREPARED STATEMENT OF PAUL F. THOMAS

APRIL 9, 2018

INTRODUCTION

Good morning Chairman McCaul, Ranking Member Thompson, and distinguished Members of the committee. It is my pleasure to be here today to discuss the Coast Guard's preparations for the next Atlantic hurricane season, lessons learned from the 2017 hurricane season, and the demands contingency responses place on the Coast Guard.

First, let me thank you for the outstanding support this committee has given the Coast Guard, especially as it relates to the supplemental funding for hurricane response activities. This critical infusion allows the Service not only to rebuild damaged and destroyed facilities, but also provides the ability to rebuild to modern resiliency standards, ensuring the best chance of withstanding future disasters.

The U.S. Coast Guard is the world's premier military, multi-mission, maritime service responsible for the safety, security, and stewardship of U.S. waters and hundreds of miles seaward. At all times, a military service and branch of the U.S. Armed Forces, a Federal law enforcement agency, a regulatory body, a first responder, and a member of the U.S. intelligence community, the Coast Guard stands the watch and serves a Nation whose economic prosperity and National security are inextricably linked to broad maritime interests.

As the Nation's maritime first responder, the Coast Guard has unique capabilities, capacity, and authorities that allow it to play a critical role in disaster response. Today I would like to discuss the Coast Guard's primary missions in disaster response, its strengths, limitations, and some issues that demand our focus as we look toward the 2018 hurricane season.

PRIMARY MISSIONS IN DISASTER RESPONSE

The Coast Guard's primary missions in domestic disaster response are:

1. Saving lives in distress, and ensuring the safety and survivability of its own forces and assets for immediate post-disaster response operations;
2. Security and reconstitution of ports, waterways, and critical maritime infrastructure;
3. Environmental response operations (oil, chemical, and hazardous material); and
4. Support to other agencies in a whole-of-Government response effort.

Saving lives in distress remains our first priority. During Hurricanes HARVEY, IRMA, MARIA, and NATE, Coast Guard women and men in vessels, aircraft, vehicles, and on foot rescued nearly 12,000 people and over 1,500 pets.

For each of these storms and all natural disasters along our coastline, Coast Guard crews are typically the first Federal responders to enter an impacted area, right alongside our State, local, Tribal, and territorial responders, to conduct rescues and assess damage. I should note that in an average year, the Coast Guard saves 3,600 lives. The Coast Guard tripled that number during HARVEY alone in a matter of days.

In addition to search and rescue operations, the Coast Guard flows forces into the impacted regions to restore ports and waterways, respond to pollution, provide security and additional law enforcement capability where necessary, and protect offshore petrochemical platforms. Within 5 weeks, Hurricanes HARVEY, IRMA, MARIA, and NATE impacted over 2,500 miles of shoreline.¹ The Coast Guard responded to 1,269 aids to navigation discrepancies, handled 290 pollution cases, and targeted and assessed thousands of grounded vessels, with more than 4,200 removed to date. Coast Guard damage assessment teams were on-scene within hours determining the status of ports and waterways, documenting environmental hazards, assessing the impacts to Coast Guard facilities and capabilities, and leveraging technology, such as the employment of electronic aids to navigation, to facilitate the reopening of key ports and waterways.

The Coast Guard response during the 2017 hurricane season was historic and overwhelmingly successful. However, as an organization dedicated to continuous improvement and increased resiliency the Coast Guard inherently knows there are lessons to be learned, even after a successful contingency response. The Coast Guard has identified several strategic and over 100 tactical-level lessons learned. The Coast Guard is tracking, and will continue to track, these issues until they have been resolved. The Service is updating policies and plans, improving capabilities, sharing best practices, and working with FEMA and State partners to improve processes. As we approach the start of the Atlantic hurricane season on June 1, 2018, the Coast Guard will conduct fifty-two natural disaster exercises at its District and Sector Commands.

OUR STRENGTHS

The Coast Guard has several key strengths that enable quick and effective response to natural disasters. The first of these strengths begins with its people, whose bias for action and adaptability to rapidly changing circumstances and uncertainty never ceases to fill me with pride and admiration.

Coast Guard cutters, aircraft, and boats are built to respond to a variety of missions without the need for any significant reconfiguration. Cutters conducting counter-drug patrols in the Transit Zone can quickly divert to disaster areas to provide command and control, deliver rotary-wing air capability from the sea, conduct refueling, and provide forward staging facilities. Coast Guard aircraft that normally perform law enforcement surveillance to thwart transnational maritime criminal activities can be dynamically repositioned and re-tasked to deliver disaster relief supplies, additional responders, and equipment to affected areas.

Additionally, Coast Guard forces are on station at key locations around the Nation, most of them on short-notice recall, which can respond quickly to emergent

¹ Using CRS method of Shoreline Measurement: Texas: 367 mi, Louisiana: 397 mi, Florida: 1,350 mi, Puerto Rico: 311 mi, USVI: 117 mi.

events. When a major catastrophe occurs or is anticipated, the Service can reposition forces quickly to that area to optimize the response.

The Coast Guard enjoys an agile and decentralized command-and-control structure, which provides operational commanders the authority to move forces quickly to respond to large contingencies. Two Area Commanders, and their nine subordinate District Commanders, can shift and reallocate forces from one region to another based on levels of risk and anticipated demand for operational capabilities.

The Coast Guard has also developed and regularly exercises Continuity of Operations Plans for relocating command and control functions out of harm's way to strategically advantageous positions to effectively conduct response and recovery operations. During the 2017 hurricanes, seven major shore commands and one District command shifted out of the path of the storms to alternate facilities, resulting in only minor disruptions and no loss of command and control.

In addition to fielding flexible, multi-mission forces and effective command-and-control systems, the Coast Guard also benefits from a unique mix of broad standing authorities, as well as extensive experience operating within both military and other interagency response organizations.

As a military service, the Coast Guard can be a supported or supporting commander, and its forces are frequently integrated with U.S. Department of Defense (DOD) services in Joint Task Force organizations. The Service regularly provides forces in support of DOD exercises, Combatant Commander contingency plans, and theater security cooperation activities. This routinely exercised relationship develops close cooperation at the service level, enabling Coast Guard and DOD forces to integrate seamlessly during disaster response operations.

In addition to its military role, the Coast Guard routinely works with other Federal agencies, State and local governments, non-governmental agencies, and international organizations under its U.S. Code, Title 14 law enforcement and regulatory responsibilities.

The Coast Guard is the Nation's "maritime first responder" and has a leading role in executing the National Response Framework (NRF) for disaster situations. Its personnel are well-trained and experienced in response operations, which make them a sound choice to be designated for key leadership positions in the NRF structure. This ability to operate concurrently in both military Joint Task Force and civilian NRF structures enhances unity of effort during whole-of-Government responses across organizations and dramatically improves the effectiveness of disaster response, which makes the Coast Guard a truly unique Federal agency.

OUR LIMITATIONS

Despite the many strengths the Coast Guard brings to disaster response, the Service has limitations that must be considered.

Across the 2017 hurricane response operations, more than 3,000 Coast Guard women and men, and 200 assets or platforms from across the service, from places as far away as Alaska, Hawaii, and Maine responded to save nearly 12,000 citizens in distress. The hurricane response had a significant impact on Coast Guard operations. The Coast Guard is small in comparison to the other Armed Services. With only 40,600 active duty, 7,000 reserve, and 8,500 civilian personnel, responding to a major natural disaster requires balancing risk in other geographic regions and mission areas in order to flow forces and capabilities into the major disaster response.

Residual risk was spread across the Coast Guard, with a keen eye toward meeting minimal mission standards in most, but not all, locations. Given the heavy demand for aviation capabilities following each of the storms, all aviation training was stopped until the later stages of recovery efforts were reached. The level of forces typically allocated to performing counter-drug, fisheries enforcement, and migrant interdiction operations in the Eastern Pacific Ocean, Caribbean Sea, and Florida Straits were reduced as well.

The Service has a limited capacity to respond to prolonged and sequential events. While the Coast Guard is well-positioned for immediate and effective first response, plans to sustain operations and hand-off responsibilities once a crisis has been stabilized are primary considerations for Coast Guard commanders responding to natural disasters. During 2017, the initial hurricane response spanned multiple months, with some response operations continuing today. The Coast Guard endured risk exposure across all 11 missions with service-wide impacts to training, personnel readiness, and maintenance of equipment. To sustain prolonged response operations, the Service had to sacrifice preparedness for the next contingency response. When discussing resiliency, infrastructure and assets immediately come to mind. However, the resiliency of the Coast Guard as an organization is equally critical to

mitigating the secondary effects of responding to emergent events. The Coast Guard must be able to meet the needs of the Nation, through a resilient and well-trained workforce, while simultaneously answering the call for help during a disaster.

The age and condition of the Coast Guard's assets is another concern, and is one that the administration, with the support of Congress, is working hard to improve. As more modern and capable cutters repositioned for hurricane response, the Coast Guard Cutter ALERT, a 48-year-old cutter, held the line in the Eastern Pacific Ocean. The crew performed admirably, including a 2-week period as the only cutter operating in the Eastern Pacific.

ISSUES TO FOCUS ON GOING FORWARD

Last, there are several areas that will require continued energy and focus in the months and years ahead in order to enhance the Coast Guard's National disaster response capacity and capability.

When the Coast Guard has the opportunity to recapitalize its facilities, it needs to make them more storm-resilient and survivable. In fact, several shore facilities that were rebuilt following Hurricane IKE suffered minimal damages along the paths of HARVEY and IRMA, a testament to modern building codes and standards.

Continued investment in recapitalizing Coast Guard resources is paramount. The need for modernized assets, such as the Offshore Patrol Cutter and Waterway Commerce Cutters, to replace an aging fleet is highlighted by the National Security Cutter's superior ability to coordinate and communicate with Coast Guard, Department of Defense, and interagency resources during contingency responses.

Investing in the Coast Guard's infrastructure supports its greatest resource: Its people. Although the Service deployed approximately 3,000 additional Coast Guard women and men to support response operations, many more Coast Guardsmen from within the impacted areas responded to help those that were displaced and distressed, even as they and their loved ones were also displaced. The Coast Guard had to relocate over 700 Coast Guard members and dependents after their homes were damaged to the point of being uninhabitable.

Many do not realize the residual risk associated with surging resources to an incident. No amount of response capacity and capability will be effective without a foundation of preparedness. Having enough well-trained and properly-equipped personnel, the right assets, and adequate contingency infrastructure in place prior to an event is vital to sustained success during a major disaster response, and to the reconstitution of the impacted area. It is too late to train responders, procure new equipment, or find alternate command posts when a hurricane is barreling toward the coast. As has been shown time and again, investment in the Coast Guard pays dividends when they are needed most.

CONCLUSION

The Coast Guard is well-positioned to respond to natural disasters due to its unique blend of authorities, capabilities, and capacity. Flexible, multi-mission forces and agile command-and-control systems provide the solid foundation from which we can respond to major catastrophes. When combined with broad authorities and extensive experience operating with diverse partners, the Coast Guard provides a vital service to our Nation. As an organization that strives to better serve the Nation through continual improvement, the Coast Guard evaluates its successes and failures to optimize performance through applying both strategic and tactical-level lessons learned. The Coast Guard's dedication to on-going self-improvement will ensure that it is best positioned to deliver the level of service the Nation expects and deserves well into the future.

Thank you for the opportunity to testify before you today and for your on-going support of the men and women of the Coast Guard. I look forward to your questions.

Chairman McCAUL. Thank you, Admiral. The State of Texas is forever grateful. We appreciate what you did.

The Chair recognizes Colonel Zetterstrom.

STATEMENT OF COLONEL LARS N. ZETTERSTROM, COMMANDING OFFICER, GALVESTON DISTRICT, UNITED STATES ARMY CORPS OF ENGINEERS (ACE), DEPARTMENT OF THE ARMY, U.S. DEPARTMENT OF DEFENSE

Colonel ZETTERSTROM. Good morning, Chairman McCaul and Ranking Member Thompson, and distinguished Members of the

committee. I am honored to testify before you today to discuss the authorities and responsibilities of the U.S. Army Corps of Engineers during disaster response and recovery operations, focusing on Hurricane Harvey and its impacts to the coast of Texas. I am Colonel Lars Zetterstrom, and I am the Commander of the Galveston District of the U.S. Army Corps of Engineers.

The Corps conducts its emergency response and recovery operations under two authorities, the Stafford Act and Public Law 84-99. Under the Stafford Act, we and other Federal agencies support FEMA under the National Response and Recovery Framework. In this capacity, the Corps is the lead Federal agency for Emergency Support Function 3, Public Works and Engineering. ESF-3 provides temporary emergency power, temporary roofing, debris management, emergency infrastructure assessment, critical public facility restoration, temporary housing, and demolition and structural stabilization. Under Public Law 84-99, we prepare for disasters through planning, coordination, and training with local, State, and Federal partners. The Corps can also assist State and local entities in flood fight operations or through implementation of advanced measures to prevent or reduce storm incident outcomes. Public Law 84-99 authorizes the Corps to repair damage to Federal flood infrastructure projects, and works with States and municipalities to rehabilitate and restore eligible non-Federal flood infrastructure to pre-storm conditions.

When disasters occur, Corps teams and other resources are mobilized from across the Nation to assist the local Corps district. As part of this mission, the Corps has more than 50 specially-trained response teams, supported by contracting, to perform the wide range of missions that I just described.

On the 25th of August, 2017, Category 4 Hurricane Harvey made landfall near Rockport, Texas. Large amounts of rainfall fell across southeastern coastal Texas, causing record flooding. FEMA tasked 27 total mission assignments totaling \$126 million to the Corps to assist in Harvey response and recovery efforts. Since August 22, 2017, nearly 1,000 Corps personnel have deployed to support response and recovery efforts. Currently, 78 Corps employees are deployed supporting 11 active recovery mission assignments. Active mission assignments currently total \$39 million, and we are expected to complete them no later than the end of June.

In our housing mission, in 31 of the disaster-impacted Texas counties, we have responded to 3,100 applicants that are approved for FEMA Temporary Housing Assistance to date. We have inspected approximately 400 haul-and-install unit installations, and certified approximately 150 mobile housing units as ready for occupancy each week. To date, the Corps has assessed over 3,300 private sites and over 1,200 commercial sites. The Corps assessed more than 330 potential group sites and completed the construction or improvements to one existing group site.

Corps subject-matter experts continue to provide State and county officials with technical assistance for debris removal and disposal.

The Corps installed a temporary school and a city hall, and we are currently installing a volunteer fire department and an additional temporary school.

We provided over 1 million sandbags to local governments, and we are currently designing repairs to three flood damage reduction projects, and assessing seven more impacted by Harvey.

The Galveston District is tasked with maintaining over 1,000 miles of Federally-authorized navigation channels in Texas. We accomplish this through our hydrographic surveys and maintenance dredging.

In a normal year we dredge more than 25 million cubic yards of sediment accumulation, known as shoaling. An additional 9 million cubic yards of shoaling have been identified post-Harvey so far. Harvey impacted nearly all of the Nation's navigation projects within the Galveston District's area of responsibility. We are an active member of the Gulf Coast Joint Hurricane Response Team since its inception in 2005. This team, in advance of each hurricane season, conducts monthly meetings to prepare for navigation impacts due to coastal storms.

Within days of Hurricane Harvey's landfall, we had mobilized more than 15 dredges and 24 hydrographic survey vessels to ensure that we could rapidly survey and restore navigation to the coast of Texas. A few channel restrictions persist today, some within the upper reaches of the Houston Ship Channel and currently at the Port of Brownsville Entrance Channel.

The Galveston District has partnered with the Harris County Flood Control District since the 1930's on reducing risks in the Houston area. Before Harvey reached the Houston area, the District deployed staff to the Addicks and Barker Reservoir Dams for 24-hour-a-day condition inspections. The dams were operated in accordance with the Water Control Manual during Harvey, which was an episodic, record-breaking rainstorm event that dropped approximately 36 inches of rain within the Addicks and Barker watersheds, and as much as 51 inches of rain in locations across the Houston region. The Addicks and Barker Dams structures performed as designed during the event. The District also embedded members of its staff in regional Emergency Management Centers during Harvey to communicate the risk with those agencies, the media, and the public.

In addition to the Buffalo Bayou and Tributaries, also known as the Addicks and Barker Dams flood risk reduction projects, the Corps has or is partnering with the Harris County Flood Control District on a number of additional flood damage reduction projects. The District and Harris County Flood Control District physically completed construction of the Sims Bayou project in July 2016. While the project did incur some erosion damage, no flooding of structures occurred along Sims Bayou during Harvey. The Greens Bayou Flood Risk Management Project is currently under construction and is scheduled for completion in 2020. The Corps has also reimbursed Harris County Flood Control District for its completed increments of work along the Brays Bayou project.

For the path forward, in response to a 2013 dam safety modification study, the District is currently constructing new outlet structures and outlet channels at both the Addicks and Barker Dams. This current construction project is scheduled for completion in April 2020. Additional studies to analyze the needs for rehabilitation of the Addicks and Barker spillways and the return flow

ditches of the existing authorized project, and also to assess the potential for additional nonstructural or structural measures to reduce the risks of flooding in the vicinity of Addicks and Barker reservoirs, or to develop tools to identify best practices in flood plain management are also contemplated. The Corps continues to partner closely and discuss current and future opportunities with Federal, State, and local partners.

The Corps remains fully committed and capable of executing its civil works activities across the Nation despite our heavy involvement in these on-going response and recovery operations due to Hurricanes Harvey, Irma, and Maria. We also remain ready and poised to assist in future incidents as they may occur.

This concludes my testimony, and I look forward to answering your questions. Thank you.

[The prepared statement of Colonel Zetterstrom follows:]

PREPARED STATEMENT OF LARS N. ZETTERSTROM

APRIL 9, 2018

Mr. Chairman and distinguished Members of the committee: I am honored to testify before you today to discuss the authorities and responsibilities of the U.S. Army Corps of Engineers (Corps) during disaster response and recovery operations, focusing on Hurricane Harvey and its impacts to the Houston, Texas area. I am Colonel Lars Zetterstrom, Commander, Corps Galveston District.

The Corps conducts its emergency response and recovery activities under two basic authorities: The Stafford Disaster and Emergency Assistance Act (Stafford Act); and Public Law 84-99 Flood Control and Coastal Emergencies, 33 U.S.C. 701n, as amended (Pub. L. 84-99). Under the Stafford Act, we and other Federal agencies support the Federal Emergency Management Agency (FEMA) under the National Response and Recovery Framework. In this capacity, the Corps is the lead Federal agency for Emergency Support Function 3 (Public Works and Engineering), and Recovery Support Function (RSF)—Infrastructure Systems but works under the Federal Coordinating Officer's (FCO) direction. ESF-3 provides temporary emergency power, temporary roofing, debris management, emergency infrastructure assessment, critical public facility restoration, temporary housing, demolition/structural stabilization, and support to FEMA command and control Nodes/ESF-3. The Infrastructure Systems RSF works to efficiently facilitate the restoration of infrastructure systems and services to support a viable, sustainable community and improves resilience to and protection from future hazards. Under Pub. L. 84-99, we prepare for disasters through planning, coordination, and training with local, State, Federal partners. The Corps can also assist State and local entities in flood fight operations or through implementation of advance measures to prevent/reduce storm incident damages. After the emergency incident, Pub. L. 84-99 authorizes the Corps to repair damage to Federal flood infrastructure projects, and work with States/municipalities to rehabilitate and restore eligible non-Federal flood infrastructure to pre-storm conditions.

When disasters occur, Corps teams and other resources are mobilized from across the country to assist the local Corps districts that are responding to the incident. As part of this mission, the Corps has more than 50 specially-trained response teams, supported by emergency contracts, to perform the wide range of public works and engineering-related support missions I just described. Additionally, the Corps uses pre-awarded contracts that can be quickly activated for missions such as debris removal, temporary roofing, generator installation, and dredging.

2017 Hurricane Season.—With regard to hurricane activity, 2017 was an unusually active season. The Corps was, and continues to be, involved in the FEMA-led Federal response and recovery operations in support of multiple incidents, including Hurricanes Harvey, Irma, and Maria.

Hurricane Harvey.—On August 25, 2017, Category 4 Hurricane Harvey made landfall along the central Texas coast near Rockport, Texas, between Port Aransas and Port O'Connor and the President approved a Major Disaster Declaration for Texas. Large amounts of rainfall fell across the greater Houston metropolitan area causing record flooding. FEMA tasked 27 total mission assignments totaling \$126 million to the Corps to assist in Hurricane Harvey response and recovery efforts.

Since August 22, 2017, nearly 1,000 Corps personnel have been deployed to support response and recovery efforts. Currently, 120 Corps employees are deployed supporting 11 active recovery mission assignments. Active mission assignments total \$39 million and are expected to be completed no later than June 30, 2018.

Temporary Emergency Power.—The Corps completed its temporary emergency power mission assignment in Texas by completing 45 generator installations.

Temporary Housing.—In the 31 disaster-impacted Texas counties, more than 3,100 applicants are approved for FEMA Direct Temporary Housing Assistance to date. The Corps is inspecting approximately 400 haul and install unit installations a day and certifying approximately 150 mobile housing units as ready for occupancy per week. To date, the Corps has assessed over 3,300 private sites (homeowner property) and over 1,200 commercial mobile home parks. In addition to installing units on individual home sites, the Corps assessed more than 330 potential group site locations and completed construction of improvements to an existing group site.

Debris Management Oversight.—Debris teams led by Corps subject-matter experts continue to provide State and county officials with technical assistance in defining requirements and monitoring debris removal and disposal operations in 10 counties.

Critical Public Facilities.—The construction of critical public facilities temporary buildings are still on-going. The Corps was assigned a mission to construct four public facilities—installation of two temporary schools, a city hall and a volunteer fire department. Two of these facilities have been completed and two are on-going.

Pub. L. 84-99 Assistance.—In anticipation of Harvey's landfall the Corps increased its flood fight supplies from 500 thousand to 2 million on hand including sandbags and sand barriers. The Corps provided over 1 million sandbags to local governments for Hurricane Harvey. The Corps is currently designing repairs for three flood damage reduction projects damaged during Harvey and assessing seven additional projects for repairs.

Navigation Restoration.—The Galveston District is tasked with monitoring and maintaining over 1,000 miles of Federally-authorized navigation channels located within the Texas Coast. Sediment is naturally and continually deposited within these channels. The Galveston District monitors these channels through hydrographic surveys, and performs maintenance of these channels by removing sediment through maintenance dredging.

In a normal year, the Galveston District removes approximately 25 million cubic yards of regularly recurring sediment accumulation (or shoaling) from Federally-authorized navigation channels, most of which results from normal tidal fluctuations, river flows, wave energies, and similar phenomena. This year, an additional 9 million cubic yards of shoaling—over one-third of the average annual requirement—was observed within Coastal Texas as a result of Hurricane Harvey. The storm was unique in that Harvey affected the majority of the 400 miles of the Texas Coast, and impacted nearly all of the navigation projects within the Galveston District's area of responsibility.

Galveston District staff was prepared to respond to Hurricane Harvey in part because the district has been an active member of the Gulf Coast Joint Hurricane Response Team since its inception in 2005. This team consists of representatives from Federal, State, and local agencies that share roles in ensuring that maritime commerce and military vessels are provided safe access to gulf coast port facilities. Members include the United States Coast Guard, the National Oceanic and Atmospheric Administration, local Port Authorities, pilots associations, and the brownwater (tug) industry. In advance of each hurricane season, the team meets to discuss protocols and conduct monthly dry-run exercises, which simulate hurricanes entering the Gulf of Mexico.

Within days of Hurricane Harvey's landfall, the Galveston District had mobilized 15 pieces of dredging equipment to areas most affected by hurricane-related shoaling. At the peak of the assessment phase, the Galveston District was managing 24 hydrographic survey vessels, and was able to perform assessment surveys of 95 percent of the high and moderate use channels within 2 weeks of Hurricane Harvey's landfall.

The majority of draft restrictions were alleviated through maintenance dredging within the first 90 days of response efforts. However, Harvey-related dredging operations are still on-going. A few channel restrictions persist, mostly within the upper reaches of the Houston Ship Channel. Repairs to dredged material placement areas and shoreline erosion are anticipated to commence in late fiscal year 2018 and extend through fiscal year 2019.

To date, The Galveston District has received approximately \$65 million to address navigation damages from Hurricane Harvey.

Flood Risk Management.—The Galveston District has partnered with the Harris County Flood Control District (HCFCD) since the 1930's on reducing flood risks in the Houston area.

Before Hurricane Harvey reached the Houston area, the District deployed staff to the Addicks and Barker (A&B) Reservoir Dams for 24 hrs/day condition inspections. The A&B dams were operated according to the Water Control Manual during Hurricane Harvey, which was an episodic, record-breaking rainstorm incident. It dropped approximately 36 inches of rain in the A&B watersheds, and as much as 51 inches in locations across the Houston region. The A&B Dams structures performed as designed during the incident. The District also deployed members of its staff to regional Emergency Management Centers in Houston during Harvey to communicate the risk of A&B Dam operations with agencies, media, and public, as conditions unfolded.

In addition to the Buffalo Bayou and Tributaries (Addicks and Barker Dams) flood damage reduction project, the Corps has or is partnering with the HCFCD on the construction of three additional flood damage reduction projects. Each of these projects performed as designed to reduce flood risk during Hurricane Harvey. The District and HCFCD physically completed construction of the Sims Bayou project in July 2016. While the project did incur erosion damage, no flooding of structures occurred along Sims Bayou during Harvey. The Greens Bayou was funded to completion in 2016 and mitigation work is scheduled to complete in 2020. The Corps has also reimbursed HCFCD for completed construction on the Brays Bayou project.

Path Forward.—In response to a 2013 dam safety modification study, the District is constructing a new outlet structure, parabolic spillway, stilling basin, and outlet channels and grouting and abandoning the existing outlet structure at both the A&B. This action is under way after completing a dam safety modification study in 2012. The current construction work is scheduled for completion in April 2020. Additional studies to analyze the needs for rehabilitation of the A&B spillway structures and return flow ditches of the existing authorized project, to assess the potential for additional non-structural or structural measures to reduce the risks of flooding in the vicinity of A&B reservoirs, and/or to develop tools to identify best practices in flood plain management may be warranted. The Corps continues to discuss current and potential future efforts with the HCFCD.

The Corps remains fully committed and capable of executing its other Civil Works activities across the Nation despite our heavy involvement in these on-going response and recovery operations. We also remain ready and poised to assist in future incidents as they may occur. This concludes my testimony and I look forward to answering any questions you might have. Thank you.

Chairman MCCAUL. Thank you, Colonel.

The Chair recognizes Ms. Van Duyne.

STATEMENT OF BETH VAN DUYN, REGIONAL ADMINISTRATOR, REGION VI, U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

Ms. VAN DUYN. Thank you, Chairman. Chairman McCaul, Ranking Member Thompson, and Congress Members, thank you for inviting the Department of Housing and Urban Development to discuss our efforts to assist the people of Texas recover from Hurricane Harvey.

There has been exceptional collaboration, cooperation, and communications between HUD and FEMA, the Governor's Office, the Texas General Land Office, the Governor's Commission to Rebuild Texas, and other Federal and local partners.

In the response phase of a disaster, FEMA is the Federal agency responsible for providing emergency short-term housing assistance. During this phase, HUD staff has worked tirelessly with FEMA to rapidly re-house Texans, many of whom lost everything. Nearly 100 HUD employees from across the country volunteered to help Texas families deployed to FEMA's joint field office, emergency shelters, and disaster recovery centers. Working together, they

managed to secure temporary and, in many cases, permanent housing for survivors.

Immediately after a Presidentially-declared disaster, HUD offers flexibilities to assist the urgent needs of affected families. These include providing State and local governments the ability to redirect their existing block grant assistance to meet the urgent needs of their citizens, simplifying the notification process for regulatory waivers aimed at cutting red tape in the recovery process. For example, HUD reduced the comment period on certain formula funding from 30 days to 7, suspended rules to allow CDBG grantees to replace affordable housing units, and allowed grantees to pay for additional support services.

Immediately following the declaration, HUD also issued a 90-day foreclosure moratorium for homeowners with mortgages insured by the Federal Housing Administration. FHA subsequently extended this moratorium until February 21, and even introduced a new option to help struggling homeowners remain in their homes through an interest-free second loan covering up to 12 months of missed payments.

All of this is done to give borrowers the breathing room they need to stay in their homes and begin to rebuild.

HUD created a long-term recovery strike team last November to stimulate and augment the recovery planning in smaller areas like Rockport, Port Arthur, and Newton, which were severely impacted by Harvey. The concept was simple: Reach out to these communities, cut red tape, and help them put together plans and leverage available resources based on their needs and priorities. HUD did not ask them to travel to Austin or to the District of Columbia; we went to them.

The strike team brought together leaders from other Federal agencies including HUD, FEMA, SBA, USDA, along with the GLO disaster recovery staff and emergency management officials from the State and local partners to identify Federal and State resources and share best practices to empower local leaders to immediately begin to plan the long-term recovery of their communities.

At some point following a major disaster, response gives way to recovery, and it is during the disaster recovery phase when HUD plays a more direct role. HUD's primary disaster assistance, the Community Development Block Grant Disaster Recovery Grant, is designed to address unmet needs as communities work toward their long-term recovery strategies.

In September, President Trump signed legislation that appropriates \$7.4 billion through HUD's CDBGDR program. HUD promptly allocated \$5 billion of these funds to the State of Texas to help hard-hit areas recover, and an additional \$58 million remaining from a prior appropriation. In allocating CDBGDR funds, HUD relies on information from FEMA and SBA and the number of seriously damaged homes that lack insurance and businesses that fail to qualify for SBA's disaster loan program.

CDBGDR grants support a wide variety of activities, including housing redevelopment, business assistance, and repair of damaged infrastructure. Unfortunately, Texas is no stranger to natural disasters, and that means that the State, through the GLO, has considerable expertise in administering CDBGDR.

The GLO submitted a plan for the \$58 million and is currently preparing an action plan for the \$5 billion that will be informed by comments from Texas citizens. Once finalized, this plan will be submitted to HUD for review. HUD will expedite its review and plan to ensure the funds are put to work on behalf of the people as quickly as possible.

In February, President Trump signed a budget agreement with an additional \$28 billion to support long-term recovery in areas impacted by disasters in 2017, as well as mitigation investments in areas that experienced disasters dating back to 2015. This week, HUD will announce an allocation of disaster recovery funds consistent with statutory directives. Texas will share in this funding based on the Department's analysis of unmet housing, business, and infrastructure needs.

In closing, our prayers continue to be with those families and individuals still recovering from these devastating hurricanes. HUD will continue to work with Congress and alongside local partners to ensure that the long-term housing recovery needs of the people of Texas are met.

I thank you for the opportunity to be here today to represent HUD. Mr. Chairman, I would be happy to answer any questions you or the other Members may have at this time.

[The prepared statement of Ms. Van Dyne follows:]

PREPARED STATEMENT OF BETH VAN DUYNNE

APRIL 9, 2018

Chairman McCaul, Ranking Member Thompson, and Members of this committee, thank you for inviting the Department of Housing and Urban Development (HUD) to discuss our efforts to assist the people of Texas recover from Hurricane Harvey.

Before Harvey even made landfall, HUD's Washington and Texas offices were working with the Federal Emergency Management Agency (FEMA) and Governor Greg Abbott's office on response and recovery preparation. HUD staff was immediately sent to FEMA's Regional Office in Denton, Texas, and then to its Joint Field Office in Austin to coordinate efforts with Federal, State, and local partners.

There has been exemplary collaboration, cooperation, and communications between HUD and FEMA, the Governor's office, the Texas General Land Office (GLO), and other Federal and local partners. HUD is in constant contact with Governor Abbott, GLO Commissioner George Bush, FEMA field coordinating officer Kevin Hannes, senior deputy director of GLO's Community and Revitalization Office Pete Phillips, and chair of the Governor's Commission to Rebuild Texas John Sharpe.

HUD'S INITIAL RESPONSE

In the response phase of a disaster, FEMA, not HUD, is the Federal agency responsible for providing emergency, short-term housing assistance through its Individual Assistance (IA) and Transitional Sheltering Assistance (TSA) programs. HUD's primary disaster assistance, the Community Development Block Grant-Disaster Recovery (CDBG-DR) grant, is intended to facilitate long-term recovery needs after all other disaster assistance—from FEMA, the Small Business Administration (SBA), other Federal agencies, the National Flood Insurance Program, and private insurers—has been exhausted. CDBG-DR funds are designed to address unmet needs as communities work toward their long-term recovery strategies.

However, there are steps HUD can and did take in the wake of Hurricane Harvey. Immediately after a Presidentially-declared major disaster, HUD offers States and local governments, homeowners, public housing authorities, and private owners of HUD assisted housing certain program flexibilities to assist the urgent needs of families impacted by the disaster.

Some of those flexibilities include:

- Providing State and local units of government the ability to redirect their existing block grant assistance to meet the urgent needs of their citizens;

- Offering and simplifying the notification process for 19 regulatory and administrative waivers aimed at cutting red tape in the disaster recovery process. For example, HUD reduced red tape by reducing the comment period on certain HUD formula funding from 30 days to 7 days, suspending rules to allow CDBG grantees to replace affordable housing units that were lost as a result of the hurricanes and flooding, suspending the cap limiting CDBG expenditures for public services to 15 percent, and allowing CDBG grantees to pay for additional support services for individuals and families affected by the hurricanes; and
- Immediately issuing a 90-day foreclosure moratorium for homeowners with mortgages insured by the Federal Housing Administration (FHA). FHA subsequently extended this moratorium until February 21, 2018, and even introduced a new option to help struggling homeowners remain in their homes through an interest-free second loan covering up to 12 months of missed payments. All of this is done to give borrowers the breathing room they need to stay in their homes and begin to rebuild.

The work of HUD's staff has been commendable. They worked tirelessly with FEMA to rapidly rehouse Texans, many of whom lost everything. Working together, they managed to secure temporary—and, in many cases, permanent—housing for survivors.

Moreover, nearly 100 HUD employees from other parts of the country volunteered to help Texas families, deploying to FEMA's Joint Field Office, emergency shelters, and Disaster Recovery Centers.

HUD played an integral role in initial response and recovery and will continue to support, along with the help of Congress, the people of Texas through the long-term recovery process.

DISASTER STRIKE TEAM

HUD created a *Federal/State Long-Term Recovery Strike Team* last November to support the long-term planning needs of smaller, more rural areas severely impacted by Harvey. The concept was simple: Reach out to these communities, cut red tape, and get them help. HUD did not ask that they travel to Austin or Fort Worth—HUD went to them. The strike team brought together top leaders from other Federal agencies, along with disaster recovery staff and emergency management officials from the State, with local partners to raise awareness of available Federal resources and share best practices.

LONG-TERM DISASTER RECOVERY

Mr. Chairman, at some point following a major disaster like Harvey, response must give way to recovery. It is during the disaster *recovery* phase when HUD plays a larger, more direct role, as the Coordinating Agency for the Housing Recovery Support Function (RSF).

On September 8, 2017, President Trump signed legislation that appropriated \$7.4 billion through HUD's CDBG-DR program. HUD promptly allocated \$5 billion of these funds to the State of Texas to help hard-hit areas recover.

In allocating CDBG-DR funds, HUD relies on information from FEMA and the Small Business Administration (SBA) on the number of seriously-damaged homes that lack insurance and businesses that failed to qualify for SBA's disaster loan program. HUD's analysis found approximately 65,000 which had serious damage that was not covered by other funding sources. Similarly, more than 4,000 businesses suffered serious damage from flooding that was not covered by insurance or other resources.

CDBG-DR grants support a wide variety of activities including housing redevelopment, business assistance, and repair of damaged infrastructure. Congress directed HUD to make these funds available for residents in the "most impacted and distressed" areas in the State. In early February, HUD published a notice identifying these hard-hit areas requiring that 80 percent of the \$5 billion be targeted to 16 East Texas counties: Harris, Jefferson, Orange, Galveston, Fort Bend, Brazoria, Montgomery, Liberty, Hardin, Chambers, Aransas, Wharton, San Patricio, San Jacinto, Nueces, and Victoria, and 11 Zip Codes with relatively concentrated damage.

In addition, HUD staff contacted hundreds of local public housing authorities throughout Texas and private owners of HUD assisted multifamily rental housing to determine their damage and continues to work with the public housing authorities and private owners to rebuild these affordable rental housing units. HUD is committed to working with State, local, and private-sector partners to address the unmet housing needs of all families including individuals with disabilities.

RECOVERY PLANNING

Unfortunately, Texas is no stranger to natural disasters, and that means the State, through the GLO, has considerable expertise in administering CDBG–DR.

To date, HUD made two CDBG–DR allocations to the State in response to Harvey—the \$5 billion previously mentioned and an additional \$58 million remaining from a prior appropriation. The GLO submitted a plan for the \$58 million and is currently preparing an action plan for the \$5 billion that will be informed by public comments received from Texas citizens. Once finalized, this plan will be submitted to HUD for review. HUD will expedite its review and approval of these plans to ensure the funds are put to work on behalf of the people as quickly as possible.

In February, President Trump signed a budget agreement that included \$28 billion in CDBG–DR funding to support long-term recovery in areas impacted by disasters in 2017, as well as mitigation investments in areas that experienced disasters dating back to 2015. Congress directed HUD to allocate these funds quickly and that is precisely what HUD intends to do. Very shortly, HUD will announce an allocation of disaster recovery funds consistent with statutory directives. Texas will share in this funding based on the Department’s analysis of unmet housing, business, and infrastructure needs.

In closing, our prayers continue to be with those families and individuals still recovering from these devastating hurricanes. HUD will continue to work with Congress and alongside local partners to ensure the long-term housing recovery needs of the people of Texas are met. I thank you for the opportunity to be here on behalf of HUD today Mr. Chairman, and I would be more than happy to answer any questions you or the committee Members may have at this time.

Chairman MCCAUL. Thank you, Ms. Van Duyne.

The Chair recognizes himself for questions.

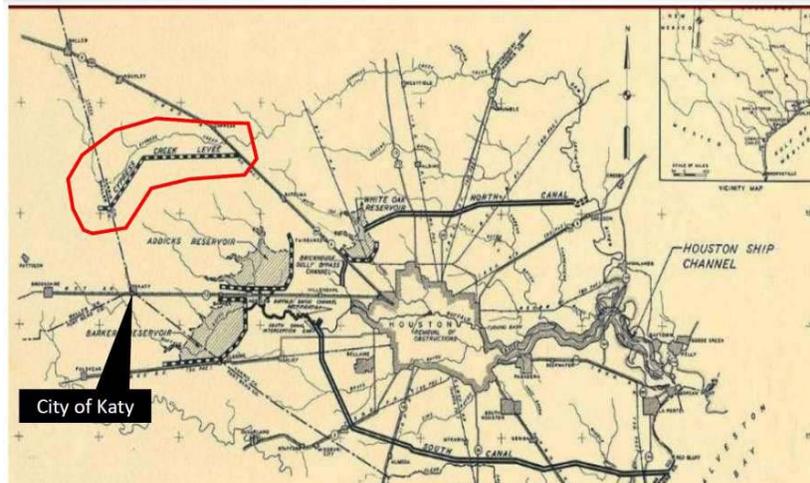
Before I begin, I do want to say this was one of the best recovery efforts I have witnessed. The picture on the far right side there embodies that effort. It has a Department of Public Safety official, an active-duty Special Forces, a Coast Guardsman, a Texas Guardsman, all working together in the same boat with the American flag in this area to save lives. So I want to thank everybody in the room responsible for that.

Now we are in the recovery/rebuilding phase, which includes, in my judgment, flood mitigation, as the FEMA Director mentioned.

I want to refer to this map. This goes back to 1940. The Army Corps of Engineers produced this map that created the Barker and Addicks Reservoir, but it also addressed another issue that they recognized was a problem or an issue back in 1940, and it was the Cypress Creek, which is outlined in the red there. At the time, that point in time, they recommended that a levee system be built to contain further flooding into Barker and Addicks.

[The information follows:]

1940 USACE Flood Control Plan



Chairman MCCAUL. What happened in Hurricane Harvey? I think it is very instructive, looking at this map, because when Hurricane Harvey hit, we had a watershed moment, a watershed waterfall moment, from Cypress Creek into Barker and Addicks, into Buffalo Bayou, and into downtown Houston.

So as we look at flood mitigation projects, we have had three floods in 2 years. I can't think of anything more important. In fact, it is my highest priority to build that third reservoir that should have been built a long time ago in the Cypress Creek area.

As I talked to the Governor, Governor Abbott, he tells me it is his highest priority as well for the greater Houston area.

So, Colonel, you and I have talked about this, but can you describe and explain to me where we are in the process of building this third reservoir?

Colonel ZETTERSTROM. So currently, Chairman, we are in the process of proposing to conduct a 216 study that is authorized under Award 86 to be able to evaluate existing flood control projects to determine any impacts and any environmental changes associated with that project. As you are aware, for the Corps to undertake any type of activity, we need to have authority, appropriations, and a non-Federal sponsor. In this case we have a non-Federal sponsor, the Harris County Flood Control District, that has expressed their intent to partner with the Corps, and we have the authority to be able to conduct this study. Certainly, Congress has appropriated \$17 billion additional in the bipartisan budget act. At this time, headquarters, assistant secretary of the Army for Civil Works and Administration, are determining what studies and projects will be allocated to funding by that bipartisan budget act.

Chairman MCCAUL. Thank you, and you are correct. We appropriated \$132 billion in the three supplementals to assist in this re-

covery and rebuilding effort, and it was the intent of Congress to include flood mitigation projects in that appropriations bill.

I know the first step is a study. But again, there is a sense of an emergency here, a feeling of an emergency in this area, the third time in 2 years that this has happened. So can you tell me where is the study in the process, and how long will that study take? Then how soon can we expect this reservoir to be built for the people of Texas?

Colonel ZETTERSTROM. First I would like to just highlight that the original third reservoir was in Wide Oak. As your diagram depicted, the area that was highlighted was a levee structure that was envisioned to prevent water from jumping the Cypress Creek Watershed into the Addicks Watershed. So the modern third reservoir really would potentially be a modification of a plan called Plan 5, which was initially studied by a study that was funded by the Texas Water Development Board and the Harris County Flood Control District.

That study really was looked at localized retention and wasn't envisioned to have a systems beneficial impact outside of the Cypress Creek Watershed. So we really need to evaluate the third reservoir to determine if it is the best alternative to be able to account for the dynamic that you described where water flows from the Cypress Creek Watershed into Addicks and Barker Watershed, and to evaluate all the other various alternatives that could potentially be studied and evaluated and proposed as future alternatives, and to then present to Congress in a report for potential authorization by a future Water Resources Development Act.

Chairman McCAUL. I know there is some expedited language in the supplemental, but moving forward—I am not an engineer, but I know from my constituents what happened in Hurricane Harvey, and I also know that it flooded the Barker and Addicks Reservoirs, after which there was a controlled release into the neighborhoods below. That was on Monday, August 28, and I heard this a lot—it happened at 1:30 in the morning.

I know there are 2 p.m., every afternoon there are conference calls. Can you explain to these residents why such little advanced notice was given when a controlled release dumped all this water into the neighborhood? Especially, couldn't this have been foreseen earlier where notification could have been given more in advance and in the daytime?

Colonel ZETTERSTROM. OK. I would like to describe the process that we used with the local governments to share information, in association with the Addicks and Barker Dams and Reservoirs.

For recollection, on the 24th of August, Hurricane Harvey was still out over the Gulf. It did not make landfall until late in the evening on the 25th of August, and didn't reach the Houston area until the 26th of August. We began communicating and sharing information with our local partners on the 24th of August. We conducted our first Addicks and Barker emergency coordination team call and provided the modeling conducted for the Addicks and Barker Reservoirs with our partners on the 25th of August, and then continued to share that information throughout the entire storm.

We also embedded liaisons with city, county, and State emergency operation centers to ensure that we were sharing information as seamlessly as possible.

Chairman McCAUL. My time has expired. We are going to hear testimony from the Mayor of Houston after this panel, and we may hear a different version of that story; I don't know. But I know this is a matter that is under investigation, and we will see how that plays out. But I know that a lot of residents were very upset with that decision at that point in time, and I will work with my Department of Homeland Security partners at FEMA and the Coast Guard moving forward with lessons learned, how we can do a better job moving forward, and also how we can streamline the process of FEMA and maybe have some legislative proposals to make FEMA work even better after these types of disasters.

With that, the Chair now recognizes the Ranking Member.

Mr. THOMPSON. Thank you, Mr. Chairman.

Mr. ROBINSON, are you aware of any outstanding reimbursements that units of Government have in your shop relative to this disaster?

Mr. ROBINSON. Sir, in reference to the public assistance program?

Mr. THOMPSON. Yes.

Mr. ROBINSON. We are working continuously with local governments and non-profits to be able to help with our program delivery managers, work through the public assistance program to scope their damages. So we are kind-of in that phase right now. We have gone out and done some advance funding for their emergency protective measures. The debris removal operations are now working toward those permanent work projects, working with them to develop the scope of the damages and cost estimates on those.

Mr. THOMPSON. So you are aware.

Mr. ROBINSON. Yes, sir.

Mr. THOMPSON. Is it your testimony that those reimbursements are not, in your mind, outstanding, that they are just normal?

Mr. ROBINSON. The process of how the public assistance programs work, we are still working on some of those scopes of work, collecting documentation. We have advanced some funds to be able to take care of the most immediate needs. On the permanent work, some of that process is just now starting.

Mr. THOMPSON. So have you shared that information with those units of Government that they could get advanced monies for this?

Mr. ROBINSON. Working with the State of Texas, we have advance money. We have regularly scheduled calls and meetings with local jurisdictions, along with State of Texas and their program delivery managers working at the public assistance program.

Mr. THOMPSON. FEMA does not do it; the State of Texas is responsible.

Mr. ROBINSON. We provide the money to the State of Texas, who then provides the money to the local governments or non-profits.

Mr. THOMPSON. So what kind of oversight do you provide the State of Texas in terms of making sure that they do this?

Mr. ROBINSON. We work very closely with them developing that scope of work, looking at the cost estimating—

Mr. THOMPSON. Oversight.

Mr. ROBINSON [continuing]. And then the grant management of that, of those grants.

Mr. THOMPSON. So if somebody made a request as to the status of any of those requests, you would have information on it?

Mr. ROBINSON. Yes, sir.

Mr. THOMPSON. Can you provide the committee the status of that information?

Mr. ROBINSON. Yes, sir.

Mr. THOMPSON. Thank you. Are you aware of the Red Cross being a no-show in certain areas during this storm?

Mr. ROBINSON. Sir, I am not. The Red Cross works directly with local governments, and we partner with them on ESF-6, mass care, mass response framework.

Mr. THOMPSON. So it is just your—

Mr. ROBINSON. I am not.

Mr. THOMPSON. You don't have any information—

Mr. ROBINSON. I do not.

Mr. THOMPSON. OK. Thank you very much.

Colonel, taking off from what the Chairman talked about on his concerns from an after-action standpoint, are there things that you think that could have been done differently or better given what occurred?

Colonel ZETTERSTROM. Ranking Member, I think one of the big lessons learned was just the fact that the various levels of government and the public partnered very closely to ensure that the impacts of Hurricane Harvey were minimized to the greatest extent possible. We have the Addicks and Barker emergency coordination team call process. It is a process that we are constantly updating with our partners. We will continue to use that process to ensure that the appropriate information is shared to ensure that the right decisions are being made at the appropriate levels of the government in the future.

With regard to some other lessons, obviously with navigation and restoration, navigation is responsible for more than one-third of Texas' gross domestic product. So we will leverage contracting capability, specifically multiple order task order contracts for both hydrographic surveying, hopper dredging, and we are working on a new contract mechanism for pipeline dredging to ensure that we can restore navigation back to all of the industry that operates off of those navigation channels in Texas.

Mr. THOMPSON. So is your testimony that, from an after-action standpoint, everything worked?

Colonel ZETTERSTROM. Harvey was an episodic event. It is being referred to as the largest rainfall event in the history of the continental United States. We made concerted efforts to ensure that all the appropriate information was shared with all of the decision makers and the public. I would say that no risk communication program is ever perfect, but we did make appropriate notifications, and we did provide the information necessary.

In addition to what I have already described, we leveraged social media extensively to communicate directly with the public. We also published multiple news releases and press releases, and I deployed my civilian deputy to conduct multiple-times-a-day press conferences.

Mr. THOMPSON. I understand what you did. I am saying that looking at it after the fact. The only thing I will ask you to do is if you have anything in writing relative to your review of what the Corps' mission was in this respect, that you think you need to do better, would you provide it to the committee?

Colonel ZETTERSTROM. Yes, Ranking Member.

Mr. THOMPSON. Thank you.

I yield back.

Chairman MCCAUL. The Chair recognizes the gentleman from Nebraska, General Bacon.

Mr. BACON. Thank you, and thank all four of you for being here, and thanks to your organizations for working hard for fellow citizens in a crisis emergency situation.

The data I heard this morning, 5 feet of rain in many places, 6 feet in some—I mean, that is just a tremendous amount and just puts in perspective the emergency this whole area encountered. So I thank you all for—to your organizations for the work you did.

My first question is, if all four of you could think about a shortcoming or two that you encountered, whether it was in your planning, maybe resources, and just share it with us up here, and what have you done to alleviate, perhaps, those shortcomings.

We will start off with the Director. Thank you.

Mr. ROBINSON. Thanks. So, a couple of things. I think Administrator Long, when he was here, unveiled the strategic plan, and I think it is really spot-on, that this can't just be FEMA's strategic plan but it has to really be adopted by the whole community, because it really does have to focus the emergency management community, and that starts with the private citizen. So how do we build a culture of preparedness? Because what we have seen here is Texans helping Texans, and that really is the culture of preparedness we need to build.

How do we get in the schools' basic first aid so that you can put a tourniquet on somebody, you can stop the bleeding, you can open an airway, you know how to make a calm and collected 9-1-1 call with the right information to get the responders there quickly, and then continue to build that on the community level as we move forward? I think that is first and foremost.

Then, how do we ready the Nation for catastrophic events? So what you have heard here, it is about partnerships, not only at this table at the Federal level but at the local, State, and Federal level, with our private sector and our volunteer agencies all have to work together.

Then finally, reducing the complexity of the FEMA programs, how do we work together and continue to learn from this event so that we reduce the complexity of our programs?

Mr. BACON. Because rest assured, we will have to do this again somewhere, so we want to build on it.

Admiral Thomas.

Admiral THOMAS. Congressman, thank you for the question. I know that you know from your Air Force time that when a military organization undertakes an operation like this, we follow it up with a comprehensive lessons learned, and we developed literally hundreds of tactical lessons learned and dozens at the strategic level.

I will touch on just a few that are really important to me as an operational commander.

In the Coast Guard, we were not ready for the 9-1-1 system to essentially become overwhelmed and for those calls to roll over to our operation center here in Houston, in my office in New Orleans, in Norfolk, and our headquarters in Washington, DC. So we are working hard to make sure we are ready for that to happen again, if it does. We were not ready to dispatch those calls and to track the resources that we dispatched. We are working hard to do that.

We were not ready to take calls for help on social media, and we are working hard to fix that.

Mr. BACON. A new mode of communication we have to build on.

Admiral THOMAS. Yes, sir.

One of the key lessons that I really want to highlight to this committee because it is so important, and it is really thanks to your efforts that we were able to be successful in Houston because we had a facility that was rebuilt, and it was rebuilt to the right standards of resiliency. I know, Congressman Jackson Lee, you were there with us. Because of that, and despite the rapid rainfall, we were able to continue to operate.

So a lot of lessons learned. For me as an operator, the keys are around our urban search-and-rescue mission and the fact that we need the right facilities in order to be able to serve the people when they need us.

Mr. BACON. Thank you for your candor. I think it is important we always build on lessons learned so we are ready for the next one.

Colonel Zetterstrom.

Colonel ZETTERSTROM. So, yes, Congressman. I briefly discussed our navigation authority. So expanding our contracting capabilities certainly is a key lesson learned, to be able to rapidly award new contracts or modify existing ones, and also to increase our hydrographic survey capability, and we are proposing to do that in conjunction with other Federal partners like NOAA, to leverage their hydrographic survey capability.

Obviously for flood risk management, there is inherent residual risk in any flood risk management project. So when a project is constructed, it is never possible to completely ameliorate all the risk associated with future flooding. So that remains a challenge, the ability to communicate that there is inherently always residual risk. It is not flood control or flood prevention, it is flood risk reduction.

Certainly, our ability to do that as an agency is tied back to our authorities and appropriations. The Corps of Engineers Nationwide has \$96 billion of authorized but unconstructed civil works projects. So our ability to be able to partner with our local partners is tied directly to our authorities and our appropriations.

Mr. BACON. Thank you. When I was a commander, we had a 100-year flood in the Missouri, and the Army Corps was very important to that. We did 400,000 sandbags, so I appreciate partnering with your team.

Ms. Van Duyne.

Ms. VAN DUYNE. Thank you very much. I would say, first and foremost, it would be wonderful if we could put more education into

allowing our citizens to know the need for flood insurance. I think that would have helped a number of our homeowners that were affected by that.

I would say No. 2 is trying to get more of our local leaders that empowerment that they need to start working on their planning as soon as the accident happens, as soon as the disaster happens. Having those relationships, having them know exactly who to call for questions, would be wonderful. We waited a few months, and I think if we had actually gone to some of these areas sooner, their plans could have already been in action.

I think another thing that we need to do is start looking at technology and taking advantage of the opportunities that brand-new technology puts into our hands. For example, an Airbnb model and having a database of available housing units, and having an app that people can go to, I know that Rebuild Texas is working on that, and I know that after this disaster we are going to be looking at best practices of being able to put more of those things together.

Mr. BACON. Thank you.

It looks like I am out of time, so I will yield back.

Chairman McCAUL. The Chair recognizes the gentle lady from Texas, Ms. Sheila Jackson Lee.

Ms. JACKSON LEE. Mr. Chairman, Ranking Member, let me express my deep appreciation for your presence here today, and hopefully I can capture the pain of those who are not able to be here, because my community is still in pain and still hurting, and I believe that this hearing hopefully will emphasize their pain and that they will have the opportunity to have the engagement of all the resources here while they are still suffering from Hurricane Harvey.

I want to acknowledge how quickly the city of Houston stood up a shelter in the immediate moments of Hurricane Harvey when the amount of water was not expected. The NASA Jet Propulsion Laboratory indicated that there were 275 trillion pounds of water which caused the crust in and around Houston to deform and sink nearly 1 inch because of the weight.

Mr. Chairman, I hope at the conclusion of the first panel you will allow me to just read some names into the record, probably unheard-of names, who were so crucial in and around our community.

I think it is important to note that in the midst of our hearing, researchers have already indicated that 14 tropical storms are going to come in 2018. There will be about seven that will be Category 3 or higher. In 2017, there was a total of 17 tropical storms, but only 11 were predicted. I think we have great reason to be concerned today, and also to be prepared, and I think that will be part of the line of questioning that I will now proceed with.

In the waning days of the hurricane, I introduced H.R. 3686 for \$174 billion to help this region, which I believe still is the amount to help us going forward because it will be many years before we repair.

We also introduced H.R. 3990 to help our small businesses, and I am hoping that, working with Congressman Brady, that this will be a part of our plan submitted to HUD under the block grant distribution.

We also believe that there needs to be a FEMA modernization bill that establishes both response and recovery. Mr. Robinson, I will be asking you questions on the recovery that we are dealing with right now.

Most people don't know the name of Dr. Leroy Gillam, but Dr. Gillam was in a parking lot with about 200 people, 50 children that were sick who had not had food for over 2 days. An infant was sick and vomiting with a fever. There were four Vietnam vets with PTSD, and Dr. Gillam himself was a heart patient. We scrambled to get him the rescue of the Coast Guard.

These are many stories that we will not hear.

Right now, the people that were probably rescued are in hotels, and some of them are in apartments. In a meeting that I held on March 5, those people came and said they are desperate because they believe they will be evicted around April 23 or 28.

Mr. Robinson, I am asking for an extension. I am asking for a response to these people who are frightened and fearful that they will have no place to go. Can you help me with that, Mr. Robinson?

Mr. ROBINSON. Ma'am, we are working with the State of Texas for the transition of the shelter assistance program. We do expect that they will give us an extension request probably sometime in the next week.

Ms. JACKSON LEE. Will that include individuals that are in apartments, that have been placed in apartments? We are defining whether they have been placed by Red Cross or FEMA, but I believe they have been—I think you saw some of them at our hearing.

Mr. ROBINSON. Yes. If we are looking at if they are in a direct lease program, that may be up to 18 months. We are working with your office to see if there are any cases that we need to look into.

Ms. JACKSON LEE. Thank you very much.

Let me thank the Admiral for your leadership. Obviously, we were having two phones to our ears, trying to work with you, and you were rescuing—Dr. Gillam was rescued by dump trucks and the Coast Guard.

What do you need from the command site perspective, from the outreach perspective, to be able to get to crisis areas during the time of the crisis?

Admiral THOMAS. Thank you for the question, Congresswoman, and thanks again for being there with our crews and helping us understand the needs of your constituents while we were trying to triage all those calls for help.

We are very grateful as an organization for the money that we have gotten recently in our supplemental that will help us restore our readiness and do things like improve our command-and-control capability and our ability to work across all the agencies. We will continue to work with your office through our staff to let you know what our additional needs may be in that regard.

Ms. JACKSON LEE. I look forward to it.

Let me ask Colonel Zetterstrom and Ms. Van Duyne the questions together.

Thank you, Colonel, for your work. As you well know, this was devastating. People are frightened. In a town hall meeting or a civic club meeting that I was at, I met one father who reminded

me of his experience of being in dark and dirty water with his children, unexpectedly having water come in where it had never come before, and that even when it rains now, his family panics. That is what a lot of people are, panicking in their homes.

So my question to you following up with Chairman McCaul is the question of retention pools, and when will you begin the study that so many of us have advocated for and put in legislation for, to study how the bayous work, Green Bayou in particular?

Ms. Van Duyne, we are needing direct payments. I think you are well aware of the requests by our county and city governments and Members of Congress advocating that direct funding down to the city and county so they begin to help people who do not have resources for their houses who are still in disrepair, as it is in north-east Houston, large parts of my district.

Mr. Zetterstrom, can you answer the retention pool and the study, please?

Colonel ZETTERSTROM. Yes, Congresswoman. So, with regard to the study, I described with Chairman McCaul the 216 study. I think the study you are referring to is the Greater Regional Watershed Assessment that we have discussed many times. Again, the district has expressed the studies and projects that it has determined it thinks it is eligible for consideration under the legislation approved by Congress and the bipartisan budget act.

So every district has communicated those studies and projects that they believe are eligible, and currently headquarters and Assistant Secretary of the Army for Civil Works, and ultimately the administration, are still determining the final allocation of those funds to provide to the district so we can begin the great work that the Corps does when it is given the resources.

Ms. JACKSON LEE. Is that the Army Corps headquarters in Washington? Because we really can't wait. Is that where we need to put pressure on, Colonel?

Colonel ZETTERSTROM. Yes, Congresswoman. But, I mean, the Corps is working this initiative as quickly as possible, but this is \$17 billion, and so certainly we want to ensure that the funds are allocated prudently and allocated to the most high-priority requirements.

Ms. JACKSON LEE. Let me just say, we are hurting, and we will put the pressure where it needs to be. We thank you for your service.

Ms. Van Duyne, on the housing direct payments, direct payments of community block grant dollars into the county and city governments?

Ms. VAN DUYNE. I appreciate that, and I want to thank your staff, by the way. In the weeks and the months following the hurricane, not only did they participate in all the calls that we had when I came to your office to visit them, but they have reached out to us with any questions and concerns that they have, and I appreciate that level of communication.

Ms. JACKSON LEE. Thank you.

Ms. VAN DUYNE. As you know, we have been in contact with both the city of Houston and the county, Harris County, regarding payments. We had a meeting recently in Washington with the GLO's office at those meetings. We are waiting right now for the GLO's

office to provide their State plan. They have the ability within the State plan to have sub-grantees, which could include the city or the county.

Ms. JACKSON LEE. Well, we will be working to make sure that we can just maybe—the Texas Land Board Commissioner has been very helpful. I want to make that very clear. But I do believe that we want just a direct payment from HUD to those counties and cities, with obviously the affirmation of the State and the Texas Land Commission. So we will be working with you. We know we are working on some matters to get that word to you from Members of Congress, and we hope that you can push word back to Washington that they need to move as quickly as possible. There is just a long line of people everywhere you go who are living in homes that are in disrepair.

Mr. Chairman, thank you very much, and I hope I will be able to cite these names because we are still very much in pain. Thank you so very much.

Chairman MCCAUL. The gentlelady yields back.

The gentleman from Texas, Mr. Culberson, is recognized.

Mr. CULBERSON. Thank you, Mr. Chairman.

First of all, I want to thank each one of you for your service to the country and the extraordinary efforts that you have put forth to help people in Texas, Louisiana, and Florida, and Puerto Rico and the Islands, to recover from these terrible storms.

The most urgent need we face today is to make sure that the money that Congress appropriated reaches the people who have lost so much. We, each one of us that represent the Houston area, have got constituents living on the second floor of their homes with all the sheetrock torn out on the ground floor. My brother was living in a driveway—in his trailer in a driveway up until a few weeks ago. He is just now back in the house, living upstairs.

One of our greatest frustrations as Members of Congress is when we pass legislation and appropriate money, and we are aiming it at disaster recovery, is the length of time that it takes to reach the hands of the people who are hurting the most.

So I am following up on Congressman Lee's question, because she is exactly right, we have a lot of people here who are really hurting.

Administrator Robinson, I wanted to ask about something you have authority yourself to do right away, and that is to waive this rental assistance problem that we have where if a homeowner's housing costs are less than 30 percent of their monthly income, they are denied rental assistance. But the Stafford Act and Disaster Assistance Act that Congress passed many years ago says that disaster assistance has to be based on whether you suffered a disaster. If you are flooded, you are flooded.

I represent a lot of folks who are absolutely not wealthy. They have all their money tied up in their house. A family, for example, of four, with \$210,000 in income, has to continue to pay their mortgage on a home that is flooded while they are renting an apartment and they have a number of kids who are going to school in that school district. So they have all those costs involved, and they are denied rental assistance, and this has happened many times.

Another individual who is single who has the same income but doesn't have the same costs is granted rental assistance. Now, that is a rule that you have the authority to waive.

When will you waive that rule, and what do we need to do to help ensure that that rule is waived so people can get the rental assistance they desperately need?

Mr. ROBINSON. The 30 percent or less, if that is what you are paying for housing, current policy doesn't allow for recertification of rental assistance. I was on the call when Governor Abbott and yourself met with Administrator Long. We are working right now with our headquarters policy and counsel to work through that, and we will be following up with you right after this hearing.

Mr. CULBERSON. Actually, your FEMA rules say that you are not going to take income into account. FEMA guidelines say you are not supposed to take income into account. The Stafford Act says you are not supposed to take income into account. So you are still studying about when or how you are going to waive this rule?

Mr. ROBINSON. Yes, sir.

Mr. CULBERSON. OK. That needs to be expedited. Whatever needs to happen, we need to get it done right away. I am privileged to have—my constituents have given me the time and the seniority to become a subcommittee chairman on Appropriations, and we all worked together as a team. The Texas delegation worked with the Florida delegation to pass these emergency hurricane supplemental appropriations bills. They totaled \$141 billion. I spearheaded the effort in the House. I made sure that we dealt with a lot of things in this legislation. In fact, Colonel Zetterstrom, the commanding general said this is the largest appropriation for flood mitigation repair and rebuilding that he has ever seen.

So we have a variety of financial tools at our disposal, Mr. Robinson. I really need your help in ensuring that the rental waiver, that rental assistance rule is waived so people can get help right away, and I will do everything I can to help expedite that. But that has to happen just as quickly as possible.

Ms. Van Duyne, if I could ask about the money that the Congress appropriated, there is an additional \$5 billion slug of disaster relief funding that has been allocated to Texas that is headed our way. What needs to happen for that money to be distributed as quickly as humanly possible?

Ms. VAN DUYNE. We are working with the GLO's office right now to make sure that they have their plan in. As you know, Congress requires that CBDG funding be provided to the most impacted in the distressed areas. Gathering that does take, unfortunately, a little bit of time. But Congress also requires that grantees develop plans for the use of those funds. So we are working with the GLO's office to approve their plan. We have cut in time the amount of time necessary to review that from 90 days to 45 days.

Mr. CULBERSON. For public comment.

Ms. VAN DUYNE. It is our—

Mr. CULBERSON. We thank you for that.

Ms. VAN DUYNE. Not just for public comments but for actually HUD's review.

Mr. CULBERSON. To review.

Ms. VAN DUYNE. We have also cut down the public comment period, but that was something requested by the GLO's office. We are expecting that once the action plan has been approved, it will be 1 to 2 weeks before they can actually start receiving funds.

Mr. CULBERSON. I know that HUD—for people here in the audience who are from flooded neighborhoods, if they are going to be communicating with their neighbors and family members, when Congress passes legislation, it authorizes the Treasury to release the money, in this case to HUD for the CDBG for disaster relief funds, and then the grantee you are referring to is the General Land Office.

Ms. VAN DUYNE. Right.

Mr. CULBERSON. So you then send the money to the General Land Office, and it is up to the General Land Office to distribute the money to individual homeowners, correct?

Ms. VAN DUYNE. Based on the plan that HUD approves, yes.

Mr. CULBERSON. The GLO is expediting that plan, but they haven't gotten it to you yet.

Ms. VAN DUYNE. Yes.

Mr. CULBERSON. That is where they would need the help, do everything we can to encourage Commissioner Bush and the GLO to get these plans put together and get them approved by HUD as quickly as possible, get money in the hands of people who have been injured.

Ms. VAN DUYNE. Absolutely.

Mr. CULBERSON. You also have authority at HUD to waive a rule that says that 70 percent of those CDBG disaster relief funds have to go to low to moderate income. Again, I represent an area of west Houston where people have got their entire life savings sunk in their home. They are not wealthy, but their homes have been destroyed, and that is their biggest source of equity in their life. I have asked—I know the members of the Texas delegation have asked that the 70 percent rule be waived.

What is the status of that waiver request so that 50 percent of the money can go to low to moderate income, and the other 50 percent can go to everybody else who has been flooded?

Ms. VAN DUYNE. At this time we are waiting for the plan to actually come in for applications. So we haven't received any applications to be able to have any kind of evidence to move that number. If, at the time—

Mr. CULBERSON. What are you waiting on?

Ms. VAN DUYNE. We haven't gotten any applications yet.

Mr. CULBERSON. From who?

Ms. VAN DUYNE. We are waiting for the evidence base to be able to change that, to say that the 70 percent is not a reasonable amount. If at some point in time, when we actually start getting applications, we realize that that number is too high and it does need to be changed, we can always review that.

Mr. CULBERSON. Are you waiting on the General Land Office, or who?

Ms. VAN DUYNE. We are waiting on the General Land Office, yes, to create their plan, but applications for that money, when it comes in. So if there is a need for additional monies beyond the 30 percent of the \$5 billion for more than the low to moderate income,

we will have an opportunity to review that at the time when we have data.

Mr. CULBERSON. We need to work with and encourage Commissioner Bush to get that plan done as quickly as possible.

Ms. VAN DUYNÉ. Yes. At this point in time we don't have any data to be able to change that ruling, but that can be revisited.

Mr. CULBERSON. Another intense source of frustration—and thank you, Mr. Chairman, for the extra time—is that there is still \$5 million sitting around from Hurricane Ike. That is just inexcusable. I mean, things have got to change. I can tell you, as a senior member of the Appropriations Committee, I am going to use every financial tool at my disposal to light a fire under every bureaucracy that I can find that is sitting on this money. It is not acceptable.

Ms. VAN DUYNÉ. I understand the \$5 million has been allocated to projects. It has not been spent.

Mr. CULBERSON. That is 2008. This is not going to happen on Hurricane Harvey. Things are going to change.

Ms. VAN DUYNÉ. We have actually put in stop-gaps for that which require that the funds, from the time they are actually appropriated and obligated, be spent within 2 years.

Mr. CULBERSON. OK, and I look forward to working with you on that, because I intend to do whatever it takes to light a fire under whoever is necessary.

As a subcommittee chairman on Appropriations, we are sort of like the CFO of these agencies, and we have the ability to stop the flow of money within the agency, and I do intend to do whatever it takes to make sure that people that are hurting get their money as quickly as humanly possible.

Ms. VAN DUYNÉ. Appreciate that.

Mr. CULBERSON. Thank you.

Chairman MCCAUL. Thank you, sir.

The Chair recognizes the gentleman from Texas, Mr. Gene Green.

Mr. GENE GREEN. Thank you, Mr. Chairman, for having this hearing. I guess in Texas we would call it the shoulda, woulda, coulda hearing. Hopefully we learn from this.

I am a native Houstonian. In the last number of years, we had Tropical Storm Allison that dropped 36 inches of rain over north and east Houston, Harris County. Of course, we had the tax day floods that devastated certain members, and also the Memorial Day floods.

But in 2001 we had Allison, in 2008 we had Ike, and here we have Harvey, and it seems like every 7 years the Lord blesses us with these catastrophic events, and we need to do better in responding.

My first question for FEMA, the decision to go to the State to get the GLO involved in it, I served 20 years in the legislature in the 1970's and 1980's, and I never knew the State land office to have any kind of disaster experience. Why the decision this time? Because that didn't happen in Ike, it didn't happen in Allison, to go to the General Land Office.

Mr. ROBINSON. Sir, I think we looked at the 2016 floods and the experience we had in Louisiana and we felt, as the Administrator said, that providing the option where these events are locally-exe-

cuted, State-managed, and Federally-supported makes a lot of sense, because a one-size-fits-all doesn't fit communities, and it certainly wouldn't fit an area 41,000 square feet with different demographics.

So we went to the State, asked them. The General Land Office has a lot of experience with HUD Community Development Block Grants, so they partnered with us to deliver housing programs jointly so that we did that together.

Mr. GENE GREEN. I know from the next panel, the mayor and the county commissioners, I don't remember the State land office having any interface at all with local governments on a regular basis, much less all of a sudden in a disaster doing that. That is why I think if you have a relationship with the city of Houston or anyone in CDBG, with HUD, if you send that money to the county or the city, and this is a disaster, I don't see why we would get the State involved, because the State, as you know, is having trouble getting their plans together and is keeping that money from getting to the local community who has a regular way that they deal with their constituents. I would think that maybe in Louisiana they have it, but in Texas we don't have that. The State doesn't have that much experience except for the law enforcement and, of course, when we have the flooding, every law enforcement, every EMS, everybody else is out there.

I was just wondering why—what works in Louisiana may not work in Texas, and I had to tell that to a lot of my new constituents after Katrina. They would say, well, we don't do this thing in Louisiana. I would say, well, you are in Texas now. So I think our local governments can be responsible for the direct more than having another level in the State that has no experience in doing disaster recovery.

The other thing, and I am glad that Congressman Culberson talked about it, up until literally Harvey, with some of our flood control projects with the Corps of Engineers, I was told on many projects in my area of north and east Houston that the cost/benefit analysis would not work. Our houses may be worth \$60,000, and if you have a \$200,000 house you can get more bang for your money.

But now I understand, and I know through my county commissioner, Ellis—in fact, I have three county commissioners I work with, Commissioner Cagle who I see out there, Commissioner Morman, and Commissioner Ellis—that all of a sudden that cost/benefit analysis has changed, particularly on the hunting bayou. I was in a meeting before this this morning that we do every month in that area, and we are still having issues with why the hunting bayou that goes into the Houston ship channel, the cost/benefit analysis, I am glad it has been changed. Again, just because you are poor and you get flooded, the problem we have in our neighborhood—and I know that all of us should have flood insurance, but if you have a constituency who typically are seniors and not wealthy, flood insurance is a luxury, and sometimes they are living in those flood-prone areas. So their premiums are so high, they can't afford it.

So Federal law right now says that if you have received a FEMA grant from 2001 or 2008 or any of these, then you are supposed to

cover yourself with flood insurance. Well, after a few years and you get low into it and your premiums go up because you are in a flood-prone area, you can't afford it. I have constituents who are both Medicaid and Medicare who had to cancel their flood insurance because they couldn't afford it, and they are not receiving any help. Thank goodness we had a lot of non-profits, churches, communities helping those folks get back in their homes, because they can't afford to move either.

So I am hoping that we will look at something on flood insurance and look at the affordability of the flood insurance for some of the areas where the property may not be worth a quarter of a million dollars, but it is also that people can't afford the premiums on the flood insurance. I think that needs to be considered.

One of the things on FEMA, like I said, I have been through lots of disasters, and it seemed like that we were reinventing the wheel. I was on the conference calls every day for the first couple of weeks, and I remember when we had Allison that we had FEMA centers, one-stop centers in the communities. I kept hearing on the phone we were going to do that, but then I understand the county decided to do—and I talked to the county judge, who is a friend—we would have a big center in Baytown, one in Katie, and then one at Green Point Mall, which is great. That is near our district; in fact, actually in Congressman Lee's district.

But it took us a while to get FEMA locations in the district. In fact, I was at the church this morning. You had one that was the first one there, and then you had one in Congressman Lee's district. But I remember at one time we had five of these, and the people could go to their neighborhood and do it without having somebody from near east-end Houston or near north side. They can't go to Katie. They can't even get to Green Point even, much less Baytown.

So I would hope FEMA would look at what was successful in previous storms that would do it. I want to thank FEMA because we were in session trying to come up with money for disaster relief, and I would be home on Saturdays and I would work with my State legislators, and I thank FEMA for sending a lot of these young folks with laptops to different churches in our district on a Saturday to be able to help people who may not be internet-friendly. In fact, some of my constituents probably have to call their grandchildren to figure out how to file something. My grandkids tell me that, too.

But I would hope that FEMA would look at some of the successes in earlier disasters instead of trying to reinvent the wheel all of a sudden. That is a concern.

But, Mr. Chairman, I don't serve on the committee, and I thank you for the courtesy of letting me be here today. I serve on Energy and Commerce, so I work on energy and health care. But when the water is up to your door, you don't worry about what committee you are on. So, thank you.

Chairman MCCAUL. Thank you.

The Chair recognizes the gentleman from Texas, Dr. Burgess.
Mr. BURGESS. Thank you, Mr. Chairman.

Although I am not from the Houston area, I did spend 3 years at Texas Medical Center many, many years ago, so I am familiar with the terrain and the weather in the Houston area.

Mr. Chairman, I am pleased that you have called this hearing today. I certainly want to thank our witnesses on this panel and the next panel. They were crucial in the response efforts.

But I also just want to take a minute to recognize the work done by our hospitals and medical personnel to ensure that their involvement is included in the record. I have testimony from the American Hospital Association, and I have a letter from the CEO of the Texas Hospital Association and the Associations' Hurricane Harvey Analysis Report outlining Texas hospitals' preparation strategies and priorities for future disaster response, and I would ask unanimous consent to include those items in the record.

Chairman MCCAUL. Without objection, so ordered.

[The information follows:]

STATEMENT OF THE AMERICAN HOSPITAL ASSOCIATION

APRIL 9, 2018

On behalf of our nearly 5,000 member hospitals, health systems, and other health care organizations, and our clinician partners—including more than 270,000 affiliated physicians, 2 million nurses and other caregivers—and the 43,000 health care leaders who belong to our professional membership groups, the American Hospital Association (AHA) appreciates the opportunity to submit comments on emergency preparedness and lessons learned from Hurricane Harvey.

On August 25, 2017, Hurricane Harvey made landfall on San Jose Island, Texas, south of Houston, as a Category 4 hurricane. After striking land, Harvey weakened to a tropical storm and, for 2 days, dropped heavy rainfall, causing wide-spread flash flooding. Over the course of a week, the storm caused record-breaking destruction, with more than 60 inches of rain and entire communities destroyed by flooding. Tragically, the storm caused 90 deaths and an untold number of injuries, both physical and psychological.

The Nation witnessed the best of humanity as neighbors saved each other from flood waters, emergency officials plucked stranded citizens from the roofs of their cars and homes, and strangers came to one another's rescue. Throughout the storm and its aftermath, the women and men of Houston's hospitals tended to their patients and provided care, even when their own families were being ravaged by the storm. These heroes cared for premature babies and patients just out of surgery during the worst of the storm and subsequent flooding. When hospital personnel could no longer operate due to safety concerns, they evacuated their patients to safety. Whenever possible, they kept the hospital doors open throughout the storm, even when they had to ration supplies to ensure every patient received high-quality care. These hospital heroes saved lives under the most difficult circumstances. We are incredibly proud of the women and men that provided care for those in need before, during, and after Hurricane Harvey.

LESSONS LEARNED FROM HURRICANE HARVEY

Hurricane Harvey was atypical in that it morphed into a massive storm in a very short amount of time. In previous hurricanes, communities have had more time to prepare and evacuate. It also moved slowly rather than quickly passing over the Houston area, allowing record rainfall to pile up and cause severe flooding.

While Hurricane Harvey was atypical, the lessons learned from the storm are not. We have discovered similar findings from other storms in other States and in previous storms in Texas. While we have seen vast improvement in emergency preparedness since Hurricane Katrina in 2005, there remain issues that have yet to be resolved.

Summaries of some of the main lessons learned by hospitals during Hurricane Harvey follow.

1. Lack of Availability of General Population Shelter Facilities to Take Medically Fragile People

During Hurricane Harvey many people with medical needs, such as those requiring dialysis or those who are ventilator-dependent, were turned away from shelters because the shelters were not equipped to handle their medical needs. This population turned to hospital emergency departments, despite not requiring acute medical attention, which stressed hospital resources, including personnel, food, and linen.

The lack of shelters for medically fragile populations has been a consistent challenge for hospitals during emergency situations. While there are laws that require general population shelters to be staffed and equipped to meet the needs of medically fragile populations, such as having the ability to provide dialysis and medical oxygen, the reality is that general population shelters rarely have these capabilities. There needs to be focused attention, planning, and resources by local, State, and Federal Government, and key partners to ensure that general population shelters are staffed, funded, and equipped to be able to meet the needs of medically fragile populations in the future.

2. Inappropriate Reliance on Hospitals as Shelters

As people were rescued from flood waters, hospitals were used as evacuation sites by emergency officials and ordinary citizens. The large number of people seeking shelter, in addition to the hospitals' existing patient populations, compounded by a shortage of hospital staff and the length of the storm, created serious resource challenges for hospitals and imposed additional burden on the limited number of hospital employees who were able to get to work.

The use of hospitals as shelters for the general population has been a consistent challenge for hospitals in emergency situations. Key partners need to educate their communities about appropriate evacuation sites before and during a storm.

3. Availability of Security

The availability of adequate security varied for hospitals during Hurricane Harvey. For those without adequate security, there were concerns about safety. With incredible demand for private security across the entire region, hospitals faced logistical challenges obtaining private security. This also has been an issue for hospitals during previous disasters that needs to be addressed with appropriate stakeholders.

4. Delivery of Supplies

Hospitals have a limited availability of supplies on hand at any given time. While they are used to having 3 to 4 days of "ride out" provisions, hospitals were challenged during Hurricane Harvey due to the amount of rainfall, which made many hospitals inaccessible for 5 to 7 days. Key community stakeholders throughout the country need to convene to develop strategies for delivering necessary supplies during emergencies.

5. Communication

During Hurricane Harvey, there were communication failures and challenges with State and Federal officials and the military. There was confusion about which hospitals were operational and which ones were evacuating, creating problems with resource allocation and placement of patients. In addition, there was confusion about hospital employees being exempt from mandated curfews due to being "essential" when traveling to and from work. In some circumstances, police turned away much-needed hospital personnel when they were traveling to work, even though these hospital employees had proper identification. Communication has been a consistent problem during previous emergencies. Local, State, and Federal Government and the military need to work with key stakeholders to ensure clear, timely, and consistent communication during disasters.

6. Effective Use of Volunteers and Donations

Coordinating the extraordinary outpouring of volunteers and donations during Hurricane Harvey was a challenge for hospitals. Getting credentials checked was an onerous manual process for out-of-State medical professionals and there were questions about the scope of liability protection for all medical volunteers. In addition, there were logistical challenges for the massive amounts of food, clothing, toys, and other items donated. Key stakeholders need to make the volunteer registry more robust so that volunteers from out-of-State can be effectively used during an emergency. States need to address and make clear the liability protections afforded to volunteers. In addition, planning for donations of large quantities of goods needs to

be completed in advance at the local level, including a plan for clearly communicating which goods are needed.

7. *Recovery*

When entire communities are devastated by a disaster, there are significant needs for mental health services. Engaging with local social workers, chaplains, psychologists, and other mental health providers to assist the community is paramount. In some instances, mental health providers from outside the community will be needed. Hospital employees face the strain of being separated from family and being in the middle of a highly stressful emergency, with unknown outcomes and dramatic episodes. In order to reduce anxiety and burnout, hospital employees must be offered mental health support in a timely manner.

Other important recovery measures include flood mitigation, building inspector guidelines for those hospitals that are recovering from flooding, and ensuring public health threats are mitigated.

Financial support is also critical in the recovery from disasters. In addition to the increased costs incurred as a direct result of the disaster, hospitals have lost revenue from closures, interrupted billing and claims filing, canceled patient care services, and decreased patient flow.

8. *Stafford Act Modernization*

The Stafford Act of 1988 was designed to bring an orderly and systematic means of Federal disaster assistance for State and local governments in carrying out their responsibilities to aid citizens.

The act prohibits investor-owned hospitals from qualifying for Federal Emergency Management Agency (FEMA) assistance. During Hurricane Harvey, numerous investor-owned hospitals provided critical resources to their communities and other not-for-profit hospitals, including taking in evacuated patients. The allocation of FEMA assistance should not be determined by the status of a hospital. The AHA strongly recommends that the Congress modernize the Stafford Act to allow all hospitals to recoup financial losses from a disaster.

PRIORITIES FOR 2018 REAUTHORIZATION OF THE PANDEMIC AND ALL HAZARDS PREPAREDNESS ACT

Congress recognized hospitals' and health systems' critical role during disasters in the Pandemic and All Hazards Preparedness Act (PAHPA) by creating the Hospital Preparedness Program (HPP), the primary Federal funding mechanism for emergency preparedness. Since 2002, the HPP has provided critical funding and other resources to aid hospitals' response to a wide range of emergencies. The HPP has supported greatly enhanced planning and response; facilitated the integration of public and private-sector emergency planning to increase the preparedness, response, and surge capacity of hospitals; and improved State and local infrastructure that help hospitals and health systems prepare for public health emergencies. These investments have contributed to saving lives during many emergencies, including Hurricane Harvey, the Boston Marathon bombing, the Ebola crisis and hurricanes in New York, Florida, and Puerto Rico.

Reauthorization of PAHPA must occur by Oct. 1, 2018. Below we outline our priorities for future investment to help prepare and equip our health care system in advance of disasters and public health emergencies.

1. *Preparedness Programs Should Be Authorized at Sufficient Levels*

The HPP and Public Health Emergency Preparedness (PHEP) programs are key to the foundational capabilities of health care and public health preparedness, respectively. These programs must be resourced at sufficient levels to ensure every community is prepared for disasters. In particular, HPP's highest level of appropriation was \$515 million; yet, in recent years, the program has eroded to only \$255 million, a vastly insufficient level given the task of preparing the health care system for a surge of patients, continuity of operations, and recovery. Following a year in which the Nation experienced record-setting natural disasters, and with projection of an increase in the severity and frequency of extreme weather events, we must do everything we can to ensure that the health care system has the resources needed to prepare for and respond to future disasters. In order to keep pace with the ever-changing and growing threats faced by hospitals, health care systems, and their communities, the AHA recommends that HPP be authorized to at least \$515 million per year. Furthermore, as the Centers for Medicare & Medicaid Services emergency preparedness rule goes into effect, the Department of Health and Human Services (HHS) expects as many as 50,000 health care facilities to seek inclusion in health care coalitions. This level of authorized funding would allow rebuilding of

the program as it transitions from capacity building to operationalizing health care coalitions. The AHA has endorsed H.R. 4776, the Hospital Preparedness Program Reauthorization Act of 2018, which would increase the level of authorized funding for the HPP to \$515 million for fiscal years 2019–2023, doubling its current level of appropriated funding. We strongly believe that this investment would go a long way to help better prepare and equip our health care system Nation-wide in advance of future disasters and public health emergencies.

2. Preparedness Programs Should Be Nation-wide

The HPP and PHEP must continue to provide funding to all existing awardees—all States, territories/freely associated States, and four directly-funded large cities. There has been no evidence that drastically changing the program’s formulas would provide any meaningful benefit or that the current formula is flawed. On the contrary, greatly reducing or eliminating funding from some jurisdictions puts other States at risk: Those States that border the eliminated State would take on additional burden from the unmet public health and medical needs in neighboring communities. Further, funding formulas that lean too heavily on risks from prior natural disasters ignore universal risks, such as an influenza pandemic or other outbreaks, and unpredictable threats such as acts of terrorism and mass shootings. Because disasters can and do occur everywhere in the U.S. States and territories, all jurisdictions must be properly resourced in order to have an adequate level of preparedness for all hazards.

3. Preparedness Programs Should Remain Distinct

The HPP and PHEP programs should continue to be aligned and coordinated but should be maintained as separate, distinct programs. The two programs serve a different but complementary purpose. PHEP, administered by the Centers for Disease Control and Prevention (CDC), builds the capacity of State and local health departments to prevent, detect, and respond to emergencies. HPP, administered by the Office of the Assistant Secretary for Preparedness and Response (ASPR), prepares the health care delivery system to provide essential care to patients by ensuring continuity of care during disasters. Both programs are needed to save lives and protect the public from emergency-related illnesses and injuries and each should remain under the jurisdiction of the agency that currently oversee its administration.

4. Broadening the Definition of Eligible Awardees under the HPP

The AHA supports introducing competition into determining HPP’s awardees in order to permit HHS to fund innovation and improve the Nation’s health security. In addition to States’ and directly-funded cities’ public health departments, we recommend that State and local hospital associations, as well as academic medical centers, be permitted to apply to serve as the awardee for their jurisdiction. This will allow HPP to fund those entities that present the most innovative approaches to health care delivery system readiness. A second benefit of introducing competition is the potential to address the misalignment between HPP’s health care mission and its current awardees’ public health mission. While most of the HPP’s public health department awardees work well with their private-sector health care delivery system counterparts to enhance preparedness and response, others struggle to work collaboratively with the private health care system that they also regulate. Through this proposal, private health care entities or hospital associations that have the organizational capacity and initiative to lead sector-wide preparedness and response activities also would be able to compete for HPP funds for their State or jurisdiction, not just health departments.

5. Improving the Efficiency of the HPP through Limits on Awardee-level Direct Costs

According to data collected by ASPR, public health department awardees have taken an average of 21 percent of the HPP award off the top for direct costs (i.e., personnel, fringe, and travel), in addition to their indirect costs, for overseeing award and subcontracts. Some awardees have taken far more than 21 percent of the HPP award for their direct costs. Further, ASPR has reported that high-performing awardees tend to have lower awardee-level direct costs (ALDC). With the substantial reductions in HPP appropriations in recent years, we are concerned that this level of skimming of limited program funds for ALDC leaves inadequate amounts for use by health care coalitions and health care providers to meet the critical capabilities of the HPP program. We support the efforts that ASPR’s team has undertaken during the current project period to ensure the appropriate use of HPP funds. In particular, for the 2017–2022 HPP project period, we are pleased that ASPR is improving the efficiency of the program and better supporting its partners in health care by limiting ALDC to no more than 18 percent of the HPP cooperative agreement award, which will gradually decrease to 15 percent by the last HPP budget

period. The AHA supports permanently capping the ALDC to 15 percent of the HPP award moving forward.

6. Immediate Response Fund

A pre-approved standing fund of emergency resources that would speed the public health response to disasters is necessary. We support the following principles in an immediate response fund for public health emergencies: Such a fund should supplement and not supplant existing, base public health and preparedness funds; it should not preclude supplemental emergency funding based on the scope, magnitude, and duration of the emergency at hand; and it should come with a mechanism to automatically replenish funds. Such a fund should be used in the short-term for acute emergencies that require a rapid response to save lives and protect the public. The Secretary of HHS should administer the fund, with Congressional oversight, to ensure relevant agencies receive dollars when needed for response.

7. Medical Countermeasures

The Public Health Emergency Medical Countermeasures Enterprise strategy and implementation plan should be strengthened to require coordination with State and local entities to ensure the products being developed reach the end-users in a timely and well-coordinated manner. Several programs created in previous authorizations have been successful and should be maintained, including emergency use authorization, the Strategic National Stockpile, and the Shelf-Life Extension Program for State and local stockpiles.

8. Environmental Health

Environmental health is a branch of public health that examines all the physical, chemical, and biological factors external to a person and incorporates the assessment and control of those environmental factors that can potentially affect health. Environmental Health professionals are extremely important in all-hazard emergency preparedness response, recovery, and mitigation due to their understanding of how disasters impact the environment. Environmental health professionals function in areas of controlling disease-causing vectors, food safety inspections, safeguarding drinking water, preventing chemical and radiation exposure, protecting the public from bioterrorism, and ensuring healthy working and living environments. Environmental health workforce should be included in the National health security strategy and workforce development.

9. Planning for Whole of Community

HHS should move away from an “at-risk individuals” definition to a more functional approach, including the functional needs of children and persons with disabilities. The current statutory definition of and references to “at-risk individuals” throughout PAHPA are insufficient at improving the preparedness and response of communities to each of the populations encompassed by that term. HHS (ASPR and CDC) should develop a strategic plan for addressing each of the key sub-population groups, e.g., pregnant women, children, and individuals with access and functional needs. PHEP and HPP must ensure awardees are engaging in meaningful planning and coordination with each of these subpopulations and the institutions that serve them.

10. Advisory Committees and Experts

The National Advisory Committee on Children and Disasters should be reauthorized and utilized as an important resource for the Secretary of HHS. Federal representatives should be ex officio, non-voting members, and the committee should incorporate additional expertise, such as mental and behavioral health and children with special health care needs. The National Preparedness and Response Science Board (previously called the National Biodefense Science Board) also should be reauthorized and strengthened to serve as a resource for the Secretary. CDC’s Children’s Preparedness Unit (CPU) should be authorized to ensure the unit becomes permanent. CPU should provide technical assistance to PHEP awardees to assist with their plans.

ALWAYS THERE, READY TO CARE—THE 24/7 ROLE OF AMERICA’S HOSPITALS

Hospitals are at the center of every emergency that our Nation confronts, from natural disasters to deadly diseases to biological warfare, terrorism, and radiological and nuclear events. Readiness is an imperative for America’s hospitals, one of the cornerstones of their essential commitment to safeguard the health of the public.

The women and men of America’s hospitals are critically important resources in responding to a disaster. It is when communities are pushed to the limits, such as when Hurricane Harvey hit, that we recognize that these everyday heroes’ dedica-

tion to their patients and communities is beyond measure. We applaud their 24 hours a day, 7 days a week commitment and dedication.

LETTER SUBMITTED BY THE TEXAS HOSPITAL ASSOCIATION

The Honorable MICHAEL T. MCCAUL,
Chairman, Committee on Homeland Security, United States House of Representatives, Washington, DC 20515.

The Honorable BENNIE THOMPSON,
Ranking Member, Committee on Homeland Security, United States House of Representatives, Washington, DC 20515.

DEAR CHAIRMAN MCCAUL AND RANKING MEMBER THOMPSON: On behalf of the 450 hospitals and health systems that comprise the Texas Hospital Association, I am pleased to submit, as written testimony before the House Homeland Security Committee, THA's report on hospitals' response and recovery experiences during and after Hurricane Harvey.

As you know, Hurricane Harvey was a storm of historic proportions. Its size, scale, and economic impact are unparalleled in the Nation's history. Nonetheless, just 20 Gulf Coast hospitals closed or evacuated during the storm—a remarkable feat given the storm's impact and a testament to hospitals' on-going emergency readiness investment and preparation and the industry's resiliency.

During the historic Category 4 hurricane, THA worked with hospitals all along the Gulf Coast and with local, State, and Federal authorities to coordinate response and relief efforts. THA is incredibly proud of every hospital in the affected areas that went above and beyond to prioritize care not only of patients but also of those seeking shelter from the storm in what was a protracted, challenging event.

Findings in THA's report are the result of feedback shared by hospitals from Harvey-affected areas and agency partners. The report identifies areas for improvement to better equip hospitals, governmental agencies and other organizations for the next disaster and to delineate specific next steps to take in the improvement process.

The report* includes specific recommendations on:

- Clarifying shelter facility requirements to care for residents with medical challenges.
- Providing adequate security for hospital facilities.
- Coordinating communications with law enforcement, military, and civilian groups.

Thank you again for the opportunity to submit written testimony. Texas hospitals were and continue to be integral in the recovery efforts of our Gulf Coast communities, and THA appreciates the committee's work on this issue.

If you have any questions about the report or Texas hospitals' response and on-going needs, please contact THA or THA's Federal representative.

Sincerely,

TED SHAW,
President / CEO, Texas Hospital Association.

Mr. BURGESS. Thank you, Mr. Chairman.

Mr. Robinson, you were kind enough to take a phone call from me the Friday before the storm sequence really got under way, and I appreciated you doing that, and I felt it was important.

Mr. Robinson, the FEMA Region VI headquarters is in Texas, the area that I represent. Mr. Robinson, on Monday, the following Monday, I went down to the Region VI headquarters and saw first-hand your personnel deep in their activities with the response. I guess the question comes as far as the staffing. It looked like there were a lot of people. There were a lot of hands on deck. But this was a storm of the magnitude that no one had ever seen before. So with respect to staffing, what are your thoughts, what are your conclusions, having gone through this and looking forward to what is the next hurricane season? How are you doing from a staffing perspective?

*The report is retained in the committee files and available at: <https://www.tha.org/Harvey>.

Mr. ROBINSON. Thank you, Dr. Burgess, and thank you for your focus on preparedness. I know you have an event coming up at the end of the month, so thanks for focusing on preparedness.

For Hurricane Harvey, as you said, we had a pretty big footprint here in Texas, and I can't say enough about our partners at the local and State levels. There is a lot of great capability here, so that really is a force multiplier for us as well.

As an agency, we are currently looking at our force strength and what are the things we need to do going into the 2018 season. Obviously, the 2017 hurricane season and the wildfires really taxed our system. One of the things that we did employ was a surge capacity force, which is members of the DHS family volunteered, came to work, got some just-in-time training, went out to the field. That was highly successful, it really was, and I want to thank the men and women of DHS and other Federal agencies who stepped up and came to the plate.

We also reached out to State emergency managers and brought them in to augment our work force, and that was another very successful thing, so we can continue to build on those as we look at what are our continued staffing needs as we go into the 2018 season.

Mr. BURGESS. Thank you for that.

I will just, Mr. Chairman, make the observation that in September, the Energy and Commerce Committee had a field hearing in San Juan, Puerto Rico, and I think there it was like 17,000 Federal employees in Puerto Rico at that time. At the same time you were working so hard here to recover, they had obviously been significantly impacted.

It brings up the question, Administrator Robinson, and I have unfortunately seen a number of times where we have been through disasters—Rita; Katrina, of course, down here; Sandy in the upper East Coast—and it always seems like we are rebuilding structures that were damaged by the last storm, and yet you are required to rebuild to the current code. Is that a problem in going forward? Should we be building for greater resiliency, expecting the next storm might be worse?

Mr. ROBINSON. I think that fits right into our Administrator's strategic plan where we talk about building a culture of preparedness. We do have to look at building more resiliency as we build back. So we are really looking, as we scope and cost-estimate the projects here in Texas for permanent work, as we are building in our mitigation programs, when we are building those, we are building back to higher codes and standards. We think that is vitally important.

Mr. BURGESS. Good.

Admiral Thomas, you mentioned social media heat maps, a phrase I had not heard before. So you actually were monitoring the Twitter feeds and the Facebook feeds while this was going on?

Admiral THOMAS. Congressman, thanks for the question. It points out the incredible innovation, ingenuity, and flexibility of our Coast Guard work force. It became apparent to us pretty early on that people were reaching out to the Coast Guard through Facebook, through Twitter and Instagram. We had Coast Guard men and women around the country on their own develop heat

maps and send them to our office in New Orleans so we could see where the concentration of those social media outreaches were coming from.

We are going to try to do that in a more structured way in the future. But it just is another example of how the entire Coast Guard team pitched in to help us out here in Houston.

Mr. BURGESS. I would encourage the structure, because if you watch cable news coverage of this event, and an interviewer would be interviewing a very sympathetic figure, and at the conclusion of the interview, of course, the interviewer is going off to something else, but the sympathetic figure is still waiting on help to arrive and worried that they are going to survive the storm sequence. So I thank you for that effort, and I thank the people who took their own initiative to do that, and I think it is extremely important that we use all possible means.

Then finally, Ms. Van Duynes, let me just ask you a question on the Community Development Block Grant issue. I always thought the Community Development Block Grant was a way to get money to the local level faster than going through State agencies. Is that not correct? Are the CDBG funds not going directly to municipalities and county facilities?

Ms. VAN DUYNES. There is CDBG, and then there is CDBGDR. Disaster recovery grants can go to a number of different places. They have additional restrictions on them, and when dealing with the scope and the size of the various cities, communities, small and rural that were affected, our relationship with the GLO is actually quite extensive, and they have spent billions of dollars on CDBG and CDBGDR moneys within the State of Texas. It was a natural fit, and I think the Governor agreed that that was a natural fit for the CDBGDR program to be run through.

Again, we provide them with a number of flexibilities, including the idea of being able to grant to States and counties as they see fit. But we believe the local level is the best level to know what their needs are.

Mr. BURGESS. I agree with that, and I think that was Mr. Culberson's point, that the money has to get to the place where it is needed as fast as it possibly can.

Thank you, Mr. Chairman, for letting me be here. I will yield back.

Chairman MCCAUL. Thank you.

The gentleman yields.

The Chair recognizes the gentleman from Texas, Mr. Al Green.

Mr. AL GREEN. Thank you, Mr. Chairman. We were informed that the mics would always be hot.

[Laughter.]

Mr. AL GREEN. I also thank the Ranking Member, Mr. Thompson, for his outstanding work in this area as well. Thank you for allowing me to be an interloper today.

Thank you to the witnesses for appearing.

I also want to thank many of the persons who will have a hands-on experience with much of what we will do going forward, the county commissioners, city council persons, persons who are associated with hospitals, persons who are on the ground and have an

understanding of what is going on, which may be a good segue into this CDBGDR funding.

In 2015, when we had the Memorial Day flood, is it your recollection that the funds were allocated to Houston directly, or were they sent to Houston by and through some other entity?

Ms. VAN DUYNE. I believe that they were sent through—quite honestly, I have been with the agency for a year, so that would be beyond my scope. I apologize for that.

Mr. AL GREEN. I would like to have someone check.

Ms. VAN DUYNE. If you let me know the information, I am happy to get that to you.

Mr. AL GREEN. Please do. I greatly appreciate it.

I am concerned about the funds going through an entity as opposed to coming directly to Houston, and the rationale would be better shared with you, I am sure, when the mayor testifies. But Houston has shown that it is responsible. Houston is not unlike many other large urban areas where these funds have been directly sent to them such that they can get them to the points of need immediately. So I want to add my voice to those who are calling for Houston to receive direct funding. I think it is exceedingly important that we do so.

Moving now to previous disasters, we spent a lot of money on recovery after Harvey, tax day, Memorial Day, a lot of money on recovery. This really is a time for us to spend a lot of money on prevention. It is my hope that we will give serious consideration to some legislation that I sponsored and my colleagues, over 100 of them, co-sponsored, and that was to deal with the various creeks and tributaries, Greens Bayou, Brays Bayou, Huntington White Oak Bayou. All of these, if properly completed, will allow us to eliminate some and mitigate a lot of the flooding. We just have to complete them.

We have tried to craft legislation working with Congressperson Culberson such that areas that have been repeatedly inundated will receive some attention.

We have a place called Meyerland in Houston, Texas. Persons are repeatedly having to move out of their homes.

So, Colonel, in terms of dealing with these preventive measures, can you give me some sense of how you will approach this question of prevention that has plagued us not for just this year or the last 3 years but literally decades in some cases with some of these projects? Your response, please.

Colonel ZETTERSTROM. Yes, Congressman. Thank you for the question.

The Corps calculates that flood risk management projects return \$9 in flood risk mitigation for every dollar spent in structural solutions. However, I have previously testified that the Corps has more than \$96 billion of authorized but yet unconstructed projects at this time. Some of it, I think, is tied to Congressman Gene Green's comments about cost/benefit ratios and the National economic development threshold where a flood risk management project has to ensure that the benefits outweigh the costs and that we propose alternatives that have the highest net excess benefits.

There are some creative ways. You mentioned Greens. We are actually constructing Greens Bayou project because of some creative

solutions to require the contractors to actually re-sell the borrowed material from the excavated detention basins or the channels, and therefore reduce the cost of the projects.

Some of this, as you have indicated in the legislation of the bipartisan budget act, was specifically directed to the five States and two territories directly impacted by Hurricanes Harvey, Irma, and Maria. So the Galveston District is still waiting on the allocation of what funds it will receive from that legislation.

Mr. AL GREEN. May I, Colonel, ask you about Brays?

Colonel ZETTERSTROM. So Brays actually is an on-going—it is a Section 211–F project. It is a project that the Galveston District receives Federal funds typically on an annual basis to reimburse increments of completed construction by the Harris County Flood Control District. In fiscal year 2017, for instance, I think we received approximately \$11 million to reimburse the flood control district. Obviously, the 2018 omnibus was recently passed, so I don't yet know what the future funding might be to complete that project. But certainly what you described in your question about these authorized flood risk management projects that haven't been completed I think is at the heart of the discussion about our ability to be able to partner and to complete these projects in the future.

Mr. AL GREEN. Well, when we worked on these projects to include all of these various projects, these bayous, if you will, we worked with the Corps, we worked with the local, the county, and we came up with the number of \$311 million: \$311 million spent to save billions makes a lot of sense. I am sure it makes sense to you, too. So let's see what we can do to get the \$311 million quickly.

Let me share this with you. I have small cities also, Stafford and Missouri City, and the reimbursement for them is a problem. Mr. Robinson, these small cities, you will hear more about their concerns in a moment, but can you give me some sense of how you are going to expedite help to the small cities?

Mr. ROBINSON. Yes, sir. We signed an auxiliary manager agreement with the city that is working with the Texas Division of Emergency Management that is meeting with them regularly to look at their scope and cost and disasters. We have expedited some funding for emergency protective measures, so the Category A and B, the emergency removal and emergency protective measures. We will continue to work with them as we get the documentation put together to reimburse them, or even provide some advance reimbursement.

Mr. AL GREEN. If I have a small city that contends that they have gone through all of the paperwork and they are still not getting the help, who do I need to talk to to expedite things?

Mr. ROBINSON. I can give you a point of contact at our field office to be able to work with, and we will work with your office to make sure we address that. I think we are going to have a discussion tomorrow with the Missouri City mayor so we can work through their reimbursement.

Mr. AL GREEN. Mr. Chairman, I just want to ask one more question.

NFIP, tell me where we are in terms of the balance in the coffer.

Mr. ROBINSON. The National Flood Insurance Program?

Mr. AL GREEN. Yes.

Mr. ROBINSON. I will have to get back with you on that.

Mr. AL GREEN. You know that is exceedingly important. NFIP has to be shored up, and that is a Congressional responsibility. I am not eschewing our responsibility, but I do need to know what is there so that we can propose appropriate legislation for NFIP.

Mr. Chairman, thank you for being generous with the time.

Chairman MCCAUL. The gentleman yields back.

The gentle lady from Texas, Ms. Sheila Jackson Lee, is recognized for the submission of questions for the record.

Ms. JACKSON LEE. Thank you very much, Mr. Chairman.

Colonel, one of the questions that I asked was about retention ponds, and I don't think you were able to get that, if my recollection serves well. So I would like to see where they are in terms of having that back in writing.

Let me collectively indicate as well a process, Colonel, for expedited work and repair. Greens Bayou I would put in your eye primarily because it is a bayou that has begun work or had work begun before Hurricane Harvey. I would appreciate a written response back on that.

Direct payment, I appreciate a response in terms of HUD listening to our plea and getting that done.

Finally, maybe I was in Washington but I don't recall Administrator Brock being here in Houston. You know, I have invited him. We are in the midst of recovery. I think it would be more than appropriate for him to visit and understand what recovery is and the people who are still suffering. So I would appreciate you carrying forward that request.

Mr. Chairman would be gracious enough to allow me to call off the names of some of those who were working so intensely, from first responders to cities and others, at the end of the hearing. I thank Mr. Chairman. I put those requests into the record.

The last one is I gave you numbers about future floods or future hurricanes. I would like to have a response from all of you of how prepared you think we are for the hurricane season coming up in 2018. I would appreciate if all of you would give a response to that.

Thank you, Mr. Chairman.

Chairman MCCAUL. The gentle lady yields back.

In the spirit of bipartisanship, the Chair recognizes Mr. Culber-son for one question.

Mr. CULBERSON. Thank you, Mr. Chairman.

Since I know everyone in the room has their cell phones turned off, if there was a kidnapping in the area, we would all get an Amber alert, even with your phones turned off. I want to ask, since we have all these State and county officials here, and city officials here in the room, with your help and guidance, could we all come up with a plan to create a flood alert system? The technology is so good. The Corps knew several days in advance, and I know was communicating with local officials, what neighborhoods were going to get flooded when the water spilled around the dam.

We should be able to create a flood alert system that can alert your phone, whether you have a flip phone or a smart phone, depending on where you live, that water is coming, because that

water that hit everybody early Monday morning is what caused the problem.

So why don't we all work together, Mr. Chairman, to find a way to pass legislation, working with our State and local partners, to create a flood alert system for people whose homes are in danger of being flooded? It needs to be done.

Chairman MCCAUL. Excellent idea.

I want to thank the witnesses for your valuable testimony. Lessons learned is more of a looking at things through a critical eye. But I just want to thank all four witnesses and who you represent, and everybody in the room who was part of the response and recovery effort, for your service to not only this Nation but to this great State of Texas.

So with that, we are going to take a short break and then come back for a second panel.

[Recess.]

Chairman MCCAUL. We are pleased to welcome our second panel of witnesses. Our second panel includes the Honorable R. Jack Cagle, commissioner for Harris County, Texas, Precinct 4; the Honorable Sylvester Turner, the mayor of Houston, Texas; the Honorable Allen Owen, the mayor of Missouri City, Texas; Mr. Mark Sloan, the emergency management coordinator for Harris County, Texas; and finally, Ms. Carol Moore, the disaster chair of the Texas State Conference of the National Association for the Advancement of Colored People. Thank you all for being here today.

Your full statement will appear in the record.

The Chair now recognizes Commissioner Cagle for his testimony.

**STATEMENT OF R. JACK CAGLE, COMMISSIONER, HARRIS
COUNTY, TEXAS**

Mr. CAGLE. Chairman McCaul, thank you. Ranking Member Thompson and the fellow Members of this panel, I appreciate you being here so much.

In preparation for my thoughts today, those of you—and I have six U.S. representatives in Precinct 4 here in Harris County that I deal with—you know that I tend to try to read a little more obscure works of literature to break those normally wasted hours between midnight and 4 in the morning. In preparation for the day I was reading St. Augustine.

He made a comment that in his reflection of God, that even though there were many words that he could use in his books to try to describe God, it was as if he was still mute.

Today, as we have been hearing this testimony before you, as we described the wonders of what has occurred in our midst with Harvey, all of these words are but a droplet when we compare it against those things that occurred when we had 14 months of rain in 4 days here in Harris County and along our coast.

Chairman, as you came in, and, Ranking Member, as you came in, you noticed some pieces of equipment that were outside. As the storm started to come into Harris County, we were utilizing those bits of equipment to try to ready ourselves for what we knew would come, a Gradall machine which picks up and clears our ditches, our dump trucks to where we would saw and cut those things that

might impede. So we utilized that equipment to ready for the blast that would become Harvey.

As Harvey came, then we began to continue to use that equipment to bring out our barricades and to move them, and move them again as the storm began to rise, and to clear the pathway so our first responders could be there. Your road and bridge crews were the ones that were there, like the old Seabees of World War II that cleared the pathway for the infantrymen. Your road and bridge crews in this county and in the city were the ones that were there first, responding before the first responders so that the first responders could do their job, putting up the barricades, moving them, and moving again.

As the storms rose, we began to do our rescue operations, and the first rescue we had to do was we had to rescue the rescuers, because the courthouse where the sheriffs and the constables were operating out of, it flooded. So we moved them into our road and bridge camps, which actually turned out to be a wonderful thing since I was living there at the road and bridge camp at the time, and those guys were well-fed.

So as we began to come together to find resources that were there. We then also, as Congresswoman Sheila Jackson Lee mentioned, began to use our dump trucks as our rescue vehicles, designed normally to haul debris. Now we used them to haul people in the midst of the storm. We began to call it Operation Dunkirk. We didn't know what we had, but whatever it was that we had, we used it every opportunity.

You noticed out there those dump trucks. You also noticed outside our buses, which are normally reserved for our senior adult program. But during the storm, they were the people movers. We would use the dump trucks to move in, to pick up folks, haul the folks out, and then put them in our buses to take them to the shelters that were springing up everywhere.

We are so grateful to the partnership of our school districts. I have nine in Precinct 4 that I serve. In that zone we were able to work with them, to work with the city of Houston, to work with the NRG Center, so as there was a need that arose, people came together. As we needed to rescue people, we found an amazing thing occurring in our midst.

I would get the phone call from a city council member, which we have had a number who have been here today with the city of Houston, saying we have a group of folks over here, we need your help. But by the time we got there, in Kingwood or in Spring Branch or in other areas, we found that neighbors helped neighbors, and we did not as often have to go into the high water as we would have normally expected.

Let me share with you something else, that we have a unique situation here in Harris County that is different from anywhere else in the country. You see, Precinct 4 is one-fourth of Harris County. I worked with a body in Harris County which, if Harris County were a State, it would be larger than the entire population of Louisiana. We heard from Louisiana earlier.

Precinct 4, if it were a State, would be larger than 10 States. I have seven cities that I serve. Earlier, Congressman Green was making a reference to his smaller cities, but they are only smaller

cities in comparison to the city of Houston. They are actually significant cities in comparison to other cities throughout the State of Texas.

On the west, I represent a part of Katy. Off of 290, I represent Jersey Village. Off of 249, Tomball. Off of 45, I represent the Township of Woodlands and Old Town Spring. Off of 59, I represent Humboldt. Then all through the region, I welcome and nestle the beautiful city of Houston within the arms of Harris County Precinct 4 and Harris County.

But where there is not a city, we have more than 2 million people in this county that do not have a mayor, and your county has to render those services directly to those people. That is why I welcome the comments of Congressman Green and of Sheila Jackson Lee with regard to the desire to bring funding directly to the city of Houston, but do not forget the unincorporated Harris County.

The city of Houston would be the fourth-largest city in the country, but unincorporated Harris County, if it were a city, would be the fifth-largest city in the country, in the Nation. So bring it directly to the county as well as to the city. Do not forget those populations to which we have as many underserved populations outside Beltway 8 as we have within Beltway 8 within the county, and we need to not forget their needs as well.

So as the rescue continued, then we began the operation of the removal, and the removal operation was serious. But through cooperation with the city, with the county, with the contractors that we had in place, we began to remove debris at a remarkable rate. We were able to remove more debris every 2 days than we removed in the tax day flood.

The tax day flood we have heard reference to was a 500-year flood event. Memorial Day is a 500-year flood event. We in Harris County actually, in the last 3 years, we were in a drought, and during that drought we talked, Congressman McCaul and Congressman Culberson—Congressman Poe is not here, he could not be with us today, but he was involved in this—of trying to come up with ways of trying to create some means of creating a multi-purpose leg, a third reservoir that might have water for us when we were in the drought, as well as having storm protection.

But there was not that public support at the time. I would submit to you that after Harvey we have the public support, and the time is now for us to begin to look forward, to ready ourselves for the future and to cooperate with the State, with the county, with the cities, and with all others that are here so that we can make our place a safer place, so that we do not have to ready ourselves nor reach in the moan of heroic endeavor but that we can hail the wisdom of these bodies coming together to prepare for the future.

I yield the rest of my time. Thank you.

[The prepared statement of Mr. Cagle follows:]

PREPARED STATEMENT OF R. JACK CAGLE

APRIL 9, 2018

IT CAME

Hurricane Harvey was the worst flood event to ever impact the Harris County region. A few statistics helps put the storm in perspective:

- The storm dumped about 1 trillion gallons of water over Harris County, producing the largest recorded rainfall event in the continental United States and flooding 8 percent of the county.
- Damage estimates range from \$120 billion to \$180 billion.
- In Precinct 4, nearly 11,000 homes flooded with more than 2 feet of water. More than 130,000 homes and businesses throughout Houston and Harris County flooded and 600,000 cars were damaged.
- The hurricane killed 36 people.
- The storm generated an estimated 8 million cubic yards of debris in Houston. By comparison, Hurricane Ike produced more than 5 million cubic yards of debris in the area. That's nearly the same amount of debris caused by Hurricane Alicia (1983) and Tropical Storm Allison (2001) combined.

WE CAME

During the worst of the storm, Precinct 4 employees worked to provide essential services, even while some dealt with flooding in their own homes. Some of these services included operating a 24-hour phone bank the week of Harvey, providing updates to the public through social media, and rescuing flood victims. Precinct 4 also had staff at the Emergency Operations Center (EOC), providing updates on the latest disaster developments 24 hours per day for 9 days of EOC operation.

Precinct 4's Road & Bridge Department started preparing for Harvey days before the storm hit and stayed busy through the clean-up phase. Although their official duties included clearing roadways for emergency responders and closing flooded roads, Road & Bridge crews did much more. Many staff members willingly put themselves at risk rescuing flood victims. In the mean time, other staff members located staging areas and emergency supplies until permanent shelters could be established.

Precinct 4 deployed 14 maintenance trucks for rescue service and two Senior Adult Program passenger buses to transport flood victims throughout the precinct. Additionally, Precinct 4 mobilized its 18-wheeler and flatbed trailer, usually utilized to haul equipment, to relocate the Office of Emergency Management's equipment to NRG Park.

The high waters threatened the integrity of several levees throughout Harris County. One harrowing moment concerned the evacuation of the Inverness Forest subdivision. Harris County Flood Control District discovered that the levee had been compromised. Precinct 4 Road & Bridge crews along with deputies from the Harris County Sheriff's Office and the Constable's Office rushed into the neighborhood to evacuate the remaining citizens under the threat of a complete levee collapse. Thankfully, the water began to recede and flood control staff along with community engineers were able to shore up the compromised portions of the levee before a full breach occurred.

WE OVERCAME

Once the storm passed, Precinct 4 opened a self-help storm debris drop-off site for the public that eased demand on county debris removal services and benefitted constituents who did not wish to wait for county pickup. We are grateful for U.S. representatives Michael McCaul and Kevin Brady for petitioning FEMA to allow us to operate the self-help storm debris drop-off site at 13928 Humble Road in Tomball. We operated the site daily from 9 a.m. to 5 p.m. through December and collected 194,648 cubic yards of debris. Of that number, 21,803 cubic yards was dropped off by the public.

One of the FEMA requirements of the self-help storm debris drop-off site was that owners must accompany their load. This requirement made it extremely difficult for nonprofits, community organizations, volunteers, and church groups mucking out and removing debris from the homes of constituents unable to help themselves. Requiring homeowners to accompany those loads impeded the process and made it much more difficult.

We also managed to remove a record 534,109 cubic yards of debris in three passes in partnership with contractors and TxDOT. During the first pass of debris removal, Precinct 4 cleared approximately 260 homes per day and completed debris removal in record time. In comparison, Precinct 4 took 3 weeks to complete the first pass of debris removal after the Tax Day Flood. After Harvey, our Road & Bridge crews in conjunction with our contractors removed about the same amount of volume in 2 days.

Our progress was slowed by high demand for contractors and the FEMA requirement that homeowners needed to wait for inspectors before we could remove their debris.

In addition, Precinct 4 helped organize two Disaster Recovery Fairs and assigned staff to work at food distribution sites. We are grateful for cooler donations from RTIC and water donations from HEB, Kroger, and Wal-Mart. Other duties included building temporary roads at the self-help storm debris drop-off site in Tomball as well as cleaning up damaged parks and flooded county buildings. Some staff even volunteered at food banks and shelters or were diverted to other tasks during the storm.

The county also moved quickly to help residents rebuild after Harvey. FEMA requires owners of flooded homes to have a permit to rebuild. To expedite the process, county staff went door-to-door in all flooded areas to issue permits.

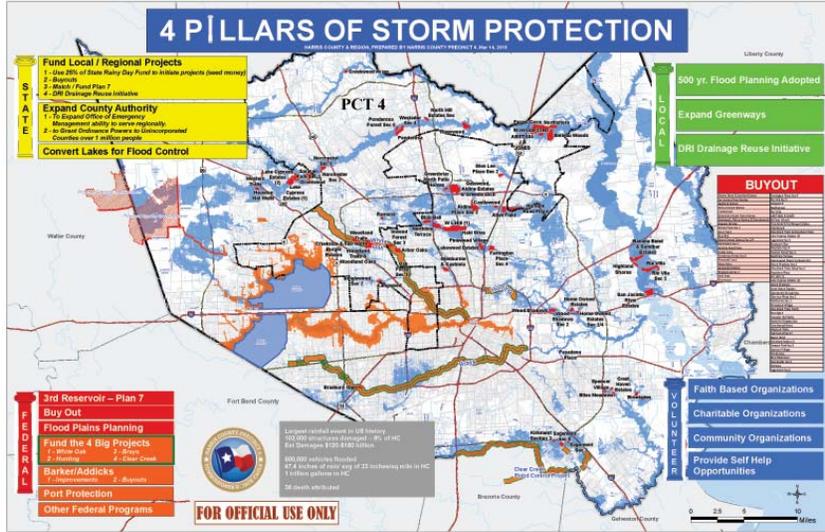
During the recovery phase, Harris County Public Health offered free water testing at 4 locations in Precinct 4, while Harris County Flood Control District gauged interest in a home buyout program.

TO CONTINUE OVERCOMING

As we near the next hurricane season, it's now imperative to begin work on additional flood control projects and repair the systems we already have.

My top priorities include the following:

1. Build a third reservoir that takes into consideration the anticipated growth of the region and the lessons learned from the might and size of Harvey.
2. Expedite the buyout process, so local entities can raise the funds, buy the homes, and wait for Federal reimbursement. This will free homeowners from the prolonged agony of waiting to see whether they will be approved for the Federal buyout program and aid them in deciding whether they need to rebuild or not in anticipation of being bought out.
3. Floodplain planning.
4. Fund the big four projects: White Oak Bayou, Hunting Bayou, Brays Bayou, and Clear Creek.
5. Make improvements to Barker/Addicks reservoirs and pursue home buyouts to remove homes from the flood pool.
6. Remove the "checkerboard" problem and allow the acquisition of streets through the FEMA buyout program.
7. Control flooding and alleviate drought through the Drainage Reuse Initiative.
8. Expand the Office of Emergency Management's ability to serve regionally.
9. Grant the county ordinance-making power to establish flood-safety protocols and enforce regulations preventing fill violations in the floodplain.
10. Acquire additional greenspace.
11. Streamline FEMA rules while taking into consideration how the most efficient solution, at many times, is in the volunteer and private sector and allowing volunteers and nonprofits to serve constituents without having to wait for Federal approval.
12. Reduce the match required of local entities to receive aid during disasters.



Harris County Precinct 4's FACTS ABOUT HURRICANE HARVEY

HARRIS COUNTY PICKED UP AND REMOVED 534,109 CUBIC YARDS OF HURRICANE HARVEY DEBRIS

"14 MONTHS OF RAIN DROPPED ON HARRIS COUNTY OVER THE COURSE OF 4 DAYS"
COMMISSIONER R. JACK CAGLE

HURRICANE HARVEY AFFECTED OVER 4.7 MILLION PEOPLE

OVER 130,000 HOMES AND BUSINESSES FLOODED, GENERATING AN ESTIMATED 8 MILLION CUBIC YARDS OF DEBRIS

600,000 CARS TOTALED BY THE HURRICANE

SELF HELP STORM DEBRIS DROP OFF SITE

Chairman MCCAUL. The gentleman has no time. I am just kidding. [Laughter.]

Chairman MCCAUL. We appreciate your remarks. I appreciate your great leadership during this crisis, and your friendship as well.

The Chair recognizes Mayor Turner.

**STATEMENT OF SYLVESTER TURNER, MAYOR, HOUSTON,
TEXAS**

Mr. TURNER. Thank you, Chairman McCaul, and to the Ranking Member, Ranking Member Thompson, and to the other Members of the Homeland Security Committee, and also to Congressman Green, who is here as well. I want to thank you for the opportunity to be with you today and to speak to the on-going recovery efforts from Hurricane Harvey.

First, the scope of this disaster. In the city of Houston, over 135,000 single-family homes were impacted. Over 209,000 apartment units were affected. The total number of households runs up to approximately 345,000.

As you have no doubt heard, more homes flooded in Houston during Hurricane Harvey than in New Orleans during Katrina or New York City during Super Storm Sandy. While we in Government refer to such human suffering in terms like "unmet need," I can tell you the needs of so many will require all of our efforts to help people overcome Harvey's effects on their lives. This includes not only the lost homes and lost jobs, but the impact on behavioral health and childhood trauma.

The immediate efforts were on rescuing people from harm's way, and to that I want to thank again the men and women of the Houston Police Department, the Fire Department, and the municipal employees who consistently went above and beyond to help their communities. But as we segue from rescue to recovery, we have not lost that same sense of urgency.

When FEMA said it would be Christmas before we were able to remove debris, the city finished its first wave in the month of October. I want to acknowledge the work that the county did in this regard, because we both worked hand-in-hand. That urgency was displayed by our Solid Waste Department employees, who worked 7 days a week teaming up with crews from other cities like San Antonio and Dallas, along with private contractors. People cannot recover with debris in their yards, and the city of Houston worked overtime, again with a sense of urgency.

The next item was planning for the recovery, and quite frankly that has meant changing the way we do business. I named Marvin Odum, the former CEO of Shell Oil, as our chief recovery officer, reporting directly to me and serving and speaking with my authority. Marvin's recovery team has worked across city departments to break down silos and stress the urgency of recovery, and has also worked with outside groups as well.

My charge to Marvin Odum was to be transformational, to make the city stronger, to make the city more resilient, and to make me, if necessary, uncomfortable in the changes being proposed, and he has not shied away from bringing me tough decisions.

One of those decisions was to make significant changes to our Chapter 19 Flood Plain Ordinance, where we as a city will require all new construction to be at the 500-year flood plain, plus 2 feet. Homes in Houston flooded in Presidentially-declared disasters in 2015, 2016, and in 2017. Suffering three 500-year floods in a row to me means there is a new normal, and Government should catch up.

We now communicate, cooperate, and plan better with our partners at Harris County, and I echo everything that Commissioner Cagle had to say. I would be remiss not to mention my partnership with Harris County Judge Ed Emmett, who has been a fantastic partner during and since the storm. Our flooding czar, Steve Costello, works to make sure our city's Public Works Department is in sync with Harris County's Flood Control District to get the most protection out of every dollar spent.

I am often asked by members of our delegation what more we could be doing, and I would like to take this opportunity to be specific on a request that we have with FEMA on a productive conversation. That is, FEMA has had productive conversations with Marvin's office on using volunteer hours to serve as our local match for FEMA Categories C through G. We anticipate that the local match would be about \$250 million. We both acknowledge those efforts and thank FEMA for working with us in this volunteer program.

Now is the time for FEMA to start this match program. Expanding the volunteer match will not only lower project cost for all levels of government, it would encourage further community involvement with the recovery, aligning with FEMA's "whole community" approach. Essentially, the goal is for the city of Houston to put forth a volunteer program of accumulating 2 million volunteer hours in 1 year, and that would be used to offset the \$250 million match that we are required. I would ask that as Members of Congress you join us in this novel approach and ask FEMA to begin. Know that local taxpayers would be thankful for what you can do to make this match happen.

Moving forward, there are two programs the city of Houston will be actively engaged in. First, as we work with our partners at HUD and GLO to get the \$5 billion in Community Development Block Grants Disaster Recovery dollars allocated to Texas into the communities affected, I know that my office will continue to work with local stakeholders and community partners to develop the best locally-run programs that we can operate. Conversations and consultation are on-going for this, and I believe we will be able to report on progress on action plans very soon.

Congressman Green, you asked whether or not the CDBGDR appropriation in 2015 was direct to the city of Houston, and the answer is yes. Based on what we have been told, the current time line is that the \$5 billion will not reach either Houston or Harris County until sometime probably in August or early September. I would ask that we move with a greater degree of urgency in speeding up that time line.

Second, it is my hope that the State of Texas will consider joining Florida, North Carolina, South Carolina, Oklahoma, Virginia, Georgia, and Colorado in helping to provide a local match for our Hazard Mitigation Grants Program. The State should use either the Economic Stabilization Fund or any other source to fully participate at 100 percent of the local cost share for FEMA 404 Hazard Mitigation Grants. Under the declaration, FEMA will fund up to 75 percent of the costs for mitigation measures undertaken by the city.

By funding the cost share for the projects, the State will be directly contributing to flood mitigation. This sends the right message and will protect homes and commercial property from the flood threat of these repeated storms across all areas of the State.

We cannot ask people to rebuild and deepen their roots in our community unless they know we, collectively as different levels of government, are working to mitigate the threat of future floods. We need another reservoir and, Chairman McCaul, not necessarily a study. We need the plows to start working now. We need the channels to be widened. We need more regional on-site detention. We need the dredging. We need these things to take place now. More studies just lead to more studies that lead to more flooding and will not result in any meaningful mitigation.

As mayor of the largest city in Texas, I want to thank the people of Texas for their support during this unprecedented disaster. During Hurricane Harvey, approximately 27 trillion gallons of rain fell in Texas. But that was only the initial surge. Police officers from Arlington and Fort Worth, solid waste crews from San Antonio and Dallas, and volunteers from faith-based organizations came to Houston. We thank them. We will never forget those who came to us in our time of need.

We have looked to our Federal Government for resources, and as the initial tranche of CDBG monies makes its way through HUD to the GLO, know that we are working with urgency to get resources to those who need the dollars right now.

Thank you.

[The prepared statement of Mr. Turner follows:]

PREPARED STATEMENT OF SYLVESTER TURNER

APRIL 9, 2018

Thank you, Chairman McCaul, Ranking Member, Members of the House Homeland Security Committee.

Thank you for the opportunity to be with you today and speak to the on-going recovery efforts from Hurricane Harvey.

First, we must level set around the scope of this disaster:

- In the city of Houston, over 135,000 single-family homes were impacted.
- Over 209,000 apartment units were affected.

The total number of households runs up to 345,000.

As you have no doubt heard as we have been advocating for recovery dollars, more homes flooded in Houston during Hurricane Harvey than in New Orleans during Katrina or New York City during Superstorm Sandy. While we in Government refer to such human suffering in terms like “unmet need,” I can tell you the needs of so many will require all of our efforts to help people overcome Harvey’s effects on their lives.

The immediate efforts were on rescuing people from harm’s way, and to that I want to thank again the men and women of the Houston Police Department, Fire Department, and Municipal employees who consistently went above and beyond to help their communities. But as we gave way from rescue to recovery, we have not lost that same sense of urgency.

When FEMA said it would be Christmas before we were able to remove debris, the city finished 2 weeks into October. That urgency was displayed by our Solid Waste Department employees, who worked 7 days a week teaming up with crews from other cities like San Antonio and Dallas along with private contractors. People cannot recover with debris in their yards, and the city of Houston worked overtime, again, with urgency.

The next item was planning for the recovery, and quite frankly that has meant changing the way we do business. I started off by naming Marvin Odum as our Chief Recovery Officer reporting directly to me and serving and speaking with my

authority. Marvin's Recovery Team has worked across city departments to break down silos and stress the urgency of recovery.

My charge to Marvin was "to make me uncomfortable," and he has not shied away from bringing me tough decisions.

One of those decisions was to make significant changes to our Chapter 19 Flood Plain Ordinance, where we as a city will require all new construction to be at the 500-year flood plain, plus 2 feet. Homes in Houston flooded in Presidentially-declared disasters in 2015, 2016, and in 2017. Suffering three 500-year floods in a row to me means there is a new normal, and Government should catch up.

We now communicate, cooperate, and plan better with our partners at Harris County. I would be remiss not to mention my partner in this effort, Harris County Judge Ed Emmett. Our flooding czar, Steve Costello, works to make sure our city's Public Works Department is in sync with Harris County's Flood Control District to get the most protection out of every dollar spent.

I'm often asked by members of our delegation what more we could be doing, and I would like to take this opportunity to be specific on a request that we have. FEMA has had productive conversations with Marvin's office on using volunteer hours to serve as our local match for FEMA Categories C-G. We both acknowledge those efforts and thank FEMA for working with us. Now is the time for FEMA to start this match program. Expanding the volunteer match will not only lower project cost for all levels of government—it would encourage further community involvement with the recovery, aligning with FEMA's "Whole Community" approach. I would ask that as Members of Congress you join us in asking FEMA to begin. Know that local taxpayers are thankful for what you can do to make this match happen.

Moving forward, there are two programs the city of Houston will be actively engaged in:

First, as we work with our partners at HUD and GLO to get the \$5 billion in Community Development Block Grants Disaster Recovery (CDBG-DR) dollars allocated to Texas into the communities affected, I know that my office will continue to work with local stakeholders and community partners to develop the best locally-run programs that we can operate. Conversations and consultation are on-going for this and I believe we will be able to report on progress on actions plans very soon.

Second, it is my hope that the State of Texas will consider joining Florida, North Carolina, South Carolina, Oklahoma, Virginia, Georgia, and Colorado in helping to provide a local match for our Hazard Mitigation Grants Program (HMGP).

The State should use the ESF to fully participate (at 100 percent) of the local cost share for FEMA 404 Hazard Mitigation Grants. Under the declaration, FEMA will fund up to 75 percent of the costs for mitigation measures undertaken by the city.

By funding the cost share for HMGP projects, the State will be directly contributing to flood mitigation. This sends the right message and will protect homes and commercial property from the flood threat of these repeated storms across all areas of the State.

We cannot ask people to rebuild and deepen their roots in our community unless they know we, collectively as different levels of government, are working to mitigate the threat of future floods.

As Mayor of the largest city in Texas, I want to thank the people of Texas for their support during this unprecedented disaster. During Hurricane Harvey, approximately 27 trillion gallons of rain fell in Texas. But that was only the initial surge:

Police officers from Arlington and Fort Worth, solid waste crews from San Antonio and Dallas, and volunteers from faith-based groups flooded Houston. We will never forget those who came to us in our time of need.

We have looked to our Federal Government for resources, and as the initial tranche of CDBG monies makes its way through HUD to the GLO, know that we are working with urgency to get resources to those who need it.

Chairman McCAUL. Thank you, Mayor, and thank you for your great leadership through this crisis as well. I am so with you and the commissioner. The time for studies I think is over. We need to move forward with this reservoir as soon as possible.

The Chair recognizes Mayor Owen.

STATEMENT OF ALLEN OWEN, MAYOR, MISSOURI CITY, TEXAS

Mr. OWEN. Chairman McCaul, Ranking Member Thompson, other Members of Congress, and especially my Congressman, Congressman Green, thank you for asking me to come today. We tell

people that Houston is a suburb of Missouri City, but we are right adjacent to it.

We have a major problem in my city, and it is called the Brazos River. I can tell you that when we first started hearing about this storm, we prepared our emergency operation center which, again, my Congressman was in many times. I think he had my number on speed dial, wanting to know what he could do. But we have inundation maps that show water being in certain houses when the Brazos River reached 52, 54, 56, 58 feet. We were getting projections that the Brazos River would peak at 59 feet and would be there for 9 days.

I can tell you that at 52 feet, we already would have had water in it. We saw this happen in the tax day flood, and we reached a peak in the Brazos River at 54.7. We finally, thank God, received news that the Brazos River would only be at 55.6 when it finally peaked.

I will tell you that my inundation maps only went to 58 feet. Had the Brazos River reached 58 feet, I would have had water in 9,500 homes in my city, which is basically a third of all the homes that are in the city. As it was, we ended up with water in about 1,500 homes. We did 1,300 high-water rescues. I housed 60 State Troopers and 17 National Guardsmen in one of my buildings that we fed and housed for over a week. I didn't have the resources to do that.

So with the Governor giving me the ability to do it, I commandeered stuff. I went down to the Academy and I took \$24,000 worth of stuff out of that Academy—boots, waders, kayaks, ropes, life vests. I went into HEB, got food. I went into Walmart, got sleeping material for these officers to spend the night and work 24 hours. I spent 7 days in our operations center, and I never will forget where I was on August 26, because that was my 50th wedding anniversary, and I was in that operations center for 7 days, but I couldn't get into my own home. My family was there, but I had people in that center working 24 hours a day.

The reason I say this, Chairman, is that we have to pay those people. We pay them overtime. My expenses during that storm were over \$1 million in overtime. Ranking Member Thompson knows that you have to pay people when they work, and I had people in that operations center working 12-hour shifts, many of them with water in their own homes. But they were there, dedicated to do what they needed to do for the city.

Our concern is that we spend our money up front, and then we wait to be reimbursed. Not only did I have flooding, I had two tornadoes that hit my city, tornadoes that destroyed 58 homes and one subdivision, two shopping centers and a bank building and the rest of it that are still not finished today because of reimbursement requests that are needed.

Unfortunately, and I think we talked about it earlier, when I talked to the people who got flooded, they did not live in a 100-year flood plain, or thought they didn't, so they didn't have flood insurance. Ninety-five percent of these people did not have flood insurance. They have to apply for assistance somewhere else. Unfortunately for FEMA, that is \$33,000 for those people. That doesn't even start to repair some of the damage.

We have to do a better job of educating people that flood insurance is cheap, especially if you don't live in a flood zone. We need to get more of them to do that so they are prepared for something like that.

We weren't prepared for anything like this storm. We had never seen it. I have been in office 32 years. I have been through a lot of rodeos. This was the worst. Ike was all wind and no rain. Harvey was all rain and no wind. But I will just tell you that during Hurricane Ike, I was out \$390,000 out of my budget in 2010. We didn't receive the final payment until 2013. The tax day request is \$100,000 or more, and we haven't even heard when we are going to get that money yet.

The most important thing for you all to remember—and I chair a coalition of 13 multi-cities in the Harris County area, and I also chair a coalition of 18 cities that are in Fort Bend County. We talk about this, that none of us received a penny, that I am aware of, but yet we paid that money up front.

Here is the important part that you need to remember. Ranking Member Thompson knows this. When we take money out of our general fund, we are taking money out of the required reserve that our bonding agencies require us to have. Twenty-five percent of our capital improvement projects and 25 percent of our budget needs to be in our reserves. When I take money out of that reserve, the bonding agencies come in—and we have reduced that amount of money—and they look at my bonding rating differently.

That affects us all. These small cities don't have that. I am in the process right now of spending \$25,000 to hire a consultant to tell us how to fill out the forms that are needed for FEMA. We submitted our Rebuild Texas submittal to the State of Texas. It is \$97 million. I haven't heard a word where we are on that. Part of that is flood mitigation that we are prepared to spend money to make sure it doesn't happen again.

There is a levy district that protects Missouri City from the Brazos River; 59 feet is the limit on that levy. I can tell you that I sat there during that period of time, and I cried one night thinking what would happen to the rest of my city had that levy broke or exceeded the percent.

So we are doing our part. What I am asking for today, and I am asking on behalf of the small cities, we can't wait 3 years to get our money back. We can't wait 3 years for it to affect our bond rating when we take money out of our pocket to pay for this stuff and then we don't get a response back early enough for us to protect ourselves.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Owen follows:]

REBUILD TEXAS WORKSHEET
 Prioritized Requests for Federal Funding
 Requesting Entity Name: Missouri City, Texas

Rank Order	Project Name	Description			Est. Cost (Dollars)	No. of Units (if Applicable)	Other Possible Funding Sources (Insurance, Local, Etc.)
		Economic Redevelopment Incentives of Hurricane Harvey Substantially Damaged Structures thru Public/Private Partnerships in a Economically Distressed Areas (Ranked Projects No. 1-7)					
1	Texas Parkway Corridor Commercial Improvements.	Missouri City Central—Movie Theater Building—2416 Texas Parkway.			\$3,000,000		
2	Texas Parkway Corridor Commercial Improvements.	Quail Corner Shopping Center—King Dollar—2192 Texas Parkway (Old Kroger).			\$3,000,000		
3	Texas Parkway Corridor Commercial Improvements.	Wells Fargo Office Building (Texas Parkway @ Court Rd.).			\$2,900,000		
4	Texas Parkway Corridor Commercial Improvements.	KFC Building Damaged Facade Improvements.			\$80,000		
5	Cartwright Rd. Corridor Commercial Improvements.	Meadow Creek Village Building (Old HEB).			\$1,500,000		
6	Cartwright Rd. Corridor Commercial Improvements.	Quail Valley Town Center—2601 Cartwright Rd.			\$2,400,000		
7	Cartwright Rd. Corridor Commercial Improvements.	Village Walk Center (Palais Royal) 3819 Cartwright Rd.			\$1,200,000		

REBUILD TEXAS WORKSHEET—Continued
Prioritized Requests for Federal Funding
Requesting Entity Name: Missouri City, Texas

Rank Order	Project Name	Description		Est. Cost (Dollars)	No. of Units (if Applicable)	Other Possible Funding Sources (Insurance, Local, Etc.)
		Economic Redevelopment Incentives of Hurricane Harvey Substantially Damaged Structures thru Public/Private Partnerships in a Economically Distressed Areas (Ranked Projects No. 1-7)				
8	Rehabilitation of housing damaged during the disaster.	Supplemental funding (without duplication) for homes and buildings up to a maximum of \$20,000 per home, that were impacted by the storm.		\$30,900,000	2049 (based on initial assessment).	Private Insurance.
9	Acquisition of new housing units.	Undertake new housing construction to provide housing stock for displaced residents.		\$4,000,000	20.	
10	Facade and Infrastructure Improvement Program.	Implement Façade and Infrastructure Improvement Program within core corridor areas, including low-moderate income CDBG areas, such as Texas Parkway, Cartwright Rd., FM 1092, and 5th Street that sustained damage during the storm event.		\$2,500,000		

11	Emergency Preparedness	<p>Disaster Notification Technology (i.e. reverse 9-1-1) for special needs populations regarding potential evacuation and emergency notification purposes.</p> <p>Installation of rainfall and stream level gauges in critical streams for public awareness and information, more efficient emergency response, more timely warnings to the general public, hydrologic and hydraulic model calibration and more efficient use of emergency assets. Outreach to public thru various communication channels to increase awareness of flood hazards.</p>	\$175,000
12	Develop a Flood Alert System and Increase Public Awareness of Hazards.		\$500,000

REBUILD TEXAS WORKSHEET—Continued
 Prioritized Requests for Federal Funding
 Requesting Entity Name: Missouri City, Texas

Rank Order	Project Name	Description		Est. Cost (Dollars)	No. of Units (if Applicable)	Other Possible Funding Sources (Insurance, Local, Etc.)
		Economic Redevelopment Incentives of Hurricane Harvey Substantially Damaged Structures thru Public/Private Partnerships in a Economically Distressed Areas (Ranked Projects No. 1-7)				
13	Brazos River Interactive Inundation Maps for Emergency Preparedness and Response.	Backwater effect from Brazos River has the potential to impact over 5,000 properties within Missouri City. During Hurricane Harvey, approximate evacuation areas were identified based upon static inundation maps. However, these maps will need to be expanded/enhanced to include different Brazos Tailwater Scenarios, and to also include actual ground/building elevation data for better accuracy. This will allow residents to obtain site-specific information on their homes vs. river elevations.		\$250,000		

<p>14</p>	<p>Localized Ponding Maps for Emergency Preparedness.</p>	<p>Several areas within Missouri City were inundated from local rain during the Harvey Event, which includes flooded structures. Identifying potential low-lying areas within the city that are more prone to flooding/inundation during extreme rain events will aid in emergency preparedness and response. Utilizing the existing ground topography/Lidar Data, ponding maps will be developed city-wide, for various (5) rainfall frequencies and tailwater effect from the Brazos River.</p>	<p>\$250,000</p>
<p>15</p>	<p>Gate Closure for isolating Flat Bank Creek Diversion/Oyster Creek from the Brazos River Flood Levels.</p>	<p>This project entails implementing a flood control alternative for preventing the backflow of the Brazos River flood waters from entering the existing developed areas within Missouri City. Improvements include a Flat Bank Creek Diversion Closure (Flap Gated Culverts) to prevent intrusion of Brazos River flood waters into Oyster Creek and other upstream areas.</p>	<p>\$5,000,000 Estimated City's share of funding to this project. Other potential sources of funding include Fort Bend County and local jurisdictions.</p>

REBUILD TEXAS WORKSHEET—Continued
Prioritized Requests for Federal Funding
Requesting Entity Name: Missouri City, Texas

Rank Order	Project Name	Description		Est. Cost (Dollars)	No. of Units (if Applicable)	Other Possible Funding Sources (Insurance, Local, Etc.)
		Economic Redevelopment Incentives of Hurricane Harvey Substantially Damaged Structures thru Public/Private Partnerships in a Economically Distressed Areas (Ranked Projects No. 1-7)				
16	Emergency Operations Center Back-up.	Acquire property which has dormitory accommodations to serve as a back-up emergency operations center and housing for emergency operations crews, i.e. Global Geophysical, 13927 S. Gessner Rd., Missouri City TX.		\$10,000,000	1.	
17	Grants for training first responders with all necessary disaster preparedness knowledge and skills: \$100,000.	Grants for training first responders with all necessary disaster preparedness knowledge and skills: \$100,000.		\$100,000		

18	Emergency Preparedness	<p>The purchase and installation of emergency generators on city facilities. Specifically, the City Centre which served as housing for over 60 National Guard, police officers, and other first responders during the last event; the City Hall Facility which serves as the back-up Emergency Operations Center, and the Public Works Service Center which serves as fleet maintenance and operational center for disaster response.</p>	\$900,000	3.
19	Emergency Preparedness—Hazard Mitigation Project No. 1.	<p>Channel improvement for Mustang Bayou from the GCWA Canal through the Thunderbird North Subdivision.</p>	\$1,500,000	1.
20	Emergency Preparedness—Hazard Mitigation Project No. 2.	<p>Channel improvements along Mustang Bayou from the Thunderbird North Subdivision to the confluence with the old channel; including pipeline relocations and a sheet pile structure.</p>	\$2,500,000	1.
21	Emergency Preparedness—Hazard Mitigation Project No. 3.	<p>Extend the Brisco Canal Flume over Lower Oyster Creek to enable excavation of the widening of the channel; plus allow for channel improvements upstream of the flume.</p>	\$1,500,000	1.

REBUILD TEXAS WORKSHEET—Continued
Prioritized Requests for Federal Funding
Requesting Entity Name: Missouri City, Texas

Rank Order	Project Name	Description		Est. Cost (Dollars)	No. of Units (if Applicable)	Other Possible Funding Sources (Insurance, Local, Etc.)
		Economic Redevelopment Initiatives of Hurricane Harvey Substantially Damaged Structures thru Public/Private Partnerships in a Economically Distressed Areas (Ranked Projects No. 1-7)				
22	Emergency Preparedness—Hazard Mitigation Project No. 4.	Channel Improvements along the Long Point Creek Overflow Channel upstream of the Brisco Canal.		\$850,000		
23	Emergency Preparedness—Hazard Mitigation Project No. 5.	NFIP Repetitive Loss structures. Pursue acquisition, elevation, or flood proofing projects and structural solutions to flooding for repetitive loss structures.		\$1,600,000	11.	
24	Emergency Preparedness	Funding for generators to energize key traffic signals within city.		\$20,000	20.	
25	Emergency Preparedness	Funding for traffic signal cabinets to replace storm-damaged cabinets.		\$200,000	10.	
26	Emergency Preparedness	Provide daily meals to emergency operations personnel.		\$80,000	1,600.	
27	Emergency Preparedness	High Water Rescue Vehicles.		\$525,000	3.	
28	Emergency Preparedness	Rescue Boats with life jackets.		\$60,000	6.	

29	Emergency Preparedness	Sand hopper for making sand bags necessary for interim flood control set-up.	\$50,000	2.		
30	Emergency Preparedness	Portable high GPM stormwater pumps and accessories for flood mitigation applications.	\$1,000,000			
31	Emergency Preparedness	"Tiger Dams"—Temporary tubular dams that can be used for flood control to secure critical facilities.	\$1,000,000	100.		
32	Emergency Preparedness	Quick dam—expandable sand bag.	\$5,000	100.		
33	Damage to City-owned Buildings/Infrastructure.	Damaged signal cabinet and signal heads.	\$35,000	2		City's Insurance from TML may cover a portion these losses.
34	Damage to City-owned Buildings/Infrastructure.	Surface Water Treatment Plant, Wastewater Treatment Plant, and Associated Facilities.	\$200,000	7		City's Insurance from TML may cover a portion these losses.
35	Damage to City-owned Buildings/Infrastructure.	Estimated repair cost for vehicles damaged during the storm event.	\$150,000	15		City's Insurance from TML may cover a portion these losses.
36	Damage to City-owned Buildings/Infrastructure.	Surface Water Treatment Plant, Wastewater Treatment Plants, Lift Stations and Associated Facilities.	\$200,000	7		City's Insurance from TML may cover a portion these losses.
37	Damage to City-owned Buildings/Infrastructure.	Estimated damage to other city buildings.	\$500,000	6		City's Insurance from TML may cover a portion these losses.
.....	*Administrative Expenses	Funding for administrative costs (estimated at 20% of the total project costs).	\$16,000,000			
.....	\$96,630,000			

NON-MITIGATED RECORDS

Community Name	CID	Bldg. Payments	Contents Payments	Total Payments	Average Payment	Losses	Properties
Missouri City, City Of	480304	1,605,645.04	377,928.82	1,983,573.86	17,099.11	116	35

MITIGATED RECORDS

Community Name	CID	Bldg. Payments	Contents Payments	Total Payments	Average Payment	Losses	Properties
Missouri City, City Of	480304	9,154.61	0.00	9,154.61	2,288.65	4	2

RESIDENTIAL VALIDATED SEVERE REPETITIVE LOSS

Community Name	CID	Bldg. Payments	Contents Payments	Total Payments	Average Payment	Losses	Properties
Missouri City, City Of	480304	738,921.07	154,673.90	893,594.97	24,151.22	37	5

ALL REPETITIVE LOSS

Community Name	CID	Bldg. Payments	Contents Payments	Total Payments	Average Payment	Losses	Properties
Missouri City, City Of	480304	1,614,799.65	377,928.82	1,992,728.47	16,606.07	120	37

HARVEY-RELATED COSTS REPORTED IN FUND 800

	Amount
Personnel Costs for Harvey including benefits and overtime	\$708,897
Wearing Apparel	\$21,698
Minor Tools, Furn & Equipment	\$4,947
Eoc Supplies	\$52,116
Contractual Services	\$57,682
Fleet Repair Costs	\$91,348
Machinery & Equipment	\$42,440
Total	\$979,128

Chairman McCAUL. Thank you for that testimony. It was very passionate.

The Chair recognizes Mr. Sloan.

STATEMENT OF MARK SLOAN, EMERGENCY MANAGEMENT COORDINATOR, OFFICE OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT, HARRIS COUNTY, TEXAS

Mr. SLOAN. Thank you, Chairman McCaul, Ranking Member Thompson, and committee Members, for the opportunity to brief today.

Harris County is unique throughout the country. We have 1,777 square miles and 4.7 million residents that reside here. We have an urban population of approximately 2 million in the unincorporated area, meaning they don't live within a city limit.

There are also 34 cities within Harris County, including the city of Houston. During times of a disaster, it is our responsibility to support each of those cities equally, including our partners in the unincorporated Harris County.

Harris County is home to 57 fire departments, over 125 law enforcement agencies, all of them heroes during this event.

We have quite a bit of critical infrastructure. As you are well aware, it needs to be supported in order to get our economy back on-line.

Since 1979, Harris County has had 46 Federally-declared disasters. That is an average of one every 9 months, some of them large like Harvey, others smaller like Memorial Day or tax day, or the fires of 2011.

In Texas we say a lot of things like "neighbors helping neighbors." Well, we are proud of that because there is a hero on every porch in Texas. In the emergency management authority in all counties throughout Texas, we have the authority that we need to be able to manage disasters. It is that coordination that we do with our jurisdictions and our first responders. It is absolutely essential that we have to manage the scarce resources that are available to us at the local level, from our State partners, and from our Federal partners in order to react and respond accordingly.

We have lots of plans, we do a lot of training, and the way we practice is the way we play. That is not important just before a disaster, but during and also in the recovery process.

As we learn lessons in the recovery and the mitigation, Harris County was capable of inspecting 180 county buildings within the first 6 days. Within 72 hours, over 900 traffic signals were inspected and repaired to safe conditions. Within 5 days, 13,000 lane miles and 800 bridges were inspected. Within 2 weeks, all road washouts and damaged bridges were repaired to safe conditions.

Harris County started hauling debris in the first 4 days after Harvey, on schedule to maintain three passes within a 90-day period. For a while we removed the equivalent of the tax day flood debris every 2 days, as the Commissioner mentioned. We have hauled over 1.2 million cubic yards to date, not including what flood control has done within our systems. Harris County inspected over 500,000 homes visually and issued almost 30,000 permits and 25 full inspections within 5 weeks. Our courthouse and jury assem-

bly buildings were completely damaged and continue to be repaired, a challenge at this time.

These statistics were for the unincorporated area of Harris County. The FEMA mitigation funds are crucial to restoring these efforts as we are now looking ahead to the upcoming storm season. We appreciate FEMA's review of mitigation money. We hope Congress provides pre-mitigation funding opportunities instead of waiting for a disaster to fund these things. We have seen that this is extremely beneficial and have seen the return on that investment of mitigation money now at not only 4-to-1 but at 6-to-1.

Other lessons learned include warnings and communications. Our regional joint information center was activated with personnel from all over the region and the State. We pushed out over 2,400 social media notifications and posts, 650 media interviews, 259 news releases, and 25 press conferences. But we saw that even that was not enough, and recovery and planning, which now includes new backup opportunities for our 9-1-1 system and other public alerting systems.

Lessons learned include sheltering for urban populations. We sheltered almost 20,000 people in mega-shelters being open at the George R. Brown in the city of Houston, and the NRG Center, including persons from other counties seeking refuge that came to us when we averaged almost 3 feet of rain across our entire county. The shelter at NRG with community partner Baker Ripley has become a model, having included medical, pharmacy services, child care, veterinary care, and FEMA at a registration site.

We appreciate the work the GLO and the delegation are doing on the CDBGDR funding allocations with Harris County and the city of Houston.

Another lesson learned was multiple overlapping National disasters. As we have done other disasters here on numerous occasions, the opportunities for disaster recovery centers have been able to be provided to our community within the community. The fact is we had Irma and Maria impacting the country, so we received three mega disaster recovery centers, and eventually we got up to 20. There were many delays during the critical first few weeks when FEMA became stretched thin to manage these additional events in multiple jurisdictions. We urge Congress to look at ways to better equip FEMA to handle multiple overlapping disasters in the future.

Thank you for the opportunity to brief today. I would be happy to answer any questions.

[The prepared statement of Mr. Sloan follows:]

PREPARED STATEMENT OF MARK SLOAN

APRIL 9, 2018

BACKGROUND

Briefly describe urban and complexity of Harris County. We are unique in the country in that we have a dense, urban population of approximately 2 million that are in unincorporated Harris County, meaning they do not live within a city limit. There are also 34 cities inside the county, including the city of Houston. During times of disaster, it our responsibility to support each of those cities equally—including our partners in unincorporated Harris County.

Harris County is home to 57 fire departments, more than 125 law enforcement agencies, with quite a bit of critical infrastructure and key resources, as you may

know. Since 1979, Harris County has had 46 Federally-declared disasters. In fact, we average 1 disaster every 8 or 9 months.

EMERGENCY MANAGEMENT AUTHORITY—HARRIS COUNTY

- Harris County, and all counties, has the authority it needs but it needs to be followed
 - This is of particular concern to Harris because 34 cities, dense urban region
- City to County to State to Feds . . . Feds to State to County to City*
- Absolutely essential to managing scarce resources during a disaster
 - Practice how you play
 - Important not only before disaster and during, but also during recovery

FEDERAL JOINT OPERATIONS CENTER FIELD OFFICE—POST-DISASTER

- These FEMA field offices to support a disaster response
- They typically house at the State in Austin
- That makes sense for them pre/during disaster but not after
- For increased coordination with locals, the Joint Operations Center should be sent to local communities where the disaster occurred for better integration (State can request this)
- State support is needed for this because the State is FEMA's client, not the locals
- The purpose of a Joint Field Office, according to the Federal plan, is to integrate all Federal agencies to improve the overall Federal response. But no matter how well the Federal response is coordinated—if it is not integrated with local efforts, it is not working as well as it can.

RECOVERY AND MITIGATION

- Harris County inspected 180 county buildings in 6 days
- Within 72 hours over 900 traffic signals were inspected and repaired to safe conditions
- Within 5 days over 13,000 lane miles and 800 bridges were inspected.
- Within 2 weeks all road washouts and damaged bridges were repaired to safe conditions
- Harris County started hauling debris 4 days after Harvey on schedule for 3 passes in 90 days.
- For a while we removed the equivalent of the Tax Day flood debris every 2 days. We have hauled over 1.2 million cubic yards to date, not including the Flood Control District's debris.
- Harris County inspected over 500,000 homes visually and issued almost 30,000 permits and 25,000 full inspections within 5 weeks.
- Our courthouse and jury assembly were completely damaged and continue to be a challenge.
- All of these statistics were for the unincorporated area of Harris County.
- The FEMA mitigation funds are crucial to restoring these efforts as we are now looking ahead to the upcoming storm season.

LESSONS LEARNED—WARNINGS AND COMMUNICATIONS

The Regional Joint Information Center was activated with personnel from all over the region and State. This included 2,418 social media posts, 650 media interviews, 259 news releases, and 25 news conferences. But we saw that even that was not enough and recovery planning now includes new back-ups for our 9-1-1 system and other public alert systems.

LESSONS LEARNED—SHELTERING FOR URBAN POPULATIONS

Harris County sheltered almost 20,000 people with the mega shelters being opened at George R Brown Center and NRG center, including persons from other counties seeking refuge. The shelter at NRG with community partner Baker Ripley has become a model, having included medical and pharmacy services, child care, veterinarian care, and FEMA registration on-site.

LESSONS LEARNED—MULTIPLE, OVERLAPPING NATIONAL DISASTERS

Harris County originally received 3 mega DRCs and eventually housed approx. 20 DRCs, both fixed and mobile. There were delays during the critical first few weeks when FEMA became stretched thin to manage additional events in Florida. We urge

Congress to look at ways to better equip FEMA to handle multiple, overlapping events in the future.

Chairman McCAUL. Thank you, Mark.

The Chair now recognizes Ms. Moore for her testimony.

STATEMENT OF CAROL MOORE, DISASTER CHAIR, TEXAS STATE CONFERENCE, NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE

Ms. MOORE. Thank you so much for having me. Chairman McCaul, Ranking Member Thompson, and Members of the Committee, I am Carol Moore, chair of the Texas State NAACP disaster committee.

Hurricane Harvey was devastating, and with the storm, we, like so many organizations, faced the daunting task of helping those in need, and still are helping those in need.

The Texas State NAACP has an MOU with the Red Cross and the Federal Emergency Management Agency, FEMA. Working in tandem with these two organizations has allowed us to continue our mission of advocacy. There were many calls and emails and meetings which allowed us to partake in disaster response and the recovery process.

What happened for this very first time with the MOUs with the Red Cross and FEMA and the NAACP, we were actually at the discussion table to talk about issues that had priority and had not had impact on our community in a very positive way. So this is a very important structure for us, to have these MOUs.

We knew that Hurricane Harvey was historic, and to capture that work, we created a documentary. The documentary is called "NAACP Harvey" and is publicly available for those who wish to view it. I would be honored if those on the committee would like to see it, and we would be glad to produce that documentary for you.

After Hurricane Harvey made landfall, we quickly learned that rescue for our community meant that helping each other was the only way we were going to get through it. This catastrophic event was historic in our community. Fear and panic seemed to rule the whole community. We were surrounded by high water and confusion as to where help was coming from, and added to the state of panic. We are still in a state of panic.

Members of the community did not wait for Federal assistance before we took action. Local first responders worked for days to save lives. Business owners opened their doors to help provide goods and services. Churches provided refuge for storm survivors. There were countless individuals who stepped up and helped others in the face of the storm aftermath, and for that we are grateful and take great pride.

From the lessons learned from Hurricane Harvey, the Houston NAACP Branch Disaster Recovery Center was created. Our disaster recovery center provided many residents with assistance, including mucking supplies, finding housing, filing FEMA applications and appeals, Red Cross assistance, and outreach to the elderly and families with children. These are examples of the many lives we have touched.

One of the lessons Hurricane Harvey taught and/or reminded the community is that preparation is key. Preparation in policy is nothing if the people in the community are not prepared. People need to know that in a crisis, you are your own first responder. You must have plans for your families in case of an emergency. Community leaders must be prepared for the storms and know how to provide instructions to those who need them.

Looking forward, and we all want to do that, the NAACP Branch Disaster Recovery Center is looking to establish a block-by-block campaign in conjunction with churches and create a State-wide certified emergency response team. We believe that this emergency response team will use existing relationships between communities and residents to create a robust network for those in need after a disaster.

Many times we forget that many people live every day in a disaster. Therefore, the rescue and recovery process after Hurricane Harvey continues. The Texas State NAACP stands ready to work with those here today and those listening from afar to increase community preparedness and speed the recovery for Hurricane Harvey survivors.

Thank you for the opportunity to testify, and I look forward to your questions.

[The prepared statement of Ms. Moore follows:]

PREPARED STATEMENT OF CAROL MOORE

APRIL 9, 2018

Chairman McCaul, Ranking Member Thompson, and Members of the committee, I am Carol Moore, chair of the Texas State NAACP Disaster Committee.

Hurricane Harvey was devastating and with the storm, we, like so many organizations faced the daunting task of helping those in need.

The Texas State NAACP has Memorandums of Understanding (MOUs) with the Red Cross and Federal Emergency Management Agency (FEMA). Working in tandem with these two organizations has allowed us to continue our mission of advocacy. There were many conference calls, emails, and meetings which allowed us to be part of the disaster response and recovery process.

We knew that Hurricane Harvey was historic and to capture our work, we created a documentary. The documentary is called NAACP Harvey and is publicly available for those who wish to view it. I would be honored if Members of the committee would view the documentary as it would give you a sense of the challenges we faced on the ground.

After Hurricane Harvey made landfall, we quickly learned that rescue for our community meant that helping each other was the only way we were going to get through this catastrophe. Fear and panic seemed to rule as whole communities were surrounded by high water. Confusion as to where help was coming from added to the state of panic.

Members of the community did not wait for Federal assistance before we took action. Local first responders worked for days to save lives. Business owners opened their doors to help provide goods and services. Churches provided refuge for storm survivors. There were countless individuals who stepped up and helped others in the face of the storm aftermath and for that we are grateful and take great pride.

From the lessons learned from Hurricane Harvey, the Houston NAACP Branch Disaster Recovery Center was created. Our Disaster Recovery Center provided many residents with assistance, including mucking supplies, finding housing, filing FEMA applications and appeals, locating Red Cross assistance, conducting outreach to the elderly and families.

One of the lessons Hurricane Harvey taught and/or reminded the community is that preparation is key. Preparation in policy is nothing if the people in the community are not prepared. People need to know that in a crisis you are your own first responder. You must have plans for your families in case of an emergency. Commu-

nity leaders must be prepared for the storms and know how to provide instructions to those who need them.

Looking forward, the NAACP Branch Disaster Recovery Center is looking to establish a block-by-block campaign in conjunction with churches and create a State-wide certified emergency response team. We believe that this emergency response team will use existing relationships between communities and residents to create a robust network for those in need after a disaster.

Many times we forget that many people live every day in a disaster, therefore the rescue and recovery process after Hurricane Harvey continues. The Texas State NAACP stands ready to work with those here today and those listening from afar to increase community preparedness and speed the recovery for Hurricane Harvey survivors.

Thank you for the opportunity to testify, and I look forward to any questions you may have.

Chairman MCCAUL. Thank you, Ms. Moore.

I recognize myself for questioning, but before doing so I ask unanimous consent to insert in the record a statement from Commissioner George P. Bush of the Texas General Land Office.

Without objection, so ordered.

[The information follows:]

STATEMENT OF GEORGE P. BUSH, COMMISSIONER, GENERAL LAND OFFICE,
STATE OF TEXAS

APRIL 9, 2018

Chairman McCaul, distinguished Members of the committee, thank you for the opportunity to share lessons learned by the State of Texas in preparing for, responding to, and recovering from Hurricane Harvey.

As you know, after Hurricane Harvey made landfall Governor Abbott approached the General Land Office (GLO) for taking the lead on short-term housing programs for hurricane victims. This meant that for the first time, short- and long-term housing would fall under the same agency.

When Hurricane Harvey finally dissipated, it affected 49 counties and prompted over 890,000 Texans to apply for FEMA assistance. Of those, FEMA qualified 371,000 for individual assistance and of those 6,000 qualified for direct housing. Additionally, FEMA and the GLO identified 87,000 Texans as potentially qualified for assistance through our Partial Repair and Essential Power for Sheltering (PREPS) program. Approximately 19,000 Texas households chose to take part in that program. So far, we have repaired more than 11,000 homes through our PREPS program, and nearly 8,000 families continue to receive temporary housing.

In the past, Texas conducted recovery under the traditional FEMA-led program model. In comparison, after the flooding in March 2015, it took until late May for the placement of the first Manufactured Housing Unit (MHU). That 3-month time line was unacceptable to me. Under the new decentralized Harvey short-term recovery model, we placed MHU's much faster than ever before in Texas. In this case, Governor Abbott designated the GLO as the State's lead for short-term housing recovery on September 14. (Historically, the GLO handled long-term recovery through administration of CDBG funds but had no role in short-term housing.) Despite the compressed time line, the GLO placed the first MHU within 22 days of being designated to lead the State's short-term housing program. From 3 months to less than 1—the fastest recovery in history was under way. Federal dollars fund recovery as always, but it is State-administered and locally-led for the first time.

FEMA has never passed the administration of the short-term housing programs over to a State. Historically the General Land Office, or any other State agency in Texas has taken on this aspect of recovery. Through my team at the GLO, Texas created an innovative model for the rest of the Nation to emulate. For the first time, short-term housing is administered on the State level, implemented on the local level, and led by local officials.

As a model for the Nation, we have recorded important lessons learned, and put these lessons to use so we can better serve Texans on the road to recovery. I am proud to be able to outline some of the ways we have innovated the disaster response process at the General Land Office since we were given the lead on this crucial mission.

First, we have pushed for and received important regulatory reforms. Originally, it was impossible to temporarily house survivors of this storm at commercial sites

due to regulatory restrictions on using private assets. We faced a similar issue as we tried to implement the Direct Lease program. Previously, FEMA regulations dictated we could only place storm victims in apartments not available for general use. This obviously and unnecessarily slowed down recovery. After working on these issues with our partners at FEMA, they granted Texas the ability to lease any available properties or commercial sites that met the standard requirements outlined in our agreements with FEMA. This change in policy allows Texans and other Americans affected by future storms placement in temporary housing even faster. This Texan innovation will improve recovery Nation-wide.

We have also made significant changes to the way our staff handles the Personally Identifiable Information (PII) of disaster survivors. Due to the Federal Privacy Act of 1972, the PII of those impacted by a disaster and access to that data are significant challenges in any locally-led and State-sponsored recovery from a disaster like Hurricane Harvey. We have repeatedly heard this from our local officials as well. To ease this bottleneck, I have directed that every member of our agency staff that uses this data, and every member who may in the future, undergo a Federal background check to allow our team to access and utilize the data necessary to get Texans back home. Additionally, each of our recovery professionals is receiving a PIV card that meets Homeland Security requirements. These cards will be used to access their office buildings and to access their email and other sensitive information requiring a background check. It is important that we can access this data efficiently to speed recovery, but it is vital that we protect this data to guard Texans from identity theft and other data-related crimes. We are committed to doing both.

Additionally, we have been innovative in how we utilize technology to recover from a disaster. We have created a disaster recovery domain in which each employee in the recovery program area gets a Microsoft 365 Cloud account that meets Federal security requirements. We use Microsoft HUBS and video teleconferencing to share information and documentation in real time from our headquarters in Austin to our field staff across the State in the disaster areas. This saves taxpayer money by cutting travel costs and staff time on the road. It allows information to move in real time.

On the ground, we brought in Andrew Natsios to be our Recovery Czar. Andrew is the former head of USAID's disaster recovery world-wide. His mission will be identifying shortfalls, improvements, and changes we can make to future housing recovery efforts. We will publish his findings as a report so we do not repeat mistakes in future disasters and so others can learn from our recovery.

We have also assigned a significant number of GLO staff to the field. We learned that while most communities plan for disaster response, they do not always plan for disaster recovery. Having our staff in the field helps communities recover more efficiently from Hurricane Harvey and future disasters. These field staff have established important relationships with local leaders and Councils of Government (COGs). These relationships allow us to start educating Texas' coastal communities on how to recover from the next storm. In fact, one of our teams led the first disaster recovery training in the Rio Grande Valley and is hosting another training in Austin.

One of our biggest lessons in this disaster was discovering areas where there are needs for updates and modernization in the Stafford Act should the "Texas model" become the National standard for disaster recovery in the future. We have three main recommendations:

First, block grants should be the preferred method of distribution of funds in place of intergovernmental service agreement (IGSA). An IGSA can slow recovery, no matter how well-intentioned. This would also allow for the use of innovative housing programs such as Rapido, Kasitas, and 3-D printed homes, which we requested permission to use in the aftermath of Harvey.

Second, any State's lead agency for disaster recovery should have prepositioned Indefinite Duration, Indefinite Quantity (IDIQ) contracts. We encourage every other State to pre-position those relationships for an expedited disaster response.

Last, there should be pre-prepared waivers for Federal procurement guidelines to allow a State impacted by a disaster to move as quickly as possible to get the goods and services their citizens are in critical need of while the details get worked out—so disaster survivors are not waiting on bureaucracy.

I am proud of the work the GLO has done on behalf of all Texans, but we know there is significant work left. Although it was not without challenges, we have managed to forge a productive partnership with FEMA throughout the administration of our recovery. We have worked with our Federal partners, but we have made unilateral innovations where possible to expedite recovery for all Texans affected by this historic event. We appreciate the committee's and Congress' support as we continue working to get Texans back home.

Chairman MCCAUL. I now recognize myself for questions.

Commissioner Cagle, you and I and Mayor Turner and Mark Sloan, we have lived through this tragedy, but we are looking for solutions to prevent the next one from occurring. Three of these in the last 2 years is unacceptable.

So my question has to do with this third reservoir. We have all seen the map. It was actually in 1940 that the map was made by the Army Corps of Engineers, and here we are in 2018, and that levy—not even a levy, much less a reservoir, has been constructed. President Kennedy said we will land a man on the moon by the end of the decade, and that was less than 10 years. So for me to hear it is going to take 10 years is unacceptable.

Most homeland security issues aren't Republican or Democratic. They are all about the American people and what is best for Texans and the American people and how we can protect the American people from threats, whether they be man-made or natural disasters.

So I want to start with you, Commissioner, and then the Mayor and Mark, in terms of how important is this third reservoir, and what do we need to do working together with the Army Corps of Engineers to get this done as expeditiously as possible?

Mr. CAGLE. First of all, thank you, Chairman McCaul, for your leadership in showing the Corps map. The Corps map is actually an outgrowth from a map that the county put together a few years before called the Rafferty Plan with the tri-corridors, 1939. Before that, in 1910, there were discussions about how we needed to provide for spaces for our water to go by a gentleman by the name of Comey.

So what we are discussing today is something that we have known is needed since the great hurricane that occurred in 1900 that you referenced earlier. So it is appropriate that we bring forth the lessons of history and learn them this time.

How important is it? One hundred years' worth of important lessons that we have neglected until now, and I want to thank you, each and every one, for saying the time is now.

What occurs with Cypress Creek, as you know, is that the water comes north-south, and there is a natural bank that is there. That is why they had the proposed levy in the Corps of Engineers' map, to try to catch it before it jumped the curve, as it were, and then flooded Barker and Addicks, and then Fort Bend and the other counties that are down below.

So if we can keep the water from hitting down Cypress Creek, which is now developed, from jumping the curve, as it were, and flooding and overpowering our Barker and Addicks, we can make great strides. There are models that are elsewhere in the world that we can look to.

Chairman, you have been very tolerant of me as you have heard me talk about Plan 7. There is no such thing right now as a Plan 7. There is a Plan 5, which is a regional solution. But a Plan 7 would be something that would take what we need to do that would be interactive with our other reservoirs and be part of a system of flood protection that protects more than just that little region that is out there, because downstream of that region is the city of Houston and the other cities that we have. So we would

much rather fight the battle against the floods at the curb, as it were, than at our curb at our homes.

The second part of why I say instead of Plan 6, to go ahead with Plan 7, is it is anticipated that the population in our region will double in the next 15 years. We need a plan not for what we needed 5 years ago, or a plan for just what we needed for Harvey. We need a plan for what we need in 15 years when all the rooftops and the concrete and the streets are all in place.

So to that extent, I would urge that we make a plan which would be a Plan 7: No. 1, that integrates it as a system; and No. 2, that would allow it to be built for the future.

Internationally, in Holland, they take wide expanses of land and farmers and they enter into agreements with their farmers, so that instead of having deep reservoirs that can have flat-out zones to where they pay them for the right to use their fields, and when there is a flood event they go up on the hill of their house, they herd their cattle up on the hill and they wait for the waters to go down again.

In China, where they have had the big dams, they divided it up into a series of seven smaller sisters instead of one big mama of a dam. Perhaps by using the technology and the knowledge that is done elsewhere in the globe and bringing it to home, we can protect everyone who is downstream.

Is it urgent? Yes. What is there to do? To fund it. We need to make sure, with all due respect to the Corps that normally takes a study, and then a study on the study, and then it takes 20 to 30 years for the Corps to do something, we need to do something together that is more like what occurred in New Orleans with the rebuilding of the levy, because every year we are going to face what Congresswoman Sheila Jackson Lee mentioned earlier, 18 events, 18 risks. Do we want to wait 20 to 30 years to see if the dice rolls in our favor again? I would urge you, no.

Let us act. Let us act now. Let us act directly. Let us plan for the future, and let's make sure that our plans integrate with our other plans so that we have a robust system.

Thank you very much.

Chairman MCCAUL. Thank you.

Mayor.

Mr. TURNER. Thank you, Congressman McCaul. I certainly share the sentiments of Commissioner Cagle.

I will tell you, it is all about mitigation. We have faced 3 500-year floods in the last 3 years, and now that is becoming the norm. So it is about mitigation. It does require a general plan, even for the city of Houston that sits within Harris County, that sits within this area. Unless we address these flooding issues from a regional point of view, the city will continue to flood. So we do need the reservoir.

Where it will be? I will leave that up to the Corps and others. But something needs to be done, the reservoir needs to be done, and it needs to be done now, or at the very minimum we need to talk about excavation or dredging, something that will increase the capacity even outside of the city of Houston to mitigate the amount of water that flows down, whether it is coming north to south or whether it is coming from west to east.

What we do know is that thousands of homes flooded, not from the water falling from the sky, but thousands of homes flooded when water was released from the dams, OK? That is what we do know. We do know that.

So we have to come up with a solution, quicker rather than later, in order to mitigate the risk of flooding. So whether that is the reservoir, whether that is doing dredging or excavation, that needs to take place.

I think we make a serious mistake if we take additional time, for example, in studying all of this. Because, let me tell you, the enemy of coming up with something effective is studies, and people don't want to hear studies anymore, because you can always study a study a study. What people want to see is they want to see us now taking action. It doesn't have to be the perfect plan. It just needs to be a darn good plan, and that is what people are requiring.

Chairman MCCAUL. I think it is referred to as paralysis by analysis.

Mr. TURNER. Then even the additional steps we are taking in the city, whether it is about expanding the bayous or elevating homes or more on-site or regional detention, all of that will be reduced, the effectiveness will be reduced if we don't mitigate the risk of flooding coming from outside of Houston coming in.

Chairman MCCAUL. My time has expired, but I want to ask just two really quick questions.

Would it be helpful to you, Mayor, to have these Community Development Block Grants Disaster Relief block-granted directly to Harris County and get around the bureaucracy?

Mr. TURNER. I think it would be helpful to everyone. I think it would be helpful to the State, I think it would be helpful to local government, but more importantly I think it would be helpful to the people who need the dollars the most right now. That is what took place in 2015. The CDBGDR dollars came directly to the cities, and I think it is only a question of who can best do the job. But I think we all benefit when the people who are impacted get the dollars that they need as soon as they can.

Chairman MCCAUL. I agree.

One last question. The controlled spill, a very important issue. When did you three—Cagle, Mayor, Sloan—when did you get notification that was going to happen? It happened at 1:30 in the morning.

Mr. TURNER. We had press conferences several times a day, at a minimum twice a day. What I was told by the Corps, for example, was that they were going to release water from the Barker and Addicks Dam, 4,000 cubic feet per second, ratchet up to 8,000. That was what we were told. They were going to ratchet up to 8,000.

It was in the wee hours of the night that a decision was made that instead of going up to 8,000, to go up to about 14,000. That information was not provided to us.

Chairman MCCAUL. Prior to the controlled spillage?

Mr. TURNER. That is correct.

Chairman MCCAUL. Commissioner Cagle, the same?

Mr. CAGLE. The division of labor in the county is that the county judge, Ed Emmett, who held the helm, as it were, with the Office of Emergency Management and the mayor and the Trans-Star Cen-

ter that we have, they were all giving information to those of us who were out in the county—Commissioner Riley, Commissioner Morman, Commissioner Ellis—and we were then taking our directions.

Had we been given or had they been given the information what would occur, we would have done toward those neighborhoods the same thing that we did in Inverness Forest neighborhood when we were told that their levy was in danger of breaching. That is that we would have gone in there with our trucks, horns blaring, telling everybody to get out, if we knew that there was an emergency. We were not informed that that level of water was going to be imminent, and as a consequence we had to go into the high water to rescue people. It would have been much better to have gone in, horns a-blaring, telling people to get out now, letting them get into their cars so that we wouldn't have 600,000 cars that got drowned, and allow folks to be removed from the region.

So the answer to the question is we didn't know until it was already done in terms of precincts.

Chairman MCCAUL. So you didn't know about this until after the spillage.

Mr. SLOAN, what was your recollection?

Mr. SLOAN. As the Mayor indicated, we were aware of the 4,000. That is what they are authorized to do at the local level, up to 8,000, without getting information out of the District of Columbia in order to increase the amount of volume that they can release from the reservoirs.

Things were rapidly changing. As they run models on the amount of rain that is actually falling and then actually impacting the reservoirs, things evolved very, very fast throughout the evening. All of a sudden, they realized at some point that they had to increase the outflow to protect the levy systems, but they also knew that the volume of water that was coming in was going to start coming around the outside at some point.

Chairman MCCAUL. I agree that it was probably necessary. Just 1:30 in the morning is not very good timing.

Mr. SLOAN. Unfortunately, Mother Nature doesn't work 8 to 5, and it did not make it easy to notify the public, to push information, as we tried to do to the best of our ability. I know that it also takes a great number of hours for the Corps to run their models based on the volume of water that is entering the system. We are working very closely with them in our operations center, along with our Harris County Flood Control District, in order to have a good understanding of what the potential impacts are going to be to the community.

No, we didn't get all the information probably as fast as we would have hoped in order to prepare the community on that evening.

Chairman MCCAUL. My time has more than expired.

Ranking Member? I appreciate your indulgence.

Mr. THOMPSON. I guess my comment about what I just heard is have we fixed the communication problem now, Mr. Mayor?

Mr. TURNER. I can't tell you with exactness that the communication issue has been fixed. I will say to you that I know what the Corps was telling me, that they have their protocol, and they fol-

lowed their protocol. No. 1 was to protect the integrity of their system, as Mr. Sloan said.

I do think it will be helpful that we do come up with a notification system that when these decisions are made, even if they have to be made at the last minute based on information that they are providing, that there is a way that they can get the information to us so that we can get the information out to homeowners and businesses who will be directly impacted, regardless of what time it might be.

Mr. THOMPSON. Absolutely, because I think we heard something a little different from the first panel when that question was presented by a couple of Members on this committee.

Mr. Chair, I think it would be something that, just from a broader public policy perspective—it might be Atlanta, Georgia at another time, or it might be Denver, Colorado. We get told time and eternity that communication is never a problem, that we train, we do all these things. But clearly, there is a disconnect in this notification process, and I would encourage some letter or something that will go from the results of this hearing with the Members here to kind of highlight it, especially to the Corps, since they have primary mission in this instance.

Chairman MCCAUL. That would be good oversight.

Mr. THOMPSON. Thank you.

The other thing is that one of my experiences has been behind disasters is opportunity—good, bad, and otherwise. You know, people come into your community. They say we are here to save the day, and they have large contracts, and then they beat your local citizens down to a pulp trying to get the work done. I would just like to hear how you stop that from occurring in your community.

You can talk about debris removal, you can talk about a lot of things. But we have a challenge when you put the large contracts out, and then the little guy with the dump truck in your community is getting 10 percent of what the guy who has the contract and no trucks is getting.

Mr. Cagle.

Mr. CAGLE. We were really blessed in Precinct 4 with the coordination that was provided by the Office of Emergency Management. We had contracts prior to the storm that were already in place with a number of major contractors, with prices that were set per load, not quite as nice as the contracts that the city of Houston had in place or some of the other areas, but decent rates that were in place.

As we were in the scramble to try to find resources, because there were multiple disasters that were going on in the country at the same time—Marie was coming in as we were trying to remove our debris in the area of Florida—we built additional staging areas, actually, in Precinct 4. We had five staging areas, which made our contracts a little more lucrative. So we were able to get a lot of the smaller businesses who had come in and joined into our contract system because they could stage off, and I want to thank FEMA for working with us to allow us to build these staging areas that allowed us to actually bring in. In Precinct 4, we had 107, I believe, at its peak of the 300 Big Bertha machines, the ones with the cranes in the middle that chase the storms all across the country.

So by being able to work with FEMA, and by being able to work with our staging areas, we were able to do more.

Another thing that we did that helped a lot of the smaller contracts is that for the first time we had self-help debris centers. That is, if you had a small truckload and you wanted to pay one of the smaller guys that were out there to come in and pick up your debris, take it out of your yard, and you wanted to help yourself instead of waiting because you had one of the big yards filled with debris, such as the photos here, you could actually do it yourself and FEMA, although initially they said we could not do it, then allowed us to do that. I think in the testimony you will see there that we had almost 21,000, 22,000 cubic yards by the debris which were smaller loads of people filling up their own dump trucks, filling up their own pickup truck and taking their neighbors' loads to help each other out, which then took the pressure off of us having to remove the bigger debris in the bigger yards.

That is a program that needs to be replicated elsewhere, because people are willing to help their neighbors when you give them a chance.

Mr. THOMPSON. I think you are correct, and it goes toward the volunteer effort that the Mayor talked about also, which I think we also, Mr. Chair, need to look at.

The only other question I have, Mr. Cagle, is the Red Cross has a national contract with us, and some of us think that they could do a better job. We just want to get it right. You can't sanitize the disaster. It has to be where you roll up your sleeves and go in.

What was your experience in the beginning?

Mr. CAGLE. In the beginning we found difficulties in dealing with the Red Cross in that although they had resources and great heart, they weren't prepared for what we had locally. So as with many endeavors, we started to work with what we had and started to utilize other resources in order to get the job done.

We had training requirements that the Red Cross has, which are important training requirements, but required weeks of training when we had hours to try to open up a center. So we just began opening up shelters, finding other resources, and moving in and amongst ourselves.

I commend the Red Cross for their endeavors, but we in the early days found that we were able to get service to the people that needed it. We could wait, or we could take care of the people as we found them. We chose to not wait but to take care of the people as we found them, to find places, whether they be schools from school districts, to find our partners at George R. Brown or at our center that we opened, the NRG, and just do it ourselves until they could catch up to us.

Mr. THOMPSON. Right, and my only comment is that they have a national contract, and all those things are expected in the contract, and we want them to get to the communities as fast as possible. I went through Katrina, and they kept telling us this is not an approved shelter. What do you mean? It is the only place left standing.

Mr. CAGLE. You couldn't get to the approved shelters because the high water was in the way.

Mr. THOMPSON. Right. So I think if you could share your experience, we can get them to be a little more tolerant of the circumstances that they find themselves in, especially for vulnerable populations. They are the ones who really, really need a helping hand at those moments. If you would share that experience with us, I think it would be really helpful as we go forward.

Mr. CAGLE. Thank you very much.

Mr. THOMPSON. Mr. Mayor.

Mr. TURNER. One thing we have found to be helpful is that setting up, having pre-positioned shelters prior to the storm. For example, when I came into office in 2016, the first major storm was the tax day flood on April 17, and there were a number of individuals in the north side of Houston in low-income areas that we couldn't reach soon enough. So they were out on the bridges and everything, waiting for help.

What we did this time, even prior to Harvey, is that with the Red Cross, we did set up some pre-positioned shelters. So when we got the weather report that there was going to be three bands of rain coming carrying 79 inches, we then went into the Campbell Center in northeast, and we set up pre-positioned shelters there and in a couple of other locations, and that worked out well.

With the George R. Brown, we ended up setting that up. The director of housing and community development went and set that up, and then the Red Cross came in and joined with us later on.

I think what would be helpful now is that especially when we are anticipating these types of storms, for people in vulnerable communities, those who are elderly, those in low-income communities, those with special needs, that we pre-position or pre-establish shelters throughout the city in different quadrants, especially with those vulnerable communities, in collaboration with, for example, the Red Cross, who is already pre-prepared and pre-stocked, so you know you are ready to go just in case you need that to happen. I think that would be very, very helpful, and everyone can move very quickly, and you know ahead of time where these potential shelter locations will be, especially for people in vulnerable populations, and senior citizens in particular.

Chairman MCCAUL. Good recommendations.

The Chair recognizes General Bacon.

Mr. BACON. Thank you. Thank you all for being here.

I want to start off by thanking our two mayors, our county commissioner, for the leadership. Our Federal system is designed to, at the local level, have the most impact. So I respect the responsibilities you have taken on.

I also thank Mr. Sloan and Ms. Moore for the leadership you give your organizations.

My first question is to our elected officials. Is there specific legislation you think we need to be looking at in this committee, to pass legislative fixes that would help the Federal Government, like FEMA or Coast Guard or Army Corps, to do a better job?

Mr. CAGLE. There are a number of things that I think would be helpful, one of which would be to eliminate the problem in our buyouts, what is called the checkerboard system. Right now, when you have your FEMA buyouts, they are voluntary. When you go through the process of the voluntary buyouts, you end up with a

checkerboard of houses when many times you need to have a street that needs to be bought out, or a neighborhood, a small strip within a neighborhood, so that you can then remove the houses which are impediments to the flow of the water, create green space in there so that it will be beautiful and a park and a nice amenity, but also have that other benefit of being able to, when there is a water event, to be able to clear through.

Currently in the rules, it is a little bit more difficult to operate in that system because you have those who choose not to be bought out, or to take money and to try to live and rebuild there. Their houses are still blocking the ability to improve the flow of the water—

Mr. BACON. You can't do a patchwork.

Mr. CAGLE. A checkerboard, patchwork. So having some streamlining there would be beneficial.

Second, to figure out a way to help us—and this was alluded to earlier—be proactive. We have this huge gap. We now have almost \$850 million worth of homes that need to be bought out, and the process is one where all of these folks are sitting there wondering, do I qualify? Am I going to be bought out? Am I not? Is the county going to raise enough money for its match, the 25 percent match? Is the city going to raise their money for the match that they can come in and get the Federal funds to come in?

So as we are trying to raise money to join with your money, those folks' lives are held in limbo. So if somehow or another we could front-end-load that where there is an opportunity so that instead of—and then when it comes time to buy them out, many of those folks have already rebuilt. So the home that you could have taken them, located them somewhere else, just paid for the damaged home in its condition, moved them into a similar house to what they had with a mortgage, you now have to pay twice because you also have to pay for the improvement.

Mr. BACON. Thank you, Commissioner.

In the interest of time, I want to give the mayors a chance to add in.

Mr. TURNER. Let me just say, and remind me not to go too long, but FEMA has these home elevation grants where they are expending anywhere from \$300,000, \$400,000, \$500,000 a home to raise them up. It might be better when people qualify maybe to allow them to go and buy a home someplace else instead of spending a whole lot of money to just elevate.

My major thing is mitigation, mitigation, mitigation. That is the main thing. That is the best way—

Mr. BACON. It is a good word.

Mr. TURNER. Because whether you are building a reservoir, it is regional detention, on-site detention basin, that is important. We talk about Project Brays, Congressman Green, those three projects, \$311 million, to spend \$311 million on mitigation projects where you can save billions of dollars to me just makes good sense.

The coastal spine, we haven't talked about that at all today. But if that storm had hit the Galveston Bay with the refineries and what is in the Gulf, that would have been horrendous. I know it is a high-dollar item, about \$12 billion, but let me tell you, it would save quite a bit if that storm had hit the Galveston Bay.

So for me, it is mitigation, mitigation, mitigation. If you want to save in the future, put forth the dollars right now.

Mr. BACON. Mayor Owen.

Mr. OWEN. I would have to echo what both of them said. But I will tell you that, speaking of mitigation, when we did our Rebuild Texas worksheet that we submitted to the State, much of this \$97 million is so we mitigate our own problems. Much of the flooding that I had in Missouri City was outside of the levy. It wasn't inside the levy. It was water that actually backed up into the streets and was inside, backed up next to the levies and flooded these houses.

During the Memorial Day flood, I actually got police officers, when I thought the flooding was going to affect some 450 homes that were in one subdivision, they actually went door to door and warned people that it could possibly happen. Fortunately for us, it didn't.

In this particular case, we were trying to tell people that we saw this happening because, as I said, I had inundation maps, and I knew what was going to happen. But I had 450 homes that flooded that were controlled by a municipal utility district, and it was Wednesday before they finally put in a pump, a 12-inch line that pumped the water out of the lake that had overflowed and was backed up to that levy. Had they done that on Monday, I probably would not have had those 450 homes flooded.

In the plan that we sent that we are asking FEMA to help us with, it is so that the city has those pumps on hand. I know what happened. They couldn't get the pumps because the city of Houston was flooded by that time. They probably had to go out of State.

Mr. BACON. To have it there early.

Mr. OWEN. Yes. The question came up about Red Cross. They were communicating with us, but the problem we had with the Red Cross is that I opened shelters and I couldn't get the beds. As a matter of fact, I finally took a SWAT vehicle and went downtown Houston to load up beds to bring back to my shelters because Red Cross had them here, but they weren't getting them to the distribution centers where we needed them, so we took it on ourselves.

But I have to agree with Mayor Turner. We need to do our own work, and if we could get some funding to do our own work for some of these pumps and for some of the work that we need to get done, and we cut out the bureaucracy of filling out forms that take 3 years to get us reimbursed, we can prevent the next flood from happening.

Mr. BACON. You are going to use that word "mitigation" again, aren't you?

Mr. OWEN. Yes.

Mr. BACON. Thank you, Mayor.

I am going to yield back, minus 2 minutes.

Chairman MCCAUL. Thank you.

The Chair recognizes Ms. Jackson Lee.

Ms. JACKSON LEE. Thank you very much.

Let me join my local colleagues and say that the red tape will kill you, and that means red tape for the Red Cross and FEMA and Federal entities. I believe in regulation when it helps us and enhances us and protects the American people, but I like that phrase "waiver and emergency." When you are in an emergency, we need

to have a simple provision that hits a red button, and the local community can begin to receive funds, they can receive beds, beds can go where they are supposed to be, shelters can be determined by the local community that this is adequate and safe, because I don't think you would do anything to hurt your people. If it does not meet Red Cross criteria, let them get in here and utilize it.

Let me thank Mayor Turner for standing up. I saw it with my eyes, as someone would say, my own eyes. The George R. Brown Convention Center, within seconds and minutes and moments, and what a powerful scene to see wet, downtrodden people from everywhere coming with their simple belongings in a pillowcase. I thank the county for ultimately partnering and opening the NRG, a pristine, beautiful building, and you just said let's open it up. You partnered with the city.

I think that is what we need to take back from this field hearing, but we also need to take back those who lost their lives. These are not the only persons, the Salvador family. We know them because there were six of them trying to flee. I don't want to lose our recognition of Sergeant Perez and the municipal worker, sanitation worker, public works worker. These individuals were saying, "I have just got to get to work."

Of course, this is not an immigration hearing. We know some lost their life, but this is a Dreamer who lost his life, whose mother was trying to get here for his funeral.

So I want to pose these questions because, first of all, let me say to all of you, you know our parents have always told us we can multi-task, do those things at the same time. So that third reservoir, I am so glad I have been hearing it, the reservoir, fixing the dam, retention ponds. I indicated on the record because I don't think the Army Corps answered my question about that. In the east part of my district they were asking the question why can't we do retention ponds? You might comment on that. I am going to pose a specific question.

I guess the multi-task is, all of you mentioned the word "studies," we have been asking for the study 5 years, 10 years ago. So we don't want to hold you up. But my multi-task is let's do the repair, the studies, and the central spine at the same time. I would ask local leadership, including Mr. Sloan, to write that letter that says we need the central spine, we need the central spine. It would help all of us. Even though I might not be right by the reservoir, I represent downtown Houston, and the mayor of the city of Houston knows he was evicted almost from his building, as well as my arts community was devastated because that water came down the Buffalo Bayou. We are still suffering, the arts community is still recovering, and people are still recovering.

So let me indicate, Mayor, you had a strong recognition that this was the most devastating strike on housing of any disaster probably in the continental United States. We know our friends in Puerto Rico and the Virgin Islands, and in Florida. Tell me how you are going to deal with low-income housing individuals in light of the devastation of the housing being so heavily destroyed in many areas, but northeast Houston right outside of Greens Bayou was one area, and I know there are many other areas.

Mr. TURNER. Right, and we still, Congresswoman, we still have about a couple of thousand who are still in hotels.

Ms. JACKSON LEE. Absolutely.

Mr. TURNER. There are hundreds, if not thousands, who are living in homes that need to be remediated. I am especially sensitive to our elderly population, people with special needs, people in low-income communities and, quite frankly, mentally incompetent individuals who have exhausted a lot of their savings and are wondering what is next.

We do have to quickly move to build as many affordable housing units as we can, single-family units as well as multi-family units. It is important that we repair people's homes. We are thankful for people who contributed to both the county and the city local relief fund. That ended up raising about—I want to say close to \$115 million. So those dollars, most of those dollars have already gone to non-profits, and one of the major objectives is for home repair. But for it, these homes would not be repaired, so I am thankful for that.

I am thankful to the corporate business community. For example, one of the companies has taken on 300 homes in Independence Heights and making those repairs. Other businesses have stepped up as well.

Right now there is \$424 million provided from FEMA to GLO that is readily available right now. Those contracts are being let as we speak. There are no income requirements for that \$424 million, so that is currently available, and we are working that. The other \$5 million, as indicated earlier, that tranche of dollars right now is not expected to reach us until sometime in August or September. Hopefully we can expedite that. Then that third tranche probably won't come until much later in the year.

So that is where we are. As soon as we are able to get the resources, we will turn it around. Contractors have already been identified, and we will spend dollars to repair and rebuild homes.

Ms. JACKSON LEE. Thank you so very much.

Commissioner Cagle—and I am going to pose this to Mr. Sloan and Ms. Moore—what is the most important public and private assistance that the county needed? While you answer that question, I want to make sure that we are advocating for direct payments to the county and the city, and you can reinforce that.

Mr. Sloan, let me understand what is the best way for long-term recovery for the Federal Government to work with local entities. I hope you as the county will reinforce doing all the Army Corps projects, moving them and expediting them. But what would be the best long-term?

Ms. Moore, this question I would ask to you and to Mr. Owens, if you want to comment. But, Ms. Moore, if you want to talk about the denials in low-income areas by FEMA and how devastating that was, and the great work that the NAACP did.

Mr. Cagle, I think I was going to you on the public-private assistance.

Mr. CAGLE. Public-private assistance. Congresswoman Jackson Lee, I think you are asking how we can work together, and I would consider myself—

Ms. JACKSON LEE. What is the best public assistance that helps you in the county?

Mr. CAGLE. Third reservoir, buyout program, fund the four big projects. We are beyond shovel-ready. The shovel is in the ground. We have had a problem where we get the trickle of money and then we have to wait, and that is White Oak, Hunting, Brays, and Clear Creek. We need to have Barker Addicks improved——

Ms. JACKSON LEE. And Green.

Mr. CAGLE. And Green. Green we share. But there are projects that are already shovel-ready projects that are already under way, which is what I was referring to here. They are already approved and shovel in the ground. We need to have those additional projects, such as Green.

Barker Addicks need to be improved, dredged, and the buyouts need to be done there so we don't have folks who are in the pool anymore.

We need to protect the port, as you said, and then we have so many different Federal programs. Some sort of coordination would be beneficial for us to know which pot will help pay for what project. That would be helpful to us because we have several different Federal programs that each have their own, if I could use the mayor's term, tranche of funding. That would be helpful for us as well, so that we are not always having to make multiple applications and then not getting any because we are dispersed in that regard.

Thank you for your leadership during all this time, Congresswoman. I saw you out there taking care of our people, and I appreciate it.

Ms. JACKSON LEE. We are all working together.

Mr. Sloan and Ms. Moore.

Mr. SLOAN. Thank you for the question. Long-term recovery, it is very important that we have a relationship not only with our Federal partners but also through the State. That partnership has to be in place in order to make sure that we get back to a new state of normal, whatever the effects of the disaster are. We support, obviously, anything that is going to reduce risk to our community and to the residents. If that is Corps of Engineers projects, flood control projects, along with the numerous other mitigation issues that need to be put in place, which may be raising computer systems that are in low-level buildings in order to secure our infrastructure with the government systems, there is a variety of things that I have always been in support of to reduce that risk and threat, not only to our local governments but also to our community.

So our Federal relationships need to be in place with FEMA, with HUD, with Ag. It doesn't matter, as long as we can maintain those communications, the flow of funds in order to expedite recovery. I always look at recovery as the disaster within the disaster. We always can respond very effectively, but we forget about what it takes in order to get our people and our residents back to a new state of normal.

Ms. JACKSON LEE. Ms. Moore.

Ms. MOORE. Thank you so much for your question. What we have done with appeals and denials is almost mind-boggling. People were sent letters that they couldn't read, and they were asked to

put appeals in a framework that didn't even have answers to the questions. We had people that were denied such simple things if they had only filed an appeal. They didn't understand what they were reading. If you are 80 years old and you get a paper in the mail and they don't have a clear explanation, and you don't have a person who is going to explain it to you, that is what we did at the disaster recovery center. That is what we did all day long, is help people with appeals and denials and understanding what it is they needed to do.

We had people that were coming in that were young, didn't really understand what they meant by the property they lived in, whether it was grandma's house or an aunt or uncle's house that they happened to get, how do they do what they needed to do. We had people that lived on county roads in trailers that got denied. So when we talk about people getting denied and then they do an appeal, there is such a lag time in that process that the date from your final appeal is 90 days. If you had an appeal in September and you finally got your first response from them in the middle of November and you got denied, and you had some time to fill out that paperwork, some people are still waiting for an answer from that denial from the appeal.

So we just, in a round-robin circle, with these appeals, and I am glad you asked that question because it is a horrific thing in our community and people not understanding what it is they need to do and how they need to do it. The computer is not everybody's friend if you don't know how to use it, or if you don't have access to one. All the information that they ask for is just terrible. It doesn't make sense to ask some of these simple questions that people don't have answers to and you have to dig and get paperwork and all of these things just to prove that it is your house. Some people have to go down to the tax office and try to present documents that this is really my home. I get people to write letters to say, yes, you really live there.

So the questions that they send back and the denials are just so unworthy and unnecessary. But in our community, as you know, it is very, very difficult, and we continue to process until today. Even though the recovery center is dormant, our work is still going on.

Ms. JACKSON LEE. Thank you very much.

Can I ask unanimous consent to put into the record NPR 2018 "Hurricane Season Will Bring About Battery of Storms"?

Chairman MCCAUL. Without objection, so ordered.

[The information follows:]

ARTICLE SUBMITTED BY HON. SHEILA JACKSON LEE

2018 HURRICANE SEASON WILL BRING ANOTHER BATTERY OF STORMS

Vanessa Romo, NPR, April 6, 2018, 5:48 PM ET.

<https://www.npr.org/sections/thetwo-way/2018/04/06/600193418/2018-hurricane-season-will-bring-another-battery-of-storms>

While images of destruction caused by last year's battery of hurricanes are still fresh in the minds of many Americans, including those living on Puerto Rico where after 6 months power is not fully restored, forecasters are cautioning the public to brace themselves for another busy hurricane season.

Researchers at Colorado State University predict this will be a slightly above-average season, with 14 tropical storms in 2018. Seven are expected to become hurricanes, which have a wind speed of at least 74 mph. Three of those 7 are expected

to be major hurricanes, Category 3 or higher, with winds reaching a minimum of 111 mph.

The Atlantic Hurricane season runs from June 1 through the end of November. “Coastal residents are reminded that it only takes one hurricane making landfall to make it an active season for them, and they need to prepare the same for every season, regardless of how much activity is predicted,” researchers say.

By comparison, 2017 had a total of 17 named storms—with 10 becoming hurricanes and 6 of them major hurricanes—including Hurricanes Harvey, Irma and Maria, which ravaged Texas, Florida, and Puerto Rico. But that number exceeded forecasters’ expectations, including the team from CSU. The university had only anticipated 11 tropical storms with four becoming hurricanes.

Before Harvey made landfall it was predicted as merely a tropical storm or Category 1 hurricane with wind speeds up to 85 mph. But within a few days and by the time it hit the ground near Corpus Christi, Texas, it had developed into a Category 4 with 132 mph winds.

“We issue these forecasts to satisfy the curiosity of the general public and to bring attention to the hurricane problem,” the university said. “There is a general interest in knowing what the odds are for an active or inactive season.”

The report also includes the probability of major hurricanes making landfall:

- 63 percent for the entire U.S. coastline (average for the last century is 52 percent)
- 39 percent for the U.S. East Coast, including the Florida Peninsula (average for the last century is 31 percent)
- 38 percent for the Gulf Coast from the Florida Panhandle westward to Brownsville (average for the last century is 30 percent)
- 52 percent for the Caribbean (average for the last century is 42 percent)

The National Oceanic and Atmospheric Administration will issue its forecast in May.

For readers curious about the names of this year’s storms the monikers are selected by the World Meteorological Organization and are usually common names associated with the ethnicity of the basin that would be affected by the storms. When a storm is particularly deadly or costly, its name is retired and replaced by another one.

Here are the names you can expect this year:

Alberto
Beryl
Chris
Debby
Ernesto
Florence
Gordon
Helene
Isaac
Joyce
Kirk
Leslie
Michael
Nadine
Oscar
Patty
Rafael
Sara
Tony
Valerie
William

Ms. JACKSON LEE. Thank you. I will just finish by putting on the record that I wish Harris County would use their CERT emergency response teams, particularly in the inner-city areas. I know that Mr. John Branch, Mr. Charles White, and a number of others are involved in what I guess you would call the Citizen Emergency Response Teams, which come under Homeland Security, and we are very proud of it. We would like to make sure that they are utilized.

Thank you. I yield back, Mr. Chairman.

Chairman MCCAUL. The gentle lady yields.

Mr. Culberson is recognized.

Mr. CULBERSON. Thank you very much, Mr. Chairman.

Ms. Moore, you put your finger right on it. We really have to make sure the money gets into the hands of the people that need it just as quickly as humanly possible and simplify things. Thank you very much.

Two questions, Mr. Chairman, in two very important areas, if I could. I will be as brief as I can and encourage the witnesses to be brief in their answers.

One is on mitigation and the local share, and the second is on the time line about what the Army Corps told you and when they told you.

The first is, as Mayor Turner and I served together in the Texas House, we are House-trained, learned a great deal, worked together so well. It is so good to see you where you are, and it has been a pleasure to work with you on this.

We learned over the years that the city is responsible when it comes to draining water off of each lot, the curbs, the water that drains down the street and as it goes into the system. The city is responsible for carrying the water to the bayou, and the city's responsibility ends there. Is that correct?

Mr. TURNER. The water that comes from the street, that is our responsibility, to the bayous.

Mr. CULBERSON. To the bayou. You are using the drainage fee. I know the city began a number of years ago collecting a drainage fee. You are using that as fast as possible to enhance drainage to mitigate, right?

Mr. TURNER. Yes, to pay off the past debt, and it goes for streets and drainage.

Mr. CULBERSON. That local match, that local match for mitigation, Commissioner Cagle, is critical. For every local dollar, the Federal Government will provide 3. The Army Corps of Engineers is only authorized to send Federal flood control dollars to Harris County. So every dollar the county provides, there will be 3 additional Federal dollars, so we are limited.

One thing that we need to do, Members, is when it comes to a flood control project, I think it is important if we get a request from a State or local official, that we be able to submit that flood control project to the Appropriations Committee, put it in the Appropriations bill at the subcommittee level with your name on it, it goes all the way through the process, does not increase spending, and it is a flood control project at State or local request, and that would allow us to target spending for these projects like the third reservoir and get them done in a rapid manner. So I would be grateful for your help in trying to get that rule change. That is going to have to be done in the U.S. House, and it will make a big, big difference.

But the other question I had, Commissioner, is we are limited in how many Federal dollars we can send to Harris County for flood control if you are limited. It is based on how many local dollars you can provide. I note that in 2000, the flood control—

Mr. CAGLE. If I may add, Congressman, from property tax owners—

Mr. CULBERSON. Correct.

Mr. CAGLE [continuing]. Many of which, 11,000 in Precinct 4 alone just got hit with their home being flooded.

Mr. CULBERSON. Correct, and appreciate the work I know that you are doing and the mayor is doing and all of our subdivisions are doing to reduce the property valuations so people are not having to pay so much property taxes, because their valuation has gone down. That is critical.

But I wanted to ask about that local. The city of Houston, of course, can rely on property taxes, sales taxes, fees. But Commissioners Court, as the mayor and I remember from the legislature, the legislature will not provide county commissioners with ordinance banking authority, so your hands are pretty well tied. The only source of revenue the county has is property taxes.

Mr. CAGLE. That is correct. There are a few little minor fees that nip at the edges, but by and large that is a true statement.

Mr. CULBERSON. So the money you need for Brays Bayou, to finish out all these bayous and flood control structures in the bayou system has got to be paid for with the Harris County flood control property tax dollars.

Mr. CAGLE. That is, by and large, correct. Yes, sir.

Mr. CULBERSON. I just want to ask you what lies ahead, because I note that since 2000 the Harris County flood control property tax rate has gone down by 65 percent, which severely limits your ability. Whatever local match you come up with, the Federal dollars, there are 3 Federal dollars for every 1 local dollar. Nobody likes paying property taxes. We are all concerned about it. But, Commissioner, what do you think lies ahead? What is the Commissioner Court planning to do, if anything, about the Harris County flood control tax rate?

Mr. CAGLE. In Harris County, because there are five members of the Commissioners Court, we don't really get to talk to each other like other bodies that engage in the legislative process, because of our Open Meetings Act. So many times, we just kind of hear through what we hear others are saying at large, and it makes it difficult for us to get work done, and that is something that our friends in the legislature who are here may, when it comes to emergency-type matters, allow us a little more latitude in the future.

But I think you are looking for us to have a bond election, because we are going to have to raise funds locally to be able to bring up our matches so that we can make systemic infrastructure changes that are going to protect our region.

We will also be calling upon the legislature as they go into session this next year to help us with their rainy-day fund. I think everybody would agree that Harris County has had a rainy day. So working with our State friends, they will assist us with regard to potentially getting some of those matches. But those are off in the future.

Mr. CULBERSON. You anticipate a bond election to help with the effort?

Mr. CAGLE. I do, sir.

Mr. CULBERSON. Let me ask quickly if I may, Mr. Chairman, because this is really important. I appreciate the committee putting together a time line for Hurricane Harvey.

If I may also, Mr. Chairman, I want to be sure to enter into the record, if there is no objection, a *Houston Chronicle* story from February 22, 2018, if I may.

Chairman MCCAUL. Without objection, so ordered.
[The information follows:]

ARTICLE SUBMITTED BY HON. JOHN CULBERSON

FLOOD THREAT KNOWN EARLY—CORPS PREDICTED THE RESERVOIR SPILL BEFORE HARVEY HIT

By Lise Olsen, *Houston Chronicle*, February 22, 2018.

Water is released from the Barker Reservoir on Aug. 29 in the aftermath of Hurricane Harvey. Five days earlier, the U.S. Army Corps of Engineers had projected that the storm would fill the reservoir to record levels and would flood nearby neighborhoods.

A day before Hurricane Harvey made landfall on the Texas coast last August, an internal U.S. Army Corps of Engineers forecast predicted that the storm would fill Houston's Barker Reservoir to record levels, flooding neighborhoods on the reservoir's western border, government records show.

That projection was made Thursday, Aug. 24, 2017, as Harvey barreled toward Houston. The next day's Army Corps forecast was even more worrisome: Both Barker and Addicks reservoirs would spill beyond government-owned land, engulfing nearby homes and businesses.

THE CORPS DID NOT SHARE THESE PREDICTIONS WITH THE PUBLIC.

It wasn't until Saturday, Aug. 26, that authorities in Fort Bend County—after being briefed on the latest Army Corps forecast—issued the first flooding advisory for neighborhoods adjacent to Barker.

It took Harris County officials until late Sunday, Aug. 27, to begin issuing similar warnings for communities upstream of both Barker and Addicks. By then, some neighborhoods were already inundated. Many residents ended up fleeing on foot or being rescued in boats or military vehicles.

The forecasts, closely held internal records, have emerged 6 months after Harvey through discovery in a lawsuit in which thousands of homeowners are seeking compensation from the Army Corps, which operates Barker and Addicks dams and their reservoirs. The *Houston Chronicle* obtained copies of the documents.

They are sure to revive debate about whether the Corps and local officials acted quickly enough to alert homeowners to the danger of reservoir flooding and to urge evacuations.

Ultimately, the forecasts proved largely accurate. More than 9,000 homes and businesses were flooded by the reservoirs—at least 4,000 upstream of Barker and 5,000 to 6,000 upstream of Addicks, according to a *Chronicle* analysis of damage reports.

COUNTY MADE ADVISORY

Fort Bend and Harris County officials said they were not informed of the Corps' initial Aug. 24 forecast.

"If they were predicting that on Thursday, they were not advising us of that fact," Fort Bend County Judge Robert Hebert said in an interview.

Hebert said the county received the next day's forecast, but he said the Corps characterized it as internal and preliminary. County officials say the forecast issued Saturday, Aug. 26, was so alarming that they decided to issue an advisory the same day, citing the Corps' projections.

Hebert said the county did so despite objections from Corps officials, who wanted the forecast kept confidential. Fort Bend County also activated its reverse 9-1-1 system to reach out to thousands of property owners near Barker Reservoir.

Harris County Judge Ed Emmett declined to comment. People familiar with his role in the emergency response say Emmett was not briefed on the Corps' forecasts.

Efforts to obtain comment from the Corps were unsuccessful. The *Chronicle* emailed questions to a Corps spokesman on Tuesday. He had not provided responses as of Wednesday night.

One of the reservoir-adjacent homes that was flooded during Harvey belongs to Harry Ershad, a computer programmer and musician. He said it was frustrating to learn that as early as Aug. 24, the Corps had developed a detailed picture of how Barker Reservoir would fill his Canyon Gate neighborhood. He said that with just

a few hours' notice, he, his wife, and their two sons could have saved their four cars, most of their musical instruments and their home recording studio. Instead, nearly everything was ruined, he said.

By the time Fort Bend County issued its Aug. 26 advisory, Ershad's neighborhood had been swamped. He and his family had to wade out through neck-high water, he said.

"We got out with our laptops and our passports, and that's it," he said.

The flooding forecasts were generated by the Corps Water Management System, which crunches information about rainfall, weather forecasts, river conditions, and other data to guide the Army Corps in managing its dams and reservoirs.

The Aug. 24 forecast showed that Harvey would cause the volume of water in Barker Reservoir to exceed what could be stored on Government-owned land, beginning on Tuesday, Aug. 29, and lasting for more than 2 weeks.

When that forecast was issued, Fort Bend and Harris counties were preparing to open emergency operations centers and Harvey's rains had not yet arrived.

Once the emergency centers opened Aug. 25, the Corps sent staff members and gave daily updates to Harris and Fort Bend county officials and Houston city officials. But the Corps told the local officials not to make any of the Corps Water Management System forecasts public, said Jeff Braun, emergency management coordinator for Fort Bend County.

FLOODING OF HOMES BEGINS

The Aug. 25 forecast showed the water level in Barker Reservoir reaching 100 feet. Water begins to spill into neighborhoods when the level exceeds 95 feet, according to Corps records.

The forecast generated on Saturday, Aug. 26, said homes upstream of Barker would begin to flood on Monday, Aug. 28—a day earlier than previously predicted. The projection for Addicks indicated that some homes in low-lying neighborhoods could fill with 7 or more feet of water and remain flooded for weeks.

Both Harris and Fort Bend counties issued formal evacuation orders Aug. 30. By then, neighborhoods near the reservoirs had been inundated for days.

Attorneys representing homeowners in flood-related lawsuits in the U.S. Court of Claims want to know why the forecasts weren't shared with the public sooner.

"The tragedy is an earlier warning could have allowed people to get out and get their property out," said Charles Irvine, of Irvine & Conner, one of the lead lawyers for property owners upstream of the reservoirs.

"This confirms that when a storm comes, the Corps can use its own modeling to predict exactly how much government-stored water will impact the upstream community. I can't speak to why the Corps didn't give the residents an earlier warning. But clearly the Corps anticipated the flooding on upstream private land from the Addicks and Barker dams before the rains even really started."

James Blackburn, another Houston attorney who has long been active in flooding matters and who recently founded a related nonprofit called the Bayou City Initiative, said a congressional investigation was warranted.

"This is a bona fide public policy debacle," he said. "Were Harris County and Fort Bend County officials getting information and not alerting the public—or were they not getting the information? Or did they get the information and did the Corps ask them not to spread it around?"

RETURNED TO RUIN

Thousands of people like Ershad hunkered down to wait out Harvey because they were not told to evacuate and didn't know their neighborhoods could be flooded by the reservoirs. When Ershad left Canyon Gate, the streets were impassable, but only his garage had flooded. He and his family returned 13 days later to find their home ruined. They had no flood insurance.

"I lost 15 years of compositions of music," he said.

Addicks and Barker dams were built in the 1940's to protect downtown Houston from flooding. The earthen structures are designed to hold storm runoff from the vast Buffalo Bayou watershed and release it into the bayou at a controlled rate.

The government acquired thousands of acres of land behind the dams to serve as reservoirs, but the dams can hold back more water than can fit on that land. Over the decades, tens of thousands of homes were built on the edges of the government-owned property.

When the reservoir pools exceed the government-owned land—an extremely rare occurrence—water has nowhere to go but into adjacent neighborhoods. That's what happened during Harvey.

As far back as 1995, the Corps studied ways to reduce this risk. The options included deepening the reservoirs, buying out thousands of properties and building more reservoirs. The Corps never acted on any of them.

Mr. CULBERSON. The *Chronicle* reports that the day before Hurricane Harvey made landfall—this would be on August 24—that the Corps had an internal forecast that the storm would fill Barker and Addicks to record levels and flood neighborhoods on the western side of the reservoir, and then the very next day, on Friday the 25th, the Corps forecasted that both Addicks and Barker would spill beyond government-owned land, in the Gulf nearby neighborhoods. I know that you guys were getting briefings on a regular basis from the Corps. Do you recall when the Corps told you about this prediction that water would breach the dam and go around the spillway?

Mr. CAGLE. I am going to pass that one to Mr. Sloan with regard to a particular memory of when we were informed of that information. I know that operationally, I was out there fishing people out of the water.

Mr. CULBERSON. Oh, yes, we all were dispatching people. I am just trying to get an idea of when the Corps told you guys about this prediction they had.

Mr. SLOAN. I know that they spoke with Harris County Flood Control District and our folks in the operation center on various models that were being run as we were on Friday, going into Saturday and the rain started a little bit, and then lulled on Saturday until Saturday evening. There were a variety of scenarios that we looked at, from where was the volume of rain actually going to fall. Would it be to the south? Was it going to be north of the reservoirs? I know that there was discussion of the potential of hitting some of the non-government lands behind the reservoirs. I don't recall them ever discussing increasing the volume over leases.

Mr. CULBERSON. What about this forecast? They had a forecast on August 24 that the—

Mr. SLOAN. I personally never saw the forecast that they had put together in a model. I believe that flood control may have had access, and they looked at that as another model. We were working with the National Weather Service on a variety of scenarios.

Mr. CULBERSON. Sure. What about on Friday, the 25th? Did the Corps tell you that they had a model that would show all the neighborhoods downstream of Addicks and Barker would flood?

Mr. SLOAN. Downstream? No, I did not have that information.

Mr. CULBERSON. That is really important, Mr. Chairman, because the information that people had in those neighborhoods was do not evacuate, don't leave. According to this *Houston Chronicle* article, the Corps knew on August 24 that water was going to fill up to flood the back end of the reservoirs, and then the day after they had a prediction that the neighborhoods downstream were going to flood, and I just want to be clear about when they told you about all that.

Mr. SLOAN. I think that flood control came to me and said that with the volume of rain that has already happened in the system, I believe it would have been—I would have to go back and look at some of my notes, when they came to me and said we are impacting downstream now with additional water. I believe it would have

been that Sunday night into Monday. We were aware of a variety of models, but which one was going to play out was not clear.

Mr. CULBERSON. The time line the Chairman has given us is very helpful. On Sunday, the 27th, the local word from the Harris County Flood Control District was evacuate only if you have been told to do so, and that continued to be the recommendation. At 6:37 a.m. on Sunday morning, evacuate only if you need to. Then on Monday early in the morning, again the recommendation from local authorities was only evacuate if you need to. The Corps, basically even on Tuesday, residents were advised to just remain alert and take precautionary measures.

It is a real worry. We do need an alert system. The minute that you guys find out, that there is something like an Amber Alert that can go out if you have a flip phone or a cell phone, your home is likely to flood over this next time period. I think that is one of the biggest lessons learned here, Mr. Chairman, that there was inadequate warning given to people, and they didn't know where to go once they were told to evacuate. Once they finally figured out to evacuate, they didn't know where to go.

But we are looking forward to working with you to help resolve this for the future.

Thanks for the extra time.

Chairman MCCAUL. Yes, thank you. We will follow up on that issue for sure.

Mr. CULBERSON. Thank you.

Chairman MCCAUL. The Chair recognizes Mr. Green.

Mr. AL GREEN. Thank you, Mr. Chairman.

Having thanked a good many people, I think that there are still a couple of others that I have to thank.

Commissioner Rodney Ellis, Precinct 1. Commissioner Ellis and I worked together. He extended the hand of friendship, opened up his good offices, and had tele-town meetings, brought in persons who could accord intelligence information, if you will, to people such that they could understand this unfriendly process. He did an outstanding job, and in his absence I think it appropriate to say something kind about him.

Jerry Strickland worked with the Governor's Office. Sometimes it can be difficult reaching people, but Jerry Strickland answers his phone and has been available to be of great assistance to us when we needed to access information from the top down.

Mayor Turner. There was this term that we used to use, and still do, "shelter in place." How do you shelter in place when you have no place to shelter? Grateful to you for what you did for the homeless. Would you just take a moment and explain what you did to help people who were living under bridges have a place to shelter?

Mr. TURNER. Congressman Green, what we ended up doing when we opened up, for example, at George R. Brown, we invited everybody to come. If you were homeless, in fact, first responders, law enforcement and others, we are going out and talking to and communicating with people who were homeless and bringing them to the George R. Brown, into our shelter. We did that during the storm, and then immediately after we ended up putting about 250 to 300 in this particular location that used to be housed by the Star of Hope, and we turned that into Residents of Emancipation.

I will say that was done in conjunction with FEMA, with the Red Cross, the city of Houston Housing Community Development, and that facility still remains. In fact, we are getting ready now to turn that into one of the homeless shelters, period.

Mr. AL GREEN. I am grateful to you.

Mayor Owen, I am grateful to you for a multiplicity of reasons, none of which will exceed what you did in bringing your entire team on-line, and you had a 24/7 operation, a smaller city, but you stepped up in a big way, and I am grateful.

You mentioned the tornadic activity. There are complications associated with that that haven't been dealt with. You mentioned the bank building. Many people don't know some of the offices that were housed in that building. If you would, just talk about some of the offices that would help you in a time of emergency that were housed there, because we need people to know that others were hit, too, that were trying to be of assistance to you.

Mr. OWEN. Well, I thank you yourself, because your office was one of those that has been displaced, and you are still not back in it.

Mr. AL GREEN. Yes, I was homeless.

Mr. OWEN. He was homeless, along with a State senator and a State representative who all represent me, who even in spite of being homeless took a very active part in trying to do what we needed to do in the city.

You are right, the office, the bank building, is still not open, has not been repaired.

Mr. AL GREEN. That was by virtue of the tornado, the storm but the tornadic activity hit it head-on.

Mr. OWEN. Right, \$4 million worth of damage to that building that had nothing to do with the flood, along with the two shopping centers that were adjacent to it that displaced those local business people who depend on that, and they are still not back in some of those businesses.

Mr. AL GREEN. Now, you made commentary about the shelters that you opened, but I think you should say a bit more about those shelters because I was there to see you in those shelters helping people. Say a bit more about them, the school.

Mr. OWEN. Right. Well, we had a great partnership with our schools. When we knew we were going to have a shelter, we called Fort Bend Independent School District, the superintendent, and said we need some space. We have people that we need to get into those shelters, so he gave us Marshall High School. We called Stafford. Stafford gave us their high school, and we were transporting those people ourselves. We had staging areas within the city. If they could get from their homes to a staging area, are we transporting? I said we did 1,300 high-water rescues, and we were taking those people to a staging area, putting them on a bus, taking them to those shelters.

Both of those shelters were feeding them. The cafeterias were open. But as I said earlier, the main problem we had with the shelters was that we didn't have the beds for the people. They were sleeping on the floor. The biggest concern that we had were some of our disabled people, both mentally and physically, who were

scared to death. We had them in particular rooms to take care of themselves.

I have to tell you a story that kind-of relates to this. I was in one of those rooms where we had those people, and I saw a man standing, and he was talking to a mirror, because this was in a room that had been a recreational room. He was carrying on a conversation with what he thought was another man on the other side of that glass, but he was, in fact, talking to himself—scared to death, didn't know where he was, didn't know what was happening. We had people there who were taking care of him.

I go back to what Ms. Moore said. I think if we do nothing else, I think those operation centers that we opened up where people went and made application for reimbursement, ask them what the biggest reasons were that they were turned down, because I can tell you, I echo what she said. They just received a letter in the mail that they were turned down. We were asked to tell them to reapply. That should not have been our responsibility.

When they went to those centers and they filled out those forms or they got those forms, I think it would help you all and it would help FEMA to understand what are the major reasons for applications being turned down so that the people who make those applications know that, OK, here is what I need to do, and here are reasons that I may get turned down, and then they were told that they could reapply, and some of those people have still not received reimbursement when they did reapply.

I have a lady that had \$13,000 worth of remediation in her house for mold. She took money out of her retirement. She has not been reimbursed for that \$13,000 yet, and that has been 4 months ago.

So I go back to what my original statement was as a small city. We depend on getting our money as quickly as we can, and the residents do too. I did make the point earlier, but 50 percent of my entire budget is public safety, and 72 percent of my budget is personnel costs. That doesn't leave a whole lot of money for everything else. So when I take 72 percent of my budget to pay personnel, and then I have another million dollars' worth of excess for overtime, and then I have to wait 3 years to get it, I can't accept that.

Mr. AL GREEN. Let me hurry quickly to Ms. Moore, because as a former NAACP branch president, I have great respect for the organization.

Ms. Moore, I would like to, with your consent and permission, have this report that you presented to me placed in the record, if there are no objections, Mr. Chairman. In this report that I would add that the NAACP identifies problems with the system. Ms. Moore, your report indicates that there is a problem with the application process, that it is not user-friendly. You indicate that people are rejected for minor reasons. You talk about the claims process.

But I want you to do this—do I have that unanimous consent, Mr. Chairman?

Chairman MCCAUL. Yes, no objections.

[The information follows:]

INFORMATION SUBMITTED BY THE TEXAS STATE CONFERENCE OF NAACP UNITS

Texas NAACP State Conference of Units Contact Information
State President, Gary L. Bedsoe

Disaster Committee, Carol Moore
State Staff, Lonzo Kerr, Jr.

NAACP LIST OF IDENTIFIED PROBLEMS REGARDING HURRICANE HARVEY AND RECOVERY
EFFORTS

Poverty

- Lack of Insurance
- Areas Less Profitable for Rebuilding
- Lack of Access to Capital
- Failure to Enforce CRA
- Desire for Gentrification of Areas
- Desire to Change Political Character of Communities as in Galveston

System

- designed to prefer the rich and the well educated
- up front investments too often required
- application process not user-friendly
- monitoring system seems to be designed only to meet an administrative necessity of simply having a system of some kind, as calls handled seem to be handled in a cursory manner
- rejection for minor reasons discourage applicants and lead to a windfall so funds will default to Government or be available to use in other areas
- inadequate number of culturally sensitive reps in a variety of areas
- no methodology to identify the disaffected who for reasons of lack of requisite knowledge or understanding, literacy, language impediments, extreme poverty, or similar obstacle have not entered the system
- claims process not user-friendly
- renters seem to be highly at risk
- homeownership rules don't recognize instances where family members clearly own property but have not formally transferred ownership
- contracts for major services seemed to be locked up prior to bids even being opened up, as some have said—this is a cottage industry

Other

- people having to live in hazardous conditions while the system fails to move
- no or inadequate regulation of companies with hazardous chemicals, some not publicly named
- new laws in Texas limiting ability to recover insurance that went into effect on 9/1/2017
- Corps of Engineers providing inadequate notice to residents about release of water from reservoirs
- Corps of Engineers releasing water on thousands of unsuspecting residents when cooperation with community could have greatly reduced ultimate damage and harm from release (note how Congresspersons called at our request to seek a delay so we could go door-to-door and the water was then released 2 hours early)
- Desire for Gentrification or other exploitation
- Potential political dynamics that encourage slow and different Recovery
- ??need to take politics out of rebuilding process
- the need to get people dislocated back home before 2020 Census. Smaller communities like Port Arthur will need exemption to continue receiving certain Federal funding if population falls below 50,000 in next Census
- There needs to be a technology-based system that can do a holistic and cumulative impact of infrastructure and housing projects funded by the Federal Government
- There is also a need for mental health care services for those impacted by Harvey who are now suffering from post-traumatic stress (See, e.g., Todd Ackerman, "Survey: Harvey's distress unrivaled," *Houston Chronicle*)

Lack of access to technology

- Realization that publication on web is not altogether adequate
- We need a very comprehensive medical monitoring program which includes air and soil testing especially in some of our low-lying areas and we need to be in a position to have residents, especially children and senior citizens screened for asthma and other respiratory diseases every 6 months.
- Use the new version of Visionlink that will do just about everything that can be done in case management including locating and deploying spontaneous volunteers. It can locate materials needed for recovery and invoice for shipping. It

will allow us to gather real-time data on response efforts which will make it easier to tell if any discriminatory practices are being done.

- We need the Congress' help in getting sheltering standards set across the board. The Geneva Conference requires all Red Cross Shelters to be set up as "Sanctuary" shelters. However, the other agencies, including Government agencies don't operate with those standards. As a result, many immigrants are being intimidated and harassed by ICE and other Law Enforcement agencies (like running a background check on the 5-year-old in Dallas).
- A uniform credentialing system to protect victims from people preying on their misfortunes. This system would require all disaster workers to be registered into a databank and display an accepted credential to victims they are trying to help.
- FEMA has a routine of sending out denial letters on over 90% of all initial claims filed. The method they use to contact a claimant results in too many African Americans giving up completely on their claim. We have asked them, to no avail, to explain to the claimant what was lacking in the notice of claim, and guide them on what they should do to file the claim properly, but FEMA has not responded.
- We need to make sure HUD adheres to the one-for-one rule which requires cities to provide or build one low-income housing unit for every low-income housing unit that is destroyed or condemned. We also need to stop HUD from automatically voiding Section 8 Vouchers when a storm hits leaving HUD recipients completely homeless, while HUD landlords use HUD money to remodel and double, sometimes triple the rent so that the tenant can afford to return to the renovated unit.

These are my SEVEN most critical items to recovery.

1. We must have or developed a scientific mathematical recovery system that tracks dollars and outcomes for all Federal/State and non-profit dollars. This should be used. NETS.—Please review LJA proposal . . . AskCongress/FEMA/DHA to Fund.

2. We must have a Case Management system that is connected to resources that provides immediate resources. I know we have VOAD . . . but we certainly want to make sure they have the resources inside the VISION LINK or CAN system to track recovery efforts and success stories and makes adjustments as needed.

3. There are Four Pillars of a Community. (1) Housing, (2) Infrastructure, (3) Economic Development and (4) Community Enrichment (Parks, Services, etc.)

- (A) All Housing Types/Needs must be addressed immediately. Week Numbers (Housing is Number 1—It affects Voting)

Repair Programs

Manufactured Housing Units—We must place an emphasis on getting people back to communities.

Rebuilds

Buyout's and New Construction at the same time allowing people to live in their community and grow.

Note. Local Communities should be given incentives to move faster. (Extra 7% admin fee for local government) Units=Dollars

- (B) Infrastructure—CRITICAL All Infrastructure should be in accordance within a comprehensive plan and harden to withstand another storm.
- (C) Economic Development—A list of all businesses affected should be collected who have applied for SBA and been denied. We should advocate a small business package for targeted zip codes.
- (D) Civic Enrichment. This would be critical role for the NAACP. Identification of all community support entities inside targeted zip codes.

We should speak to our Federal partners about these four bullet points.

4. All Federal Dollars should have a MWBE/SBE/HUB and Section 3 Tracking component. All Cities/Counties and the State should have an administrator/consultant to monitor and or select vendors for total community recovery. Harvey should be tracked this way.

5. All Fair Housing Laws should apply. Any government violating fair housing should forfeit all recovery dollars.

6. The Federal Government should use Harvey to identify (best Practices for Recovery in the Building and Trades Industry).

These items should be used to mitigate from another storm.

7. A competition for a Demonstration Project between Public, Private and Non-Profits for Disaster Recovery would encourage innovation at a local level. We should encourage CIG grant process used at USDA.

Mr. AL GREEN. Thank you.

I want you to do this, Mr. Moore, if you would. Talk about how you had the intentionality to present notices to people. You had a system that you were ready to run with to let people know what the impending circumstances were. Could you say something briefly on this, please?

Ms. MOORE. Yes, I will. Thank you so much. We have a project that we are beginning called Block by Block, if that is what you are referring to?

Mr. AL GREEN. Yes, ma'am.

Ms. MOORE. It engages everybody that is a partner within the community. As you know, most people say in our community we have beauty shops, barber shops, liquor stores, and churches, and there is a church on every corner. So we are going to utilize that church on every corner to communicate with the people on that street. There is a four-corner block, and there is a church on every corner, and they went to those churches already to get what they needed, and they still go. They are getting food, they are getting counseling at the church on the corner. They are not members of that church, but they are in that community.

So when you do Block by Block, the people on the street go to Mt. Zion, they are going to go in there, they are going to have whatever problem that they have. So when we call Mt. Zion when there is a disaster, they already know that the lady across the street in Apartment 11, she gets dialysis on Monday, Wednesday, and Friday. So when the street is flooded or whatever is going on, somebody knows to get her, or to get the individual who is there.

It is very important that we understand that we cannot drop the neighbor by neighbor process because the hurricane is over. Block by Block continues, and as we get into our system of understanding the people and the process, we can make changes within our community. It is about building a circular process, not being told what we need to do top-down. People help each other when they are trying to get up, and we are going to strengthen that block by block.

Mr. AL GREEN. Bottom up.

Mr. Sloan, quickly, if I may ask, how can the NAACP foster a relationship with you such that the Block by Block concept can be integrated into the methodology that you currently utilize?

Mr. SLOAN. I think we had a conversation before we even started today about integrating Community Emergency Response Team and training within the NAACP and helping our communities build on their personal well-being by understanding that they need to take care of themselves, their families, their property, and then be able to reach out and help their neighbors. We look forward to providing the Train the Trainer, to be able to provide that assistance back to our residents.

We are very fortunate. We have trained over 35,000 individuals in Harris County. But with 4.7 million people, the gap is large, and that has to continue to grow. We have to convince our residents that personal preparedness is a priority and not a reaction, and that is a partnership that we look to build upon.

Mr. AL GREEN. Thank you, and I am going to ask that I have an opportunity to get the name of the contact person that you will be working with. I would like to stay engaged in this process with

the NAACP. As I said, I am a former branch president, and it means a lot to me.

Just in closing, finally this. This was so important to the NAACP that the president of the State conference is here today. That is Mr. Gary Bledsoe. He is a lawyer, and also the Dean over at the Thurgood Marshall School of Law currently. Thank you, Mr. Bledsoe, for being here. We appreciate you very much.

I yield back, Mr. Chairman.

Chairman MCCAUL. Gary, it is good to see you again as well.

Dr. Burgess is recognized.

Mr. BURGESS. Thank you. Thank you, Mr. Chairman, and thank you for letting me be a part of this hearing. It has been a long day, but I have learned a lot listening to the panel.

The figures on debris removal, Mayor Turner and Commissioner Cagle, that is an astounding amount of stuff. What did you do with all that stuff?

Mr. TURNER. To the landfills, Dr. Burgess. But it all has to be sorted. You can't just go in there and put it all in there. It is a very complex operation. I do want to give a great deal of credit to Harry Hayes, who is the Solid Waste Director and the Chief Operating Officer for the city. He has been through a number of these storms. I know during the tax day flood we moved at a rapid rate. When FEMA told us that it would take from the end of December into January to do the first wave, that was just not acceptable for us. So Solid Waste employees worked 7 days a week, every single day, all day.

I do want to thank the Governor as well because I asked for him to allow the landfills to stay open past 7, and he did, and it was very instrumental in waiving a lot of the requirements on that end.

The contractors that stepped up, San Antonio and Austin. I do want to give them a great deal of credit because they stepped in with mutual aid agreements to help us out.

But once you pick it up, it still has to be sorted. You can't just send everything there. But the county, the city, working collaboratively, we both worked with similar contractors, they just did an incredible job.

Mr. BURGESS. You were able to separate out the hazardous stuff and get it to where it was supposed to be?

Mr. TURNER. Yes.

Mr. BURGESS. So it didn't get comingled with less hazardous stuff?

Mr. TURNER. That is correct.

Mr. BURGESS. Very good. My first mortgage, Mr. Mayor, was in your fair city, so I have a lot of affinity and affection for it. I did pay it off. I don't want to tell you how long ago or how much it was for, but it was very small.

Let me just ask you this, Mayor Turner. You mentioned about pre-positioning shelters, and Ms. Moore referenced a dialysis patient. Probably 10 days after the storm I came down to a dialysis clinic with the administrator for the Center for Medicare and Medicaid Services. I have to tell you, I was struck by the fact that, for the people who were on dialysis, it is not something that could happen; I mean, it is going to happen. Two or three times a week you have to make that trip, so the conditions are going to be very bad.

Do you have any way of not just pre-positioning a shelter but perhaps proactively reaching out to that population—because they are readily identifiable. Everybody knows who they are—and maybe getting them to a different location? I heard about this one bus driver who braved floods and wind to get the patients in so that they could be dialyzed, but really he was putting himself at risk for an activity that was quite predictable that it was going to have to happen.

Is there any way to mitigate that, to pre-mitigate that?

Mr. TURNER. Dr. Burgess, I think the answer is yes. We got all these databases that are out there. It is just a matter of making sure we get the information so that we know ahead of time, and then we know how we can set up and where we need to set up accordingly. At all of the major shelters, it was not just housing, providing clothing, but providing medical assistance as well. I know that was done at NRG, and I commend what was taking place at NRG, and Baker Ripley, what they were doing. The same thing at the George R. Brown, and the same thing was at the Campbell Center, the shelter.

So it was the pharmaceutical centers, it was other medical assistance all being provided at these shelters. It was pretty much holistic.

Mr. BURGESS. Could they provide dialysis at these shelters?

Mr. TURNER. I can't say whether or not they were providing that or they were being transported to hospitals in other areas where those services could be provided.

Mr. BURGESS. Mr. Cagle, let me just ask you, and this will be the last question. I know we have all had a long day.

You talked about the buyout programs and the checkerboard phenomenon. So someone who remains in one of those areas, one of the checkerboards, one of the squares of the checkerboard, are they still eligible to purchase the Federal flood insurance?

Mr. CAGLE. I am not sure. That is a good question.

Mr. BURGESS. How many times can they be flooded out before perhaps they can't buy it? I am just asking, because I don't know the answer to that.

Mr. CAGLE. I don't know the answer to that either. That could be an incentive to encourage people to no longer be part of the checkerboard. Dr. Burgess, I hate to horn in on something that the Mayor said, but when you talked about picking up debris, today, although it has been long, we have not had a chance to sing the praises of private folks who came in to help.

Rotech donated their coolers so that HEB, Kroger, and Walmart donated water. When our folks were out there in the field picking up debris, where people's stuff was in their front yard—and I know this because that third picture over there is me with my library and my reading chair. So I know what it is like to have your life on the curb. Our folks that were picking up the debris were handing out bottles of water to be that little kind act of mercy in the midst of the pain. The cool water went a long way.

Mr. BURGESS. Thank you all for your efforts during that time, and your continued efforts.

Mr. Chairman, I will yield back.

Chairman MCCAUL. The gentleman yields back.

Ranking Member Thompson is on his way home, so I recognize the gentle lady from Texas, Ms. Jackson Lee, for a closing statement.

Ms. JACKSON LEE. Mr. Chairman, thank you very much.

Let me add my appreciation to Ranking Member Thompson, who himself has been exposed to a number of hurricanes, coming from Mississippi. I thank him for his leadership working with you, Mr. Chairman. I think you will say this in your closing remarks, that if there is a bipartisan committee in the U.S. Congress, non-partisan, it is the Homeland Security Committee, which I have been privileged to serve on for a good period of time, and I enjoy the seniority on this committee. So I thank you, Mr. Chairman, and look forward to working together.

We deal with the homeland, and we deal with North and South Korea. So you may see us on the DMZ because we are securing the homeland.

But I do want to acknowledge the stupendous local leadership, from Commissioner Cagle representing the county; and, of course, the judge. Mayor Turner, it is well-known that you have redesigned how we deal with hurricane recovery, and I thank you for your astuteness. Your chairwoman of the Homeland Security Committee remained throughout the committee, Councilmember Stardick. I am in her district, she is in my district, we work together.

Mayor Owens, we are neighbors, and so we are committed to you, and we believe the work you have done has been stupendous as you have worked with your Congressman, Congressman Green.

To Mr. Sloan, let me as well look forward to working with you as we focus on local preparedness and enhancing that CERT team that is so very important, and particularly as it relates to minority communities, to multi-lingual populations, from Asians and Hispanics to others. It is very important to have that local team.

You have done a stupendous job, Ms. Moore. Let me as a lifetime member as well applaud you and President Bledsoe and our local president as well here in Houston, the Dean. Let me just say that from the Urban League to the NAACP to a number of other entities, we have done well.

The Chairman has allowed me, I want to do a real speed read. Please allow me to do that. But I would like to put into the record an article from the *Boston Herald* speaking about recalling the drowned officer as sweet and gentle, Sergeant Perez. I ask unanimous consent to do that.

Chairman MCCAUL. Without objection, so ordered.

[The information follows:]

ARTICLE SUBMITTED BY HON. SHEILA JACKSON LEE

HOUSTON POLICE CHIEF RECALLS DROWNED OFFICER AS "SWEET, GENTLE"

<http://www.bostonherald.com/news/national/2017/08/houston-police-chief-recalls-drowned-officer-as-sweet-gentle>

Owen Boss, Wednesday, August 30, 2017, Boston Herald.

The heartbroken chief of the Houston Police Department choked back tears while confirming the tragic drowning death of Sgt. Steve Perez, a 34-year veteran he said set out into the raging storm despite pleas from his wife to stay home because the longtime officer felt there was "work to do."

"The wife told me she asked him not to go in," Houston police Chief Art Acevedo said of Sgt. Steve Perez. "His response was, 'We got work to do.'"

Acevedo, who described the 60-year-old as “a sweet and gentle public servant” who “laid down his life” said Perez died after becoming trapped in floodwaters while driving to work in the early morning hours Sunday.

“Unfortunately, in the darkness, Sgt. Perez drove into an underpass that’s around 16½ (feet deep), drove into the water and he died in a flood, drowning-type event,” Acevedo said, adding that local officials struggled with the decision to hold off on recovering his body, which was found yesterday morning.

“Once our dive team got there it was too treacherous to go under and look for him so we made a decision to leave officers there waiting until the morning because as much as we wanted to recover him last night, we could not put more officers at risk for what we knew in our hearts would be a recovery mission,” Acevedo said.

In a statement yesterday, the Houston Police Department said Perez’s death “reminds us of the dangers that police officers willingly face every day in order to serve this great City. We will go through this extremely difficult and trying time with heavy hearts sadly reminded of the ultimate sacrifice one of our own paid. Words cannot adequately express the sense of loss of the Perez family and their extended Houston Police family are experiencing.”

Perez, who leaves behind his wife, Cheryl, and a grown son and daughter, was hailed for the courage he showed in the face of an unprecedented weather emergency.

“Like Steve, we will not (waver) and we will not stop until we meet the immediate safety and security needs of the community Steve and his HPD family love to serve,” the statement read.

In a message posted to Twitter, Houston Mayor Sylvester Turner wrote, “Sergeant Perez fulfilled his purpose. His mission is complete. This city ought to celebrate his life.”

Ms. JACKSON LEE. As well to make mention of the public works employee and all of the employees, all of the employees. The Mayor reminds us all the time, they were stupendous, from the public works, and I will mention police and fire.

But I also want to put in the picture of Sergeant Perez. I ask unanimous consent. The picture of the Salvador family, the picture of this young Dreamer. Please note that this is not reflective of all those tragically who lost their lives, but I wish to put them in as a symbol of the loss of life that we had, Mr. Chairman. I ask unanimous consent.

Chairman MCCAUL. Without objection.

[The information follows:]

PHOTOS SUBMITTED BY HON. SHEILA JACKSON LEE

HOUSTON POLICE DEPARTMENT, SGT. STEVE PEREZ, 60, HAD WORKED 34 YEARS WITH
THE DEPARTMENT







Ms. JACKSON LEE. Then let me just read from—this hearing was entitled “Houston Strong,” and I know that the Mayor of Houston would not mind me adding “Region Strong” because we have so many friends and partners. As my colleague Congressman Green did, let me acknowledge Commissioner Ellis, Commissioner Cagle, and that is because we worked together so hard to expand the supplemental nutrition program and managed to serve an additional 30,000 people who were food insecure, without food, and I want to thank him for the hard work on that, working with the county.

I already acknowledged President Bledsoe, but the Coast Guard and the Federal entities that were here before, they were the bird flying in the air, pulling us out, Coast Guard, Army Corps, FEMA, Red Cross. Even though we need to get them untangled, they were here, and they need to listen to you to get untangled. But I do want to put my thanks to them on the record because they had good hearts. They had a lot of people here.

So in the Red Cross, I want to thank Charlotte Camacho, Charles Blake. They were two staff members who were battling on the battlefield, out there just trying to do the good work they were doing.

The Mayor of the city of Houston Turner, Mayor of Humboldt, Texas, Mayor Aaron working with Congressman Ted Poe was not able to be here today. The Central City Mayor, working with myself and Congressman Gene Green. Mayor Diaz, the county judges, the commissioners that are not here, all of the city council members, Coast Guard, Army Corps, Chief Acadedo of the police department, Chief Pena of the Fire Department.

Then, of course, the Urban League, Baker Ripley, Fifth Ward Redevelopment, Lodge Point, the Muslim Alliance. So many different

faiths were involved, the Protestant faith, Catholics, the Jewish community were stupendous, Adventist Services was stupendous.

Tray the Truth and all singers and artists and people who were entertaining and comforting people in their time of need.

Dickey's Barbecue, which was out in northeast Houston trying to feed people when they could not be fed. New Light Christian Center, Reverend Taylor and Mrs. Taylor, Grace Cathedral, Dr. Gillam, the Texas Military Museum was using their dump trucks.

Finally, if I might—and if I forgot anybody, it is of the mind and not the heart. The amazing volunteers. Every one of you are unnamed, nameless, but I tell you, if we could hug all of you, we would do so.

So, Mr. Chairman, I just wanted to say that we have learned a lot today, and we particularly learned that we want our Federal Government to do studies and do work at the same time, central spine, bayous, fixing repairs, we want that to be done at the same time.

Then, of course, we have learned that there were a lot of heroes and sheroes. Some lost their lives. Some didn't get their name out, but their heart was there for so many people when it came to providing them with relief.

To the Mayor of the city of Houston, since I was at the George R. Brown, I don't know how many city departments you had there, mayor, but you literally lifted the city of Houston down to the George R. Brown. Parks and Recreation, your City Health Department. I want to make sure I thank the MASH unit that came in from Health and Human Services.

I leave you with we closed a hospital that I am hoping we can work together. I think it is in the city limits, and that is East Houston Memorial that my constituents are calling about that they have down I-10 near Pleasantville, no hospital services because that hospital finally said we can't take it. I am pleading to East Houston Hospital, let us work with you, let us try to get you back open again, and again, let us get the monies to where they need to be, to the county and the city.

Thank you, Mr. Chairman, for your diligence, but also for your passion and commitment to have this hearing here, and all of the Members, from Mr. Al Green, Mr. Gene Green, Mr. Burgess, our friend from Nebraska, and of course our friend from Texas, Mr. Culberson. All of us worked on one page, and our senators who are not here as well.

So thank you very much for this hearing. Again, whatever I missed is of the mind and not the heart. We are all still working together for those who are still suffering. We have not forgotten you.

I yield back.

Chairman McCAUL. I thank the gentle lady. I think you have named just about everybody on my list. I think you saved me a lot of time in my closing remarks, but I appreciate your kind words on the way we try to govern on this committee, and that is in a bipartisan way. This is a Texas issue, it is not a Republican or a Democratic issue. I stand by that.

I want to also thank the committee staff and the personal staff. This doesn't happen by chance. It took a lot of work and prepara-

tion to get to this point. I am proud of everybody on this panel because you were in the thick of this day in and day out, 24/7. We were there as Members of Congress being liaisons, trying to get how can we help you. But you were the guys removing the debris, dealing with the victims, and everybody in this room who was a part of it, thank you as well for being patriots and heroes.

As we say, Texans Helping Texas, but also Houston Strong. I thought it was very fitting that the Houston Astros won the championship game, because probably that is the best way I can think of to close.

So, without objection, this committee stands adjourned.

[Applause.]

[Whereupon, at 2:41 p.m., the committee was adjourned.]

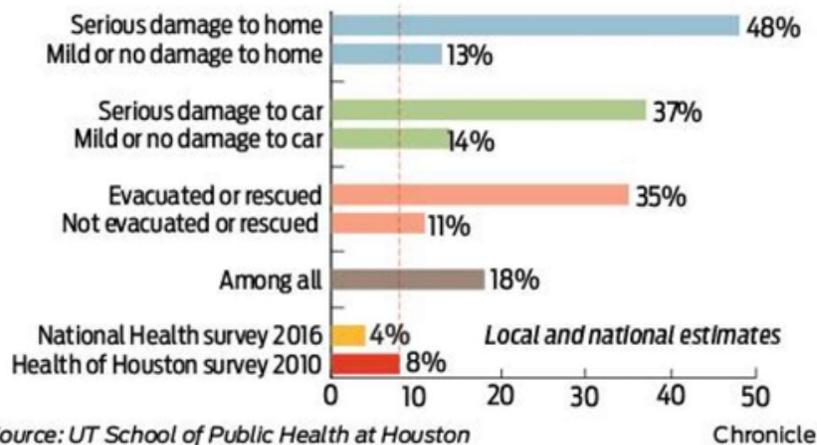
APPENDIX

ARTICLE SUBMITTED FOR THE RECORD BY HON. AL GREEN

SURVEY FINDS UNPRECEDENTED PSYCHOLOGICAL DISTRESS AFTER HARVEY

Todd Ackerman, *Houston Chronicle*, Thursday, April 5, 2018.

Serious psychological distress by damage and evacuation - four months after Hurricane Harvey



Harris County residents affected by Hurricane Harvey are experiencing serious psychological distress at levels rarely seen in the United States, according to a survey released Wednesday.

The survey, conducted by the University of Texas School of Public Health in late December and early January, found signs of distress in 48 percent of those respondents who suffered major damage to their homes, nearly double the amount reported among Gulf Coast residents displaced by Hurricanes Katrina and Rita in 2005.

"Except in still-devastated flood areas, people's everyday lives appear to have returned to normal, but our findings from this survey suggest otherwise," said Stephen Linder, director of the school's Institute for Health Policy and co-author of the report. "That serious psychological distress is still lingering is most concerning. I expected some elevation, but not this much."

The survey found serious psychological distress, or SPD, in 18 percent of all respondents, compared to the region's 8 percent rate reported in the same team's 2010 survey and the average national rate of 4 percent. The previous Houston rate and latest national rate did not come in the aftermath of disasters.

Linder called for post-Harvey conversations—mostly focused on changing the physical environment to mitigate future flooding—to include "less visible but lasting psychological effects." He said the SPD numbers reflect "damage to people's sense of well-being that will take much longer to repair" than property and housing recovery.

At St. Mary's Episcopal Church in northwest Houston, the Rev. Beth Fain reports that post-Harvey anxiety continues unabated. The church is home to 18 families, representing about 70 people, whose homes flooded as a result of Harvey. All are still either living with friends or families, in rented units or in their home's upstairs rooms.

"During worship one Sunday, it started raining, and you could just feel the anxiety rising," said Fain, whose home flooded on both Tax Day and Harvey and said she shares the unease. "Since Harvey, the congregants feel a lack of safety and certainty I've never seen despite all the previous flooding in the area. No one feels safe from being flooded out of their home."

Fain said congregants talk about trouble sleeping, lost weight, thinking difficulties and increased sickness.

The psychological distress is also reflected in a Facebook group "for those who were affected by Hurricane Harvey and struggling with anxiety, depression, anger, pain, etc., as they rebuild their lives or support friends and family. The focus will be on sharing solutions, talking through problems, sharing experiences."

THE HARRIS COUNTY SURVEY

Linder's team surveyed 500 Harris County respondents between 18 and 54 years old to gauge their experience and recovery, using questions posed in previous post-disaster surveys. He acknowledged his confidence level in the survey is not as great as it would be for the Katrina/Rita survey because it is significantly smaller. The Katrina/Rita survey included 2,700 displaced people. But after adjusting for the sample size difference, he said the Houston survey results could range from a high of 53 percent to a low of 30 percent. The Katrina/Rita survey found a SPD of 25.7 percent.

SPD is a scientific term used in population-based studies, not a psychiatric diagnosis. It uses a scoring system indicating the likelihood that subjects have a mental illness such as anxiety, depression, or post-traumatic stress disorder.

Dr. Jair Soares, chair of psychiatry and behavioral sciences at McGovern Medical School at UTHealth, called the Harvey survey findings "remarkable."

"Those numbers are cause for great concern," Soares said. "They suggest major disasters impact the mental health of people even more than we thought and that we need to be more proactive in identifying red flags and linking people with social services."

Dr. Julie Kaplow, director of Texas Children's Hospital's Trauma and Grief Center and Harvey Resiliency and Recovery Program, added that the survey responses are "consistent with what we're seeing." She said the outside world may expect "everything to be back to normal 8 months after the event, but that's not the case for those still suffering, particularly kids."

"Post-traumatic stress doesn't typically show up until 6 months and then typically needs longer-term intervention—say, two to 5 years," Kaplow said. "Kids struggling the most are the those with previous conditions, often undiagnosed because they're in underserved communities."

Kaplow said Harvey's one silver lining is that more children are gaining access to mental health services and getting help for trauma for the first time.

BY THE NUMBERS

Harvey damaged more than 200,000 Harris County homes and apartment buildings, according to the latest flood data released by public officials. Many are still in limbo, flooded out of homes and living with friends or in hotels or in short-term rental apartments.

The UT survey found Harvey took a serious toll on people's physical health, too, with nearly 22 percent experiencing a worsening of an existing health condition, physical injury or a new illness during or immediately after the hurricane. Of that group, 39 percent reported physical injuries, 26 percent infections, 22 percent respiratory problems and 10 percent worsening of chronic conditions.

But the psychiatric distress was the survey's most striking finding, evidenced also in those whose automobiles suffered major damage. Thirty-seven percent of such respondents also showed signs of SPD.

The SPD rate was highest among Hispanic residents and lowest among Asian residents. The rate in women was nearly twice that of men, a departure from trends in previous studies. But it also was higher in Houston women in the 2010 survey.

Linder expressed unease about the low level of concern by survey respondents about their mental health issues. Among those who suffered serious damage and reported signs of psychological distress, only 30 percent said they considered mental health care a pressing need.

The UT School of Public Health survey is a companion piece to a larger health survey currently in the works and due to be released this summer. Linder said he expects—or at least hopes—that survey will show a decline in the latest SPD numbers. The study will be broken down by pre- and post-Harvey responses, the latter taken between February and April.

“I think this survey shows not just the emotional impact of disasters like Harvey on people, it shows the need for more preparedness,” Linder said. “Planning relative to your social network—Is someone going to check on you? Where can you go to stay?—are as important as stockpiling batteries and food, making sure the radio works.”

ARTICLE SUBMITTED FOR THE RECORD BY HON. AL GREEN

RECORD RESERVOIR FLOODING WAS PREDICTED EVEN BEFORE HARVEY HIT HOUSTON

By *Lise Olsen, Houston Chronicle, February 21, 2018; Updated: February 22, 2018 10:28am.*



Water is released from the Barker Reservoir on Aug. 29 in the aftermath of Hurricane Harvey. Five days earlier, the U.S. Army Corps of Engineers had projected that the storm would fill the reservoir to record levels and would flood nearby neighborhoods. Photo: Brett Comer, Staff/©2017 *Houston Chronicle*

A day before Hurricane Harvey made landfall on the Texas coast last August, an internal U.S. Army Corps of Engineers forecast predicted that the storm would fill Houston’s Barker Reservoir to record levels, flooding neighborhoods on the reservoir’s western border, government records show.

That projection was made Thursday, Aug. 24, 2017, as Harvey barreled toward Houston. The next day’s Army Corps forecast was even more worrisome: Both Barker and Addicks reservoirs would spill beyond government-owned land, engulfing nearby homes and businesses.

The Corps did not share these predictions with the public.

It wasn’t until Saturday, Aug. 26, that authorities in Fort Bend County—after being briefed on the latest Army Corps forecast—issued the first flooding advisory for neighborhoods adjacent to Barker.

It took Harris County officials until late Sunday, Aug. 27, to begin issuing similar warnings for communities upstream of both Barker and Addicks. By then, some neighborhoods were already inundated. Many residents ended up fleeing on foot or being rescued in boats or military vehicles.

The forecasts, closely held internal records, have emerged 6 months after Harvey through discovery in a lawsuit in which thousands of homeowners are seeking compensation from the Army Corps, which operates Barker and Addicks dams and their reservoirs. The *Houston Chronicle* obtained copies of the documents.

THE LAWSUIT: RESIDENTS ARGUE THE ARMY CORPS KNEW FOR DECADES ABOUT KATY
FLOODING RISKS

They are sure to revive debate about whether the Corps and local officials acted quickly enough to alert homeowners to the danger of reservoir flooding and to urge evacuations.

Ultimately, the forecasts proved largely accurate. More than 9,000 homes and businesses were flooded by the reservoirs—at least 4,000 upstream of Barker and 5,000 to 6,000 upstream of Addicks, according to a Chronicle analysis of damage reports.

DEVELOPING STORM: FOR BUYERS WITHIN “FLOOD POOLS,” NO WARNINGS FROM
DEVELOPERS, PUBLIC OFFICIALS

County made advisory

Fort Bend and Harris County officials said they were not informed of the Corps’ initial Aug. 24 forecast.

“If they were predicting that on Thursday, they were not advising us of that fact,” Fort Bend County Judge Robert Hebert said in an interview.

Hebert said the county received the next day’s forecast, but he said the Corps characterized it as internal and preliminary. County officials say the forecast issued Saturday, Aug. 26, was so alarming that they decided to issue an advisory the same day, citing the Corps’ projections.

Hebert said the county did so despite objections from Corps officials, who wanted the forecast kept confidential. Fort Bend County also activated its reverse 9–1–1 system to reach out to thousands of property owners near Barker Reservoir.

Harris County Judge Ed Emmett declined to comment. People familiar with his role in the emergency response say Emmett was not briefed on the Corps’ forecasts.

Efforts to obtain comment from the Corps were unsuccessful. The *Chronicle* emailed questions to a Corps spokesman on Tuesday. He had not provided responses as of Wednesday night.

One of the reservoir-adjacent homes that was flooded during Harvey belongs to Harry Ershad, a computer programmer and musician. He said it was frustrating to learn that as early as Aug. 24, the Corps had developed a detailed picture of how Barker Reservoir would fill his Canyon Gate neighborhood.

Ershad said that with just a few hours’ notice, he, his wife and their two sons could have saved their four cars, most of their musical instruments and their home recording studio. Instead, he said, nearly everything was ruined.

By the time Fort Bend County issued its Aug. 26 advisory, the streets in Ershad’s neighborhood already had been swamped. He and his family later waded out through neck-high water, he said.

“We got out with our laptops and our passports, and that’s it,” he said.

HARVEY SURPRISE: MANY HOMEOWNERS UNAWARE THEY LIVED IN RESERVOIR “FLOOD
POOLS”

The flooding forecasts were generated by the Corps Water Management System, which crunches information about rainfall, weather forecasts, river conditions, and other data to guide the Army Corps in managing its dams and reservoirs.

The Aug. 24 forecast showed that Harvey would cause the volume of water in Barker Reservoir to exceed what could be stored on government-owned land beginning Tuesday, Aug. 29, and lasting for more than 2 weeks.

When that forecast was issued, Fort Bend and Harris counties were preparing to open emergency operations centers and Harvey’s rains had not yet arrived.

Once the emergency centers opened Aug. 25, the Corps sent staff members and gave daily updates to Harris and Fort Bend county officials and Houston city officials. But the Corps told the local officials not to make any of the Corps Water Management System forecasts public, said Jeff Braun, emergency management coordinator for Fort Bend County.

Flooding of homes begin

The Aug. 25 forecast showed the water level in Barker Reservoir reaching 100 feet. Water begins to spill into neighborhoods when the level exceeds 95 feet, according to Corps records.

The forecast generated on Saturday, Aug. 26, said homes upstream of Barker would begin to flood on Monday, Aug. 28—a day earlier than previously predicted. The projection for Addicks indicated that some homes in low-lying neighborhoods could fill with 7 or more feet of water and remain flooded for weeks.

Both Harris and Fort Bend counties issued formal evacuation orders Aug. 30. By then, neighborhoods near the reservoirs had been inundated for days.

Attorneys representing homeowners in flood-related lawsuits in the U.S. Court of Claims want to know why the forecasts weren't shared with the public sooner.

Homeowners want to know why their neighborhoods were built inside a reservoir flood pool.

"The tragedy is an earlier warning could have allowed people to get out and get their property out," said Charles Irvine, of Irvine & Conner, one of the lead lawyers for property owners upstream of the reservoirs.

"This confirms that when a storm comes, the Corps can use its own modeling to predict exactly how much government-stored water will impact the upstream community. I can't speak to why the Corps didn't give the residents an earlier warning. But clearly the Corps anticipated the flooding on upstream private land from the Addicks and Barker dams before the rains even really started."

James Blackburn, another Houston attorney who has long been active in flooding matters and who recently founded a related nonprofit called the Bayou City Initiative, said a congressional investigation was warranted.

"This is a bona fide public policy debacle," he said. "Were Harris County and Fort Bend County officials getting information and not alerting the public—or were they not getting the information? Or did they get the information and did the Corps ask them not to spread it around?"

Thousands of people like Ershad hunkered down to wait out Harvey because they were not told to evacuate and didn't know their neighborhoods could be flooded by the reservoirs. When Ershad left Canyon Gate, the streets were impassable but only his garage had flooded. He and his family returned 13 days later to find their home ruined. They had no flood insurance.

"I lost 15 years of compositions of music," he said.

Addicks and Barker dams were built in the 1940's to protect downtown Houston from flooding. The earthen structures are designed to hold storm runoff from the vast Buffalo Bayou watershed and release it into the bayou at a controlled rate.

LIKE A BATHTUB: HOW THE ADDICKS AND BARKER DAMS WORK

The government acquired thousands of acres of land behind the dams to serve as reservoirs, but the dams can hold back more water than can fit on that land. Over the decades, tens of thousands of homes were built on the edges of the government-owned property.

When the reservoir pools exceed the government-owned land—an extremely rare occurrence—water has nowhere to go but into adjacent neighborhoods. That's what happened during Harvey.

As far back as 1995, the Corps studied ways to reduce this risk. The options included deepening the reservoirs, buying out thousands of properties and building more reservoirs. The Corps never acted on any of them.

IGNORED: A FORT BEND ENGINEER'S WARNING, 25 YEARS OLD, COMES TRUE DURING HARVEY

DEVELOPING STORM

Hurricane Harvey was the most destructive storm in Houston's history. The late-August storm dumped up to 60 inches of rain on southeast Texas, but the resulting damage was multiplied by actions taken—and not taken—during the past 50 years. Our seven-part series explains why the storm's damage was both a natural and man-made disaster.

- Part 1: Nature ruled, man reacted. Hurricane Harvey was Houston's reckoning
- Part 2: Build, flood, rebuild: flood insurance's expensive cycle
- Part 3: What's in Houston's worst flood zones? Development worth \$13.5 billion
- Part 4: Harvey overwhelmed some levee systems. Future storms could do worse
- Part 5: Officials patched and prayed while pressure built on Houston's dams
- Part 6: For buyers within "flood pools," no warnings from officials
- Part 7: In "eternal struggle" with water, Dutch have much to teach

ARTICLE SUBMITTED BY HON. AL GREEN

U.S. ARMY CORPS OF ENGINEERS TO RELEASE WATER FROM TWO HOUSTON-AREA DAMS: STATEMENT

David Gaffen; Reuters, August 28, 2017.

The U.S. Army Corps of Engineers is starting to release water from two Houston-area reservoirs, which will cause flooding of homes in the surrounding communities, because the reservoirs have risen too quickly due to Tropical Storm Harvey, the agency said in a statement.

The Corps of Engineers said it needs to release water now to prevent uncontrolled water flowing from the dams. Water is being released from the Addicks and Barker into Buffalo Bayou, the primary body of water running through Houston.

“If we don’t begin releasing now, the volume of uncontrolled water around the dams will be higher and have a greater impact on the surrounding communities,” said Col. Lars Zetterstrom, Galveston District commander of the Corps.

The release is expected to start flooding homes around the Addicks and Barker reservoirs on Monday morning, the Harris County Flood Control District said.

ARTICLE SUBMITTED BY HON. AL GREEN

\$500 MILLION IN IKE RELIEF IS STILL UNSPENT. WILL TEXAS DO BETTER AFTER HARVEY?

Morgan Smith and Brandon Formby, Texas Tribune, Nov. 3, 2017.

U.S. Air Force member conducted search and rescue operations on Galveston Island after Hurricane Ike on Sept. 13, 2008. Staff Sgt. James L. Harper Jr.

The billions in long-term disaster relief dollars that will fund Texans’ recovery from Hurricane Harvey’s devastating blow are still far from reaching state coffers. But there’s already tension brewing over how much federal money should be spent to fix flood victims’ homes and how much should go toward repairing government buildings and launching new flood control projects.

Those critical choices will hinge on a key decision: Who will control how the money is spent, the federal government or Texas?

State leaders want as few limitations as possible on what could be the biggest influx of federal recovery money to ever hit the state, arguing that officials in cities and counties battered by the storm know best whether money should go to individual households or public works projects.

The state’s requests for flexibility—followed by Gov. Greg Abbott’s Tuesday trip to Washington to deliver a \$61 billion wish list predominantly made up of Harvey-related infrastructure projects—have sparked alarm from veterans of previous battles over long-term recovery funding.

With the recent past as their guide, they fear homeowners and impoverished communities will get shortchanged in favor of large-scale infrastructure projects that could have little connection to disaster recovery.

They point to Hurricane Ike, which struck Galveston in 2008 and flooded an estimated 100,000 homes along the Texas coastline not long after Hurricane Dolly hit the Rio Grande Valley.

At the time, the state received \$3 billion from the Department of Housing and Urban Development, the federal agency that oversees long-term rebuilding from natural disasters. A *Texas Tribune* review of projects funded with that money found it went to a wide range of purposes that local officials tied to disaster recovery, including building new community centers in at least eight different counties, replacing lights at a Little League baseball field, putting a new roof on a sports stadium, and restoring a beach pavilion.

Yet almost 10 years later, more than \$500 million—most of it earmarked for housing-related projects—for Ike and Dolly recovery still hasn’t been spent.

“The hard truth of this is there aren’t going to be enough resources to make everyone whole, there aren’t going to be enough resources to harden all the infrastructure, there just aren’t,” said Maddie Sloan, a lawyer for Texas Appleseed, an advocacy nonprofit. “So there have to be priorities set, and how priorities get set is a big deal.”

Some local officials have already begun to push for using long-term recovery money from the federal housing department for infrastructure projects.

At a meeting in Houston’s flood-prone Meyerland neighborhood last month, the city’s chief resilience officer told a crowd of hundreds that officials are “actively pur-

suings” HUD money to use as the local contribution toward flood control projects that would also be funded through other federal sources.

“We can use HUD money for local shares of other stuff,” Stephen Costello said.

Meanwhile, more than 51,000 southeast Texans are still displaced and living in hotel rooms, more than two months after Harvey slammed into the coast, dumped more than 50 inches of rain in some areas and damaged more than 563,000 homes. More than 149,000 people have qualified for rental assistance while they wait out repairs or look for a long-term place to call home. An unknown number are living with family or friends or paying for their own short-term housing needs.

“It’s often the case that the needs of Texans to rebuild and recover don’t rise to the same level of some of those government projects that people have in mind,” said John Henneberger, co-director of the Texas Low Income Housing Information Service.

HOW THE MONEY WILL FLOW

Abbott split long-term disaster recovery efforts between the land office and a commission headed by Texas A&M University Chancellor John Sharp. The two entities have told federal officials they need a collective \$121 billion to help cities, counties and families recover, though it’s still unclear how much overlap there could be in the two requests. State leaders have also been clear that they aren’t expecting to get all they ask for.

The land office is overseeing housing assistance programs, including long-term recovery dollars that typically go toward rebuilding houses or repairing damaged apartments. But the land office is also overseeing infrastructure projects that could be funded from the same pot of money.

The commission Sharp leads is focusing on flood control, roadways, water services projects and buying out or elevating flood-prone houses. While Sharp’s commission compiled a 301-page report detailing money needed for public works projects across the Texas coast, no state or federal agency has put together a comprehensive account of the damage Harvey did to Texans’ homes.

Instead, state officials’ request for long-term housing money is an estimate based on the number of households requesting immediate emergency aid, the average cost of a Texas house and how much money it cost to rebuild houses in previous disasters.

Land office leaders readily admit that many Texans may not receive federal assistance to cover their losses from Harvey. They also say that for the cost of rebuilding a handful of damaged homes, they can pay for projects that can protect many more homes from future floods.

“So the locals need the ability to make that determination on what’s the best way to benefit that particular area,” said Pete Phillips, a senior director with the state’s General Land Office.

But giving local elected leaders that level of discretion is what has some housing advocates worried.

“That’s absolutely what created the problems before,” Henneberger said.

STATE PRIORITIES CHALLENGED AFTER IKE, DOLLY

In many ways, concerns about the rebuilding process are rooted in Texas’ problematic history of disaster relief spending.

The lump-sum relief funds HUD gives states and local governments comes with some restrictions on how the money can be used. Those stipulations usually include how long the public has to weigh in on state and local plans for the funds, thresholds for how much must go toward housing rather than infrastructure and a minimum amount that must be spent to help low- and moderate-income disaster victims.

“The goal is not to hand everybody a little bit of money,” Henneberger said. “The goal is to make sure that the limited amount of money can help those who could not otherwise recover.”

After Ike and Dolly, the state put two separate agencies—one for housing and one for non-housing projects—in charge of overseeing local governments’ use of the money.

Local officials quickly used that money to rebuild infrastructure, while a large portion of the money that should have gone to help Texans rebuild their homes remains unspent nearly a decade later.

At the time, monitoring reports from the federal housing department blamed that slow trickle of money for housing on bureaucratic chaos at the state level. Gov. Rick Perry blamed the delays on the federal government.

A year after Ike and Dolly hit, Henneberger's and Sloan's nonprofits accused Texas officials of violating fair housing laws and HUD's own rules for spending disaster funds.

The advocacy groups said in a complaint to HUD that the state used flawed data in deciding how to split relief money between public works projects and Texans whose homes were damaged by the hurricanes. They also said the state effectively "steered resources away" from hurricane victims by awarding a \$16.6 million contract to a consulting firm that helped local governments understand how disaster grants work and identify infrastructure projects that would qualify.

In a May 2010 agreement between the state and the nonprofits, the federal housing department forced Texas to rework its plan for the relief funds. The department also increased the amount of money that Texas was required to spend on lower-income residents and ordered the state to use more than \$200 million to rebuild, replace, buy out or construct housing for lower-income Texans.

Today, \$297 million of unspent Ike and Dolly money is earmarked for housing recovery. That includes money set aside for public housing in Galveston, where plans for affordable units have been mired in opposition from other residents, politics and federal complaints for years.

While the state holds the money and ensures recipients spend it according to HUD's parameters, it's up to local governments like cities and counties to turn those dollars into construction projects. The General Land Office has managed the funds since 2011, and officials there say they plan to close out remaining projects by the end of 2019.

Sloan, with the Texas Appleseed Project, said the state's performance has improved since the state land office began overseeing the second round of hurricane relief funding.

"There've been dramatic increases in the amount of home repair money going to low-income households, better benefits to renters of different income levels, and the state has said every infrastructure project needs to benefit low- and moderate-income people," she said.

But Henneberger said the lack of a comprehensive plan to help Texans put their lives back together after Harvey—and the overwhelming focus on infrastructure in the state's wish list released this week—is frustrating and worrisome.

"We want to see that the money is targeted fairly between infrastructure and individual benefits to disaster survivors who need to recover their lives and rebuild their homes," Henneberger said.

WORRY IN MEYERLAND

In the past two months, Congress has agreed to spend more than \$51.8 billion on disaster relief following a string of natural calamities including three hurricanes and California's deadly wildfires.

The federal housing department has yet to determine how to divide the money among the affected states and territories, but the agency said it will do so based on which areas have the greatest "unmet need," said spokesman Brian Sullivan. They make that evaluation using data from insurance claims, FEMA, and the Small Business Administration, which provides disaster relief loans to homeowners.

"Everybody is collecting information about the places that were hit the hardest, who suffered the greatest degree of serious or maybe even severe housing damage, how many families were insured or uninsured, it's like you've got to untangle this ball of yarn," Sullivan said.

While government officials continue taking stock of the overall impact, hundreds of thousands of Texans are still slogging through their individual recoveries. At last month's meeting in Meyerland about flood control projects, tensions boiled over inside a church packed with hundreds of residents listening to officials discuss infrastructure and federal funding.

The houses in that neighborhood straddling Houston's Brays Bayou were inundated with feet of water after Harvey battered southeast Texas—some for the third time in as many years. Many residents are waiting to see if their repeatedly-flooded homes will be targeted for buyouts, while others who flooded for the first time this year are months or years from learning if there will be federal money to help them fully rebuild.

Some Meyerland residents asked officials about particular flood-control projects during the meeting's question-and-answer portion. Others had more immediate needs on their mind.

"Some people don't care about long-term plans," Larry Zomper said once he got a turn at a microphone. "We wanna know how to live now, what decisions to make now."

Disclosure.—Texas Appleseed and Texas A&M University have been financial supporters of *The Texas Tribune*. A complete list of *Tribune* donors and sponsors is available here.

ARTICLE SUBMITTED BY HON. AL GREEN

CLIMATE CHANGE DISPLACEMENT IS BECOMING THE NEW GENTRIFICATION—HERE'S HOW TO STOP IT

Stephen Zacks, December 6, 2016.



Nathan Weyiouanna's house falls victim to climate-change-related coastal erosion in Shishmaref, Alaska, from the series *The Last Days of Shishmaref* (2008). (©Dana Lixenberg)

Partisan political discourse still pretends as if there's a climate change "debate," yet the government is already acting extensively to prevent crises from rising global temperatures. Across the country, local and Federal agencies are working with architects and planners to protect communities and redevelop neighborhoods in the aftermath of climate-related natural disasters. But what happens to residents who are too poor to get out of the way of storms—and too poor to return—and why is anyone rushing to live in disaster zones?

Catastrophic natural disasters share a common feature with accelerated processes of economic development: at vastly different rates, both can result in large-scale displacement. An article by Brentin Mock on environmental news site *Grist* uses a pithy phrase for the disparate impact climate change can have on lower-income residents: it's the "ultimate gentrifier," he wrote, citing the exodus of more than 300,000 low-income residents from New Orleans after Hurricane Katrina.

The description may be provocative, but studies by environmental scientists at the EPA's Climate Change Division partly support the notion. Within the 6,000-square-mile area at high risk of flooding by 2100 due to a mid-range two-foot sea-level rise, almost 750,000 residents belong to the most socially vulnerable groups. These are most likely to be disproportionately impacted by storms and least likely to have the resources to move.

But are rich people really moving into areas where low-income residents are being displaced by storms? Sadly, in some cases, yes. A *New York Times* story on high-

rise condo construction in Sheepshead Bay, Brooklyn, reports that, far from retreating from flooded areas, a building boom is driving up prices.

Currently, local and Federal agencies only spottily provide the necessary infrastructure and policy frameworks to protect against climate-related catastrophes ranging from forest fires in Southern California, earthquakes along the Pacific Coast, tornados and flash flooding in the Midwest, and hurricanes in the Gulf of Mexico. Adequate planning, Federal aid, and environmental regulations can and should prevent disparate impacts of climate-change related severe weather events on low-income residents. In practice, prioritizing where to improve infrastructure falls to local governments that have worse financial constraints and often carry an implicit economic bias toward the most financially important areas.



Shishmaref. (Courtesy Bering Land Bridge National Preserve)

In Alaska, higher temperatures are increasing erosion and thawing the permafrost, causing homes to sink in the mud. More than a dozen Inuit towns have already voted to move, including Newtok, which has acquired a relocation site through an act of Congress, and the 650-person Bering Sea village of Shishmaref, which commissioned AECOM's Anchorage office to study the feasibility of relocation sites. Yet the cost of these moves, estimated at \$214 million for Shishmaref alone, is far beyond the means of the inhabitants; a U.N. report on climate change and displacement notes the lack of State and Federal governance structures to support these moves.

Some low-lying neighborhoods in New Orleans are undergoing a similar policy of unofficial abandonment, swallowed up by nature through neglect. These places are not gentrifying—they're simply disappearing.

The Federal Emergency Management Agency (FEMA), reorganized in 2003 under the Department of Homeland Security and reformed since 2009 by Obama Administration appointee Craig Fulgate, now talks about what it calls a "whole community" approach, emphasizing participation and engagement of a wide range of stakeholders. It needs to do more.

"FEMA has changed its rhetoric," said Deborah Gans, who has conducted planning studies for low-lying neighborhoods in New Orleans and Red Hook, Brooklyn, most of which flooded in 2012 during Hurricane Sandy. "They don't really know how to do it yet, but at least they're talking the talk."

In 2008, Homeland Security established the Regional Catastrophic Preparedness Grant program to encourage collaborative emergency planning in America's ten largest urban regions. In New York's combined statistical area, which includes New York, New Jersey, Pennsylvania, and Connecticut, the Regional Catastrophic Plan-

ning Team coordinated a series of Participatory Urban Planning workshops that included city and State agencies, nonprofits, community groups, private-sector representatives, and even local Occupy affiliates to streamline emergency preparedness, housing recovery plans, and recovery processes in five types of communities.

In the New York area, Hurricane Sandy has increased the sense of urgency. “In New York, about a third of our housing is within our six evacuation zones,” said Cynthia Barton, who participated in the workshops as manager of the Housing Recovery Program for the New York City Office of Emergency Management.



Urban Post-Disaster Housing Prototype. (Courtesy Andrew Rugge/Archphoto/Open House New York)

Barton leads the FEMA-supported initiative to prototype interim housing units, designed by James Garrison, which would substitute for the improvised mesh of hotels that sheltered displaced low-income residents in the aftermath of Sandy. The interim housing units, IKEA-like prefab condo boxes that stack up to three stories high in various configurations, facilitate an urban density allowing vulnerable residents to remain within their neighborhoods in the aftermath of severe storms.

“The basis for the project has always been that none of the Federal temporary housing options would work in cities and that it’s very important to keep people close to home after a disaster,” Barton said. “In terms of economic stability for people and for neighborhoods, it’s important to keep people close to their jobs. It’s important for mental health reasons to keep people close to schools and close to their support networks.”



In 2015, DLANDstudio was selected to develop a green infrastructure master plan for the St. Roch neighborhood of New Orleans. (Courtesy DLANDstudio)

But on the Federal level, long-term infrastructure improvements are not adequately funded. In New Orleans, landscape architect Susannah Drake of DLANDstudio is working on a gray and green streetscape program for 20 blocks of the St. Roch neighborhood. “The issue is that the base condition was low in terms of the infrastructure that existed,” Drake said. “We’re adding basic amenities for what would be a normal streetscape in New York, but we’re also dealing with the challenge of having very little infiltration and having a lot of water to manage . . . They’re not things the Federal Government is necessarily willing to pay for.”

Without Federal insurance and public investment in infrastructure, wealthy homeowners don’t tend to move into flood zones. But storm protection, unevenly funded by Federal grants, frequently has to be supported by local real-estate development tax revenues that provide lopsided advantages to upper-income residents.

“There’s a historical inequity environmentally in a lot of these neighborhoods in need, and it’s exacerbated by climate change,” said Gans, who led a Pratt Institute planning study on how to locate emergency housing in low-lying Red Hook, Brooklyn. “New York City Housing Authority projects were generally located on land that wasn’t that valuable, and guess what? It tended to be low-lying and out of the way.”

The problem centers on whether to save the threatened neighborhoods or rezone them to exclude residential use. Shoring up a city’s flood defenses can become an opportunity to improve a neighborhood’s environmental equity, but using the prevailing market-based model, focusing stormwater infrastructure in a waterfront community will only push more housing into vulnerable areas.

“As long as we keep allowing people to build market-rate waterfront property, there will be gentrification,” Gans said. “Any development that takes place on the water will be so expensive that it will necessarily gentrify the waterfront. There’s just no doubt about it.”



AECOM's plan for Red Hook. (Courtesy AECOM)

In Red Hook and Sunset Park, AECOM recently released a plan to place 30–50,000 units of new housing on the waterfront—25 percent of it affordable—as well as subsidize a new subway stop, and implement green and gray infrastructure for coastal protection and flood management. Arguing for the plan as a boost to Mayor de Blasio's OneNYC ambition to build 200,000 affordable units by 2020, the proposal also runs counter to the idea of limiting exposure to areas of growing risk.

"Why would you build more housing in an area that's underserved by transportation and that's in a really dangerous zone, a flood area," asked Drake, who designed the Sponge Park concept as a green infrastructure element for the Gowanus Canal. "I'm not an economist, but I'm very pragmatic and down on building in flood plains."

Officially, there is no means testing of emergency planning or recovery aid. Eligibility for the National Flood Insurance Program and high insurance rates affect individual decisionmakers. Not so for public housing, where residents' lack of access to resources makes issues of planning that much more grave. Because of its 6,500 public housing residents, two-thirds of the Red Hook is below the poverty line. Economically, the light-manufacturing industries scattered among its low-rises generate relatively little revenue for the city to justify hundreds of millions in flood protection.

The conflict between access to revenues and local needs seems to underlie the rapidly advancing East Side and Lower Manhattan Coastal Resiliency projects, sections of Bjarke Ingels Group's winning Rebuild by Design competition proposal for the protection of Lower Manhattan up to 59th Street. The projects essentially erect a wall adorned with parks as a bulwark against the sea. They implicitly prioritize the centrally important economic drivers of New York City.

"Ultimately there's a cost-benefit analysis," said Drake. "I'm not saying that lives are less valuable in other parts of the city, but when you do an economic cost-benefit analysis between Lower Manhattan and Red Hook, and you're looking on purely financial terms, then Lower Manhattan wins because it's an economic driver of the city."



Rendering of the Stuyvesant Cove section of the East Side Coastal Resiliency Project (ESCR). (Courtesy city of New York)

If it can really be done for that amount, the estimated cost for the Lower Manhattan projects is negligible in comparison to the economic benefit. The Office of Recovery and Resiliency and the Economic Development Corporation of New York have dedicated \$100 million to an integrated flood protection system (IFPS) for Red Hook. City capital is supporting a \$109 million Raise Shorelines City-wide project that would mitigate sea level rise in Old Howard Beach, Gowanus Canal, East River Esplanade, Mott Basin, Canarsie, Norton Basin, and the North Shore of Coney Island Creek.

“Emergency planning should really be about future planning,” Gans said. “The way you avert an emergency is by making sure you have integrative future plans that don’t put people in harm’s way and mitigate all of the bad decisions you made historically.”

In contrast to the oblivious political climate change “debate,” local governments have already learned from recent extreme weather events that they need to act to improve their planning capacity and infrastructure. Federal agencies are also acting, putting limited resources into protecting against climate change-related disasters. Highly engineered solutions are possible, but they’re unwise as a long-term strategy in the absence of a leveling off of global temperatures and will be cost-prohibitive for low-income communities. Unless the next Congress is prepared to fund a national infrastructure program, the best way to equitably protect low-income residents will be to downzone vulnerable areas and build new public housing on higher ground. Otherwise, we’ll need to accept the fact that our celebrated revitalized waterfront is mainly for the rich.

ARTICLE SUBMITTED BY HON. AL GREEN

FEDERAL HOUSING AGENCY ANNOUNCES \$57.8 MILLION TO TEXAS FOR HARVEY RECOVERY

Morgan Smith and Brandon Formby, Texas Tribune, October 20, 2017.

Federal housing officials announced Friday what they called “another down payment”—an additional \$57.8 million—to support long-term recovery efforts from Hurricane Harvey in Texas.

The new funding from the U.S. Department of Housing and Urban Development is separate from the State’s yet-to-be-determined share of the \$7.4 billion in HUD disaster recovery dollars Congress appropriated in September. Federal housing officials are currently deciding how to divide that sum among the U.S. States and terri-

tories hit by hurricanes Harvey, Irma and Maria. It is unclear how long it that will take.

“We are literally poring over this information right now with the hope that we can allocate that \$7.4 billion as quickly as possible. The challenge of course is that data don’t become available immediately,” said Neal Rackleff, the department’s assistant secretary for community planning and development, who added that there was still “virtually no” damage assessment available for Puerto Rico.

The \$57.8 million will go to Texas as early as mid-December. The State will then administer the grants at the local level. This process will allow money to reach families in need faster than if it went directly to county or city governments, Rackleff said, because the State already has an action plan in place.

Rackleff said the Federal housing department had identified 13 Texas counties where housing needs were going unmet by either private insurance or various sources of Federal aid. Those needs were “especially severe” in Harris, Galveston, and Jefferson counties.

The Federal housing funds, which are a specialized form of community block development grants aimed at disaster recovery, can go toward rebuilding houses, businesses, roads, other buildings and infrastructure. But Rackleff said Federal officials hoped the money would primarily go toward housing.

“While these funds can support a variety of recovery activities,” he said, “we believe and would strongly encourage the State of Texas to use these resources in a manner that helps families with their housing needs.”

ARTICLE SUBMITTED BY HON. AL GREEN

FOUR MONTHS AFTER HURRICANE HARVEY, FOUR MAJOR QUESTIONS ABOUT RECOVERY FOR 2018

By Dave Harmon, Jan. 4, 2018 Updated: 8 PM.

Clarification: This story was updated to more accurately explain the Army Corps of Engineers’ assessment of the integrity of the Addicks and Barker reservoirs.

Houston and the Gulf Coast are learning hard lessons about their vulnerability to flooding after Hurricane Harvey—which was the latest and by far the biggest in a 3-year stretch of major inundations for Houston that included the Memorial Day and Tax Day floods.

People who didn’t think they needed flood insurance—because they weren’t in a designated flood zone—have learned that the flood maps are increasingly irrelevant. Local leaders and flood control planners are learning that 500-year floods may become regular occurrences.

Four months after Harvey stormed ashore and dumped historic rains on the coastal flatlands, major questions remain. *The Tribune* has reported on each of these (you can read all of our Harvey coverage here), and we’ll keep following these storylines in 2018:

HOW WILL TEXAS SPEND BILLIONS IN FEDERAL LONG-TERM RECOVERY MONEY?

So far, the State is leaning hard on the Federal Government to fix what Harvey broke. Despite enduring the rainiest day in recorded history—up to 50 inches fell in parts of Houston at Harvey’s peak—Texas’ top leaders have resisted tapping the so-called Rainy Day Fund (which currently stands at about \$10 billion) to help with the recovery.

The U.S. Department of Housing and Urban Development has announced Texas will receive just over \$5 billion for long-term rebuilding efforts. Texas leaders would like more. They have estimated the State needs as much as \$121 billion—and they want as few limitations on how to spend that money as possible.

They argue that officials in cities and counties battered by the storm know best whether money should go to individual households or public works projects. But the State’s requests for flexibility—along with an infrastructure-heavy wish list—have sparked alarm among housing advocates who fear homeowners and impoverished communities will get shortchanged in favor of large-scale infrastructure projects that could have little connection to disaster recovery.

A bigger question: How long will it take the money to get where it’s supposed to go? After Hurricanes Ike and Dolly struck the Texas coast, the State received \$3 billion in 2008 from the U.S. Department of Housing and Urban Development for long-term rebuilding.

WHEN WILL HOUSTON'S JUSTICE SYSTEM GET BACK TO NORMAL?

After Harvey hit in late August, trials in one of the country's busiest criminal justice systems were delayed for months. Damage from the storm left the city's Criminal Justice Center—a 20-story building that houses 40 courtrooms, the district attorney's office and enough holding cells to accommodate 900 inmates—out of commission for months, and swamped its jury assembly building perhaps beyond repair.

Jury trials resumed October 16, but the backlog in pending cases persists. Judges continue to double up on courtrooms, with trial courts allocated on a rotating basis. The system is churning—but haltingly. And that will be the status “for the foreseeable future,” said Judge Bob Schaffer, administrative judge for the Harris County district courts.

Court officials said proceedings are not likely to return to normal until the facilities are restored to full occupancy, which could take as long as another year and will cost tens of millions of dollars.

But the justice system is slowly coming back to life: Cases are being heard, albeit slowly, and verdicts are being handed down. Well over 5,000 people already have reported for jury duty.

“Things aren't back to normal yet,” Harris County Court Manager Ed Wells said. “But we're making the best of what we have available and moving forward.”

HOW WILL THE GULF COAST ADDRESS THE FLOOD RISKS THAT HARVEY EXPOSED?

The State has a list of big-ticket infrastructure projects for flood mitigation and prevention. And officials are hoping the feds will pay for all or most of it.

Reservoir improvements.—The Addicks and Barker reservoirs west of downtown Houston—which are essentially earthen berms designed to temporarily hold back floodwaters before releasing them into Buffalo Bayou—are considered “high risk” by the U.S. Army Corps of Engineers, which maintains and operates them (the Army Corps says the dams are structurally sound, and that designation reflects the dams' proximity to a major population center). To make matters worse, developers have plopped about 14,000 homes inside their flood basins (many of those homes flooded during Harvey) and all that new development is sending more runoff into the reservoirs during storms. The reservoirs need major upgrades, and there's serious talk of building another one to take the pressure off Addicks and Barker. That'll take a lot of land and a lot of money—and years of work to complete.

Buyouts.—After three flood events in 3 years, lots of Houstonians are talking about buyouts. But as we discovered through our investigation with ProPublica in November, buyouts aren't likely to be a large-scale solution to the city's flooding problems, mainly because of a lack of money and narrow criteria that disqualify many homeowners who are willing to sell.

The Ike Dike.—A coastal barrier built just off the coast to blunt a hurricane storm surge remains the holy grail for protecting Houston, Galveston and the area's vast and vulnerable refineries and petrochemical plants. But the price tag could run as high as \$11 billion to protect a six-county stretch of coastline—and it wouldn't help in a major rain event like Harvey.

HOW LONG WILL IT TAKE FOR DISPLACED PEOPLE TO RETURN HOME?

This is probably the most pressing question for the people whose lives have been uprooted by Harvey—and the most difficult to answer because it plays out one home at a time. About a month after Harvey struck, more than 24,000 families were living in FEMA-funded hotel rooms; that number dropped to about 11,300 families by mid-December as homes were repaired, renters found new apartments and others found better long-term housing options.

But the FEMA hotel statistics don't capture the full extent of the need, because they don't include countless people still living with family or friends, in tents, in recreational vehicles or in rented apartments or rooms.

More than 90,000 people have filed insurance claims through the National Flood Insurance Program, also managed by FEMA. That's equivalent to the entire population of Sugar Land.

How long it takes for that many people to get back to normal involves a complicated calculus—the amount of damage, whether they rented or owned their home, whether they had flood insurance, and how long it takes for insurance adjusters, demolition crews and contractors to do their work. But for many Harvey victims, recovery will be measured in years.

