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Chief Operating Officer
For Texas Governor Greg Abbott
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House Committee on Homeland Security
“Preparedness, Response, and Rebuilding: Lessons from the 2017 Disasters”

Chairman McCaul, distinguished Members of the Committee, thank you for the opportunity to share with you lessons learned by the State of Texas in preparing for, responding to, and recovery from Hurricane Harvey. My name is Reed Clay, Chief Operating Officer for Governor Greg Abbott.

Historic Storm: More than six months since Hurricane Harvey first made landfall as a Category-4 storm near Rockport, Texas, at about 10 p.m. on Aug. 25, 2017, we now know from the National Hurricane Center that Harvey was “the most significant tropical cyclone rainfall event in United States history, both in scope and peak rainfall amounts.” The storm impacted nearly 50,000 square miles of Texas; some 57 tornadoes were spawned; and record-breaking rainfall of over 60 inches was recorded in Nederland and in Groves, Texas. The previous record in the continental U.S. of 48 inches was also broken in communities throughout the Coastal Bend Region and in Houston, with many areas deluged by historic flooding. As a result, nearly 1.4 million Texans likely evacuated from their homes. More than 35,000 rescues were recorded. More than 42,000 Texans sought refuge in 258 official shelters. Nearly 300,000 households were left without power. And tragically, it is estimated that 68 people died, making Harvey the deadliest hurricane to hit Texas in nearly 100 years. But we also know that no force of nature is more powerful than Texans helping Texans, and Americans helping Americans. We are grateful so many lives were spared, and inspired by the resilience of the people of Texas, our commitment to help families recover and communities rebuild is stronger than ever.

Advance Actions: This disaster was unprecedented in recent history, as was the aggressive advance action and coordination of federal, state, and local emergency management resources and personnel in the 53 Texas counties in the Presidential Disaster Declaration and 60 Texas counties in the State Disaster Declaration. We are grateful for the swift action taken and the continuing support offered by the President, Vice President, Cabinet Members, Congressional Members, and all of our federal partners.

Harvey left little time for the State of Texas to prepare, but we believe actions taken before, during, and after Harvey to this very day as rebuilding continues, serve as a model going forward for the nation. Let me provide a snapshot of advance actions taken in preparation for the storm and to save lives.

- On Aug. 23, 2017, three days in advance of then-Tropical Depression Harvey’s projected arrival, Governor Greg Abbott ordered the multi-agency State Operations Center (SOC) to elevate its readiness level, and directed state agencies to make available any and all state resources to assist in preparation, rescue, and recovery. The Governor pre-emptively issued a State Disaster Declaration for 30 counties most at risk of the anticipated storm, activated

the Texas National Guard and Texas State Guard, and asked Texans to heed all local warnings.

- On Aug. 24, 2017, Harvey was upgraded to a Tropical Storm. Governor Abbott discussed hurricane preparedness and the importance of local evacuation warnings with Acting Secretary of Homeland Security Elaine Duke and Federal Emergency Management Agency (FEMA) Administrator Brock Long. President Donald Trump called Governor Abbott and pledged all available federal resources. The Governor again urged all Texans to heed local officials' warnings, strongly consider voluntary evacuation orders, and strictly comply with all mandatory evacuation orders.
- On Aug. 25, 2017, following a briefing by the Texas Division of Emergency Management (TDEM) and all activated state agencies at the State Operations Center (SOC), Governor Abbott held a press conference where he again urged all Texans to heed local officials' warnings, strongly consider voluntary evacuation orders, and strictly comply with all mandatory evacuation orders. Governor Abbott requested a Presidential Disaster Declaration in advance for six counties to more rapidly secure federal aid to supplement state and local recovery efforts. The Governor then visited Texans seeking refuge at a San Antonio shelter, and suspended state and local hotel and motel occupancy tax for relief personnel and victims of the storm. **Hurricane Harvey made landfall at 10 p.m. near Rockport as a Category 4 hurricane.**

Rescue, Recovery, and Rebuilding: Immediately following landfall, coordinated rescue, recovery, and rebuilding efforts began. With the support of our federal partners, here is a snapshot of actions taken by the State of Texas the first 33 days after landfall.

- On Aug. 26, 2017, Governor Abbott contacted local officials in the region by phone to hear damage estimates firsthand and to offer support. The Governor began receiving formal daily briefings from the Texas Division of Emergency Management (TDEM) and FEMA, provided a media update at the State Operations Center (SOC), and added 20 Texas counties to the State Disaster Declaration. Following multiple media interviews and while receiving reports from the region on rescue and recovery operations, Governor Abbott and First Lady Cecilia Abbott visited an Austin Red Cross Shelter where they helped serve dinner.
- On Aug. 27, 2017, following the daily State Operations Center (SOC) briefing and based on continuing updates from the region, Governor Abbott requested 12 Texas counties be added to the Presidential Disaster Declaration, and he added four to the State Disaster Declaration. Governor Abbott requested of Secretary of Defense General James Mattis that a Texas National Guard Dual Status Command be established to allow for a single commander of both federal and state forces providing disaster response. The Governor was joined by U.S. Coast Guard Vice Admiral Karl Schultz and agency officials at SOC for a media update on ongoing rescue and recovery operations.
- On Aug. 28, 2017, Governor Abbott activated the entire Texas National Guard, added another four counties to the State Disaster Declaration, and issued a proclamation allowing public utilities to access private property as needed to repair power lines and reconnect the electric utility grid. The Governor visited the Coastal Bend Region for an on-site briefing and provided what became a daily media update. After an aerial tour of the region to survey the extensive damage, the Governor spoke with local officials and Texans impacted by the

storm. He was joined on the ground by Senator John Cornyn and FEMA Administrator Long. At the Governor's direction to state agencies to extend deadlines, waive fees and cut red tape, the Texas Department of Public Safety began providing a free replacement driver's license or ID card for survivors.

- On Aug. 29, 2017, Governor Abbott joined President Trump and Cabinet members in Corpus Christi to meet with local leaders and relief organizations before traveling to Austin for a detailed briefing at the State Operations Center (SOC). They were joined by federal and state officials, including Senators John Cornyn and Ted Cruz. Governor Abbott reminded residents of Houston threatened by rising floodwaters that preserving life remained the top priority. The Governor announced an award of \$25 million in federal funds to the Texas Department of Transportation for debris removal, cleanup, and transportation infrastructure repairs.
- On Aug. 30, 2017, Governor Abbott requested the addition of 14 Texas counties to the Presidential Disaster Declaration.
- On Aug. 31, 2017, Governor Abbott sent a letter to county judges outlining available assistance, and he increased the number of National Guard troops helping with hurricane response to 24,000. The Governor suspended vehicle registration, titling, and inspection rules for hurricane victims, and he eased restrictions on truckers bringing fuel and relief supplies into the state. Governor Abbott and Texas First Lady Cecilia Abbott joined Vice President Mike Pence and Second Lady of the United States Karen Pence on a visit to Rockport and Victoria to meet with victims, volunteers, and first responders. The Governor proclaimed Sept. 3, 2017, as a Day of Prayer in Texas; then Governor Abbott and Vice President Pence assisted with debris clearing in Rockport.
- On Sept. 1, 2017, Governor Abbott announced that Gulf Coast refineries were coming back online, that Louisiana, Oklahoma, and New Mexico were shipping gas into Texas, and that a pipeline carrying gasoline to Oklahoma had been reversed, keeping the fuel in the state, as the Port of Corpus Christi also opened for barges loaded with fuel. President Trump authorized an increase in federal funds for debris removal and emergency protective measures, increasing the federal cost-share from 75 percent to 90 percent. Governor Abbott announced the Michael & Susan Dell Foundation in collaboration with the OneStar Foundation was forming the Rebuild Texas Fund. The Governor requested three more Texas counties be added to the Presidential Disaster Declaration, and he issued a proclamation warning against price gouging.
- On Sept. 2, 2017, Governor Abbott and Texas First Lady Cecilia Abbott greeted President Donald Trump and First Lady Melania Trump in Houston for a briefing and visit with resilient victims, emergency responders, and volunteers. The Governor and the President met with Texans taking refuge at NRG Stadium where they also helped serve meals. Governor Abbott and President Trump also visited the First Church of Pearland, which was serving as a hurricane relief center for victims of the storm. Members of the President's Cabinet, Senator Cruz, and Houston Mayor Sylvester Turner joined them for the day.
- On Sept. 3, 2017, Governor Abbott joined in the National and Texas Day of Prayer for victims of Hurricane Harvey at Hyde Park Baptist Church in Austin. Governor Abbott met with Senator John Cornyn, Majority Leader Kevin McCarthy, and Chairman Michael McCaul at the SOC to discuss the Congressional response to the costliest disaster to ever hit Texas.

- On Sept. 4, 2017, Governor Abbott announced FEMA had approved his request for Community Disaster Loan assistance to help cities maintain operating budgets and provide essential services. The Governor requested seven Texas counties be added to the Presidential Disaster Declaration.
- On Sept. 5, 2017, Governor Abbott visited the communities of Wharton and Beaumont to thank local officials for their tireless efforts on behalf of their citizens.
- On Sept. 6, 2017, Governor Abbott thanked the U.S. House of Representatives for voting to allocate \$7.85 billion as an initial down payment to Texas in the aftermath of Hurricane Harvey. The Governor suspended the state’s waiting period for auto claims payments to hurricane victims.
- On Sept. 7, 2017, **Governor Abbott announced the Governor's Commission to Rebuild Texas, and appointed Texas A&M University System Chancellor John Sharp as commissioner. The Governor charged the Commission with efficiently and effectively bringing the resources of all state agencies together to help communities in assessing their needs, and in navigating state and federal resources for the rebuilding of roads, bridges, schools, and government buildings.** The Governor directed the Texas Workforce Commission, Texas Higher Education Coordinating Board, and Texas Education Agency (TEA), to develop an education and workforce training plan to support the rebuilding of communities and to put Texans back to work. Governor Abbott, Commissioner Sharp, and state agency heads met with local officials in Corpus Christi and Richmond. The Governor announced aerial spraying for mosquitoes would begin with added assistance from the U.S. Air Force Reserve and specially equipped cargo planes.
- On Sept. 8, 2017, Governor Abbott, Commissioner Sharp, and state agency heads met with local officials in Houston and Victoria. Governor Abbott thanked Congress for passing and the President for immediately signing a \$15.3 billion disaster relief package for several states. The Governor announced a Texas Education Agency hotline with public education updates for parents, and he announced the Texas Commission on Environmental Quality and the Environmental Protection Agency (EPA) had completed the initial assessments of all 60 Superfund sites in the area.
- On Sept. 9, 2017, Governor Abbott, Commissioner Sharp, and state agency heads met with local officials in Beaumont. The Governor sent a letter to EPA Administrator Scott Pruitt expressing his support for a Texas Water Development Board request to streamline federal funding for flood and water infrastructure projects.
- On Sept. 11, 2017: Governor Abbott announced the Texas Health and Human Services Commission would begin offering D-SNAP disaster food relief for hurricane survivors.
- On Sept. 12, 2017, Governor Abbott proclaimed Sept. 12 as “Hand In Hand Day” in Texas to promote the telethon featuring George Strait, Miranda Lambert, Lyle Lovett, Robert Earl Keen, Chris Stapleton, and other artists. At the Governor’s direction to state agencies to extend deadlines, waive fees, and cut red tape, the State began waiving the fee for replacement copies of birth certificates for hurricane survivors.
- On Sept. 13, 2017, Governor Abbott announced a \$30 million federal grant to the Texas Workforce Commission to create temporary jobs to assist with cleanup, recovery, and humanitarian efforts. The Governor announced the launch of RebuildTexas.Today, a real-time resource for local officials with information on state and federal assistance available

for infrastructure rebuilding. The Governor suspended the State's seven-day waiting period for disaster unemployment insurance.

- On Sept. 14, 2017, Governor Abbott announced Texas Department of Transportation (TxDOT) crews, having already reopened roads for emergency responders, replaced signage, reactivated signals, and resumed ferry service, was now removing roadside debris in the region. **Governor Abbott announced that Texas Land Commissioner George P. Bush would head the state's short- and long-term housing recovery efforts that were to be locally led, state-supported, and federally funded.** The Governor added two Texas counties to the State Disaster Declaration.
- On Sept. 15, 2017, Governor Abbott released the first issue of the ongoing Update from the Commission to Rebuild Texas, with recovery reports from state and federal agencies, and local communities.
- On Sept. 19, 2017, Governor Abbott suspended state trucking regulations to aid Hurricane Irma relief in Florida.
- On Sept. 20, 2017, Governor Abbott sent a letter to county judges encouraging the utilization of disaster relief funding for their communities. Governor Abbott extended the State Disaster Declaration for now 60 Texas counties. The Governor announced the Texas Department of Transportation (TxDOT) had removed approximately 432,000 cubic feet, or eight football fields, of debris from roadways in addition to local efforts to remove debris as quickly as possible. The Governor joined Attorney General Ken Paxton in a letter to President Trump, urging him to ensure that churches and religious organizations are treated equally with other nonprofits and not excluded from FEMA disaster funding.
- On Sept. 21, 2017, Governor Abbott joined George Strait and Acting DHS Secretary Duke in Rockport to reaffirm his commitment to help Texans rebuild even stronger than before.
- On Sept. 22, 2017, Governor Abbott was joined by HUD Secretary Ben Carson and Commissioner Bush in a tour of impacted housing developments in Port Arthur where they spoke with survivors of the storm.
- On Sept. 26, 2017, Governor Abbott, Lt. Governor Dan Patrick, and Commissioner Sharp joined Texas State legislators at the FEMA Joint Field Office in Austin for a briefing.
- On Sept. 27, 2017, Governor Abbott announced TxDOT had now collected more than 2.4 million cubic feet, or 45 football fields, of debris left behind by Hurricane Harvey on roadways across the four districts hardest hit by the storm.
- On Sept. 29, 2017, as a critical milestone, Governor Abbott announced all but three public school districts had returned to class. The Governor traveled to Houston to present a \$50 million check for urgent debris removal to Mayor Turner.

Economic Loss/Damage Estimates: The enormity of Harvey's destruction has now been revealed. The National Hurricane Center estimates that Harvey is the second-costliest storm in U.S. history, and by far the costliest storm in Texas' history, at \$125 billion in damages or more. The Insurance Journal estimates that Texans suffered in excess of \$70 billion of uninsured loss. Nearly 900,000 applications for Individual Assistance, and nearly 1,200 requests for Public Assistance from jurisdictions, have been received by FEMA. And communities in the impacted region have requested more than \$61 billion in expedited federal funding for public

infrastructure repairs and U.S. Army Corps of Engineer projects that could mitigate the potential for future storm damage.

State Expenses: Current best estimates show that the State and local governments will incur approximately \$2.72 billion in obligations. State funds spent or allocated for rescue, recovery and rebuilding include: \$438 million for repair of our public schools; \$90 million to cover local jurisdictions’ cost-share for debris removal of approximately 16 million cubic yards; \$38 million for immediate housing needs; and due to property value declines, Texas school districts stand to suffer up to a \$1 billion loss in the local property taxes that fund our school finance system.

Texas State Funds Spent and Projected for Hurricane Harvey

State Agency Actuals as of Jan 2018	\$421,225,019
State Agency Projected for remainder of FY 2018	\$747,100,000
Texas Education Agency Estimates for FY 18-19	\$438,000,000
School finance estimated state increase due to local property value loss for FY 2020	\$1,000,000,000
Transfer to General Land Office for housing programs	\$38,600,000
Remainder of \$90 million made available to local governments for debris removal match	\$77,000,000
TOTAL	\$2,721,925,019

Federal Assistance: As of March 9, 2018, more than \$13.3 billion in federal funds have been provided directly to Texans, including FEMA grants to households, National Flood Insurance Program claims payments, and SBA disaster loans; and more than \$362 million in Public Assistance funding from FEMA for state and local governments has been obligated. Additionally, Congress has appropriated over \$100 billion towards hurricane relief and recovery. A portion of that money will be allocated to Texas for housing recovery, infrastructure, mitigation, and numerous other needs.

Housing: As of March 12, 2018, repairs have been completed on 8,356 homes through the Partial Repair and Essential Power for Sheltering (PREPS) program, and nearly 8,000 homes are in the process of receiving repairs. Sixty-nine homes have completed repairs through the Direct Assistance for Limited Home Repair (DALHR) program, with 538 additional applicants. Some 2,263 families have been housed through the Direct Housing Program, receiving temporary housing units such as a manufactured housing unit, a travel trailer, or Direct Lease; additional housing options are being prepped for occupancy for an additional 2,621 applicants. And 7,249 households are taking advantage of FEMA’s Transitional Sheltering Assistance, staying in hotels or other accommodations while seeking longer term housing solutions.

Lessons Learned: Now more than six months after Hurricane Harvey made landfall, and as rebuilding efforts continue, much progress has been made through the outstanding coordination of teams at the federal, state, and local levels. In each community, it was because of the courage and calm leadership of local emergency managers, elected officials, law

enforcement, and first responders that so many lives were spared, and that many of their citizens are on the long road to recovery — even as they too suffered personal loss. Our federal partners have been responsive and innovative, including improvements to speed funding to impacted communities. In the early days after landfall of Hurricane Harvey, as the devastating damage became apparent, it was clear the affected jurisdictions would need assistance and need it quickly — both for debris removal (Category A) and to reimburse the massive emergency protective measures (Category B) that were deployed across 53 counties in the Presidential Disaster Declaration. As a result, FEMA and the state worked together to expedite payments for Public Assistance. These efforts pushed over \$290 million to locals in the first 30 days. And the work of the Governor’s Commission to Rebuild Texas in helping local communities navigate state and federal resources for infrastructure rebuilding has also been commendable, as have the county extension agents who have served as a force extender for those efforts in the field. With lessons learned in terms of training needs at the local level, as well as technology improvements made to track response and recovery efforts, this Commission is a model that could be replicated in future disasters. However, even as all state agency resources were leveraged, and our partnership with federal agencies is strong, there is much room for improvement at all levels of government to meet our ultimate goal of helping Texas families and communities to recover from a devastating storm of historic proportions.

1. Obstacle: Bureaucratic Delays

The disaster recovery apparatus is saddled by redundancy of government. Disaster relief is administered across multiple agencies amongst multiple layers of government. The complexity related to the coordination of the numerous federal programs (FEMA, HUD, SBA, USDA, etc.) is challenging at best for individuals and communities that must apply and qualify for assistance from these numerous programs. Most often an individual or entity is required to apply for multiple sources of assistance, with each program requiring new applications containing much of the same information. The individual or entity also must navigate the maze of qualifying for and receiving assistance from the source of prime responsibility before they can qualify for assistance under other programs. This is very confusing, cumbersome, and complicated. This results in some individuals or entities ultimately not receiving the assistance they rightly qualify for because they fail to properly navigate this bureaucratic labyrinth.

Recommendation: Streamline and speed immediate relief for individuals.

The complexity of the sequence of delivery for Individual Assistance (IA) through FEMA must be remedied. Even within the centralized Disaster Recovery Centers, already traumatized survivors must navigate a confusing gauntlet of federal agencies, state agencies, and relief organizations. And multiple organizations send multiple inspectors to the same property, then debate and delay the actual delivery of services because everyone wants to be the payer of last resort. Families would recover faster if FEMA would develop a tiered IA structure that delivers grant funds to families based on damage assessments regardless of who else might be supporting the survivors. This needs to be regardless of insurance status.

Recommendation: Cut red tape at all levels.

Some jurisdictions encountered challenges in quickly procuring needed support services, while many others discovered that the contracts they had in advance of the storm did not include all of the contract provisions required under the governing federal laws and/or rules. Many of these required federal provisions seem to be onerous, such as the prohibition to use interlocal agreements to allow contracts procured by one jurisdiction (i.e. the county) to be used to perform work for another jurisdiction (i.e. a city). This is common practice under state procurement laws, but prohibited by federal laws governing disaster response. This prohibition greatly reduces the options available to local jurisdictions to quickly and efficiently respond to their needs. Additionally, confusion as to what is required for Public Assistance (PA) funding was problematic. Due to this inconsistency, local auditors, finance directors, and emergency managers operated under a cloud of anxiety. The lack of a true and cohesive checklist detailing the documentation requirements can greatly affect a jurisdiction's Public Assistance funding.

Cutting red tape works. For example, in the aftermath of Hurricane Harvey, Governor Abbott used the authority provided to him in Texas Govt. Code section 418 to suspend hundreds of regulatory statutes and state agency rules that would in any way prevent, hinder, or delay necessary action in coping with the disaster. The suspended regulations/rules fall under the authority of more than 30 state agencies and cover a variety of topics including peace officers, vehicle storage facilities, professional license renewal, animal health, and many more. (A complete list is available on request.) The removal of the regulations allowed for state and local entities to focus on the goal of picking up the people of Texas, rather than on complying with procedures and process.

2. Obstacle: Housing Delays

The loss of family homes and family memories, and the sense of security those bring, was deeply devastating for many Texans. Given the enormity of the potential housing project in Texas, and the likelihood that FEMA would be spread too thin to manage responses to three separate storms concurrently, Texas agreed to take the primary role in delivering temporary housing. A cooperative federalism of this sort has the potential to radically transform the way housing is delivered. In its best form, the federal government can provide tremendous financial assistance to those whose lives have been devastated by the storm, while permitting states to provide solutions that satisfy the unique geographical, legal, and even political concerns of their state. But such a method will only work if the insertion of the state into the implementation of the temporary housing programs does not simply insert an additional layer of process and procedure. In some places, the temporary housing program has been slowed by trying to coordinate procedures and ensure compliance at three different levels of government.

Recommendation: Streamline delivery; remove regulatory roadblocks.

Though still ongoing, Texas learned two valuable lessons from its implementation of the temporary housing program. First, in order for the cooperation to work, states must truly be relieved of complying with the tangle of federal regulations governing the temporary housing program. Indeed, it would seem that even FEMA — which continues to help implement the temporary housing program in some parts of the state — struggles to efficiently deliver housing

solutions while complying with these regulations. And while the labyrinth of regulations and processes is long and tortuous, many of the rules themselves have the perverse effect of being both more costly and less effective. Second, Texas itself must do a better job of removing regulatory obstacles from the successful delivery of temporary housing solutions. The patchwork of codes and local ordinances that crisscross the state has made it extremely difficult to design a one-size-fits-all solution to immediate housing needs. Take for example, the RV and Manufactured Home solution — the most widely used FEMA program. Many areas, such as the City of Houston, do not permit the installation of RVs or manufactured homes.

3. Obstacle: Debris Removal and Procurement

The faster debris is removed, the faster recovery begins. With an estimated 16 million cubic yards of debris generated by Hurricane Harvey, debris collection and removal was a huge issue early during the response and recovery phases, and to a certain extent continues today. We are thankful that the President rapidly authorized a 90 percent federal cost share for debris removal, which helped alleviate some of these burdens, however on the ground problems ranged from insufficient resources to remove debris to a lack of disposal sites available in some areas to accept mixed debris. And many cities let a single contract for debris removal. At its best, this scenario provides no incentive for debris haulers to move quickly. At its worst, it provides a perverse incentive for price gouging and coercion. Opportunities exist to improve the debris collection and removal response through improved contracting practices, pre-approved collection and disposal sites, and prepositioning of critical assets.

Recommendation: Remove regulatory roadblocks.

Federal regulations have posed a problem for local jurisdictions as the requirements involve more stringent guidelines, as well as additional personnel and resources for already overwhelmed and understaffed departments. Jurisdictions struggle to implement the federal guideline of full and open competition due to the extreme nature of the event. As these jurisdictions were responding to public safety and saving lives, the task of publishing solicitations, adjusting timelines, researching products and services, and prohibiting local preferences all took a secondary role in the response effort. Jurisdictions were forced to take time away from their efforts of managing the devastation to focus on federal grant requirements, which were more stringent than local or state laws, regulation or policy. Although many jurisdictions had prepared for disaster services by awarding pre-positioned contracts prior to the event, the jurisdictions found that these contracts were not compliant with federal procurement regulations.

The three hurricanes in 2017 found many debris contractors leaving Texas (often without fulfilling their contract), assisting other states, returning to Texas, and then raising their agreed upon contract prices with Texas jurisdictions. Under federal guidelines, a cost change to an original contract would require a detailed cost analysis. Due to the unusual and unique circumstances of three devastating events affecting the United States, Texas jurisdictions were not only at the mercy of the debris contractors, but they were also under pressure to remove

the debris quickly and expediently due to health and safety hazards. Conducting detailed cost and price analysis under such circumstances became a heavy burden on these jurisdictions.

FEMA could speed up recovery by removing regulations on private property and commercial property debris removal. It has been theorized that insurance should cover private and commercial properties, but since FEMA is the insurer under NFIP, by applying outdated regulations, all FEMA is doing is slowing the recovery process.

4. Economic Losses

As a result of Hurricane Harvey, nearly 1.4 million Texans likely evacuated from their homes, more than 35,000 rescues were recorded, more than 42,000 Texans sought refuge, and nearly 300,000 households were left without power. And tragically, it is estimated that 68 people died, making Harvey the deadliest hurricane to hit Texas in nearly 100 years. The event upended millions of Texans' lives. On top of this, Hurricane Harvey's economic impact was in the range of \$125 billion, according to the National Hurricane Center.

Recommendation: Prioritize mitigation projects.

Disaster recovery is a long and expensive process — and one that should be thought of both in terms of present and future need. Governor Abbott has made clear that we cannot simply repair the damage left behind by Hurricane Harvey — but that we must “future proof” for the next storm. Spending precious taxpayer dollars without consideration of future costs, both in terms of dollars and lives, is short-sighted and fiscally irresponsible. Texas has asked the federal government to provide assistance to ensure that Texas rebuilds stronger than ever after Hurricane Harvey, and it is our intention to be good stewards of those dollars both in terms of present and future need. Thanks to the hard work of the Texas Congressional delegation and Members of Congress, we are off to a good start towards “future-proofing.”

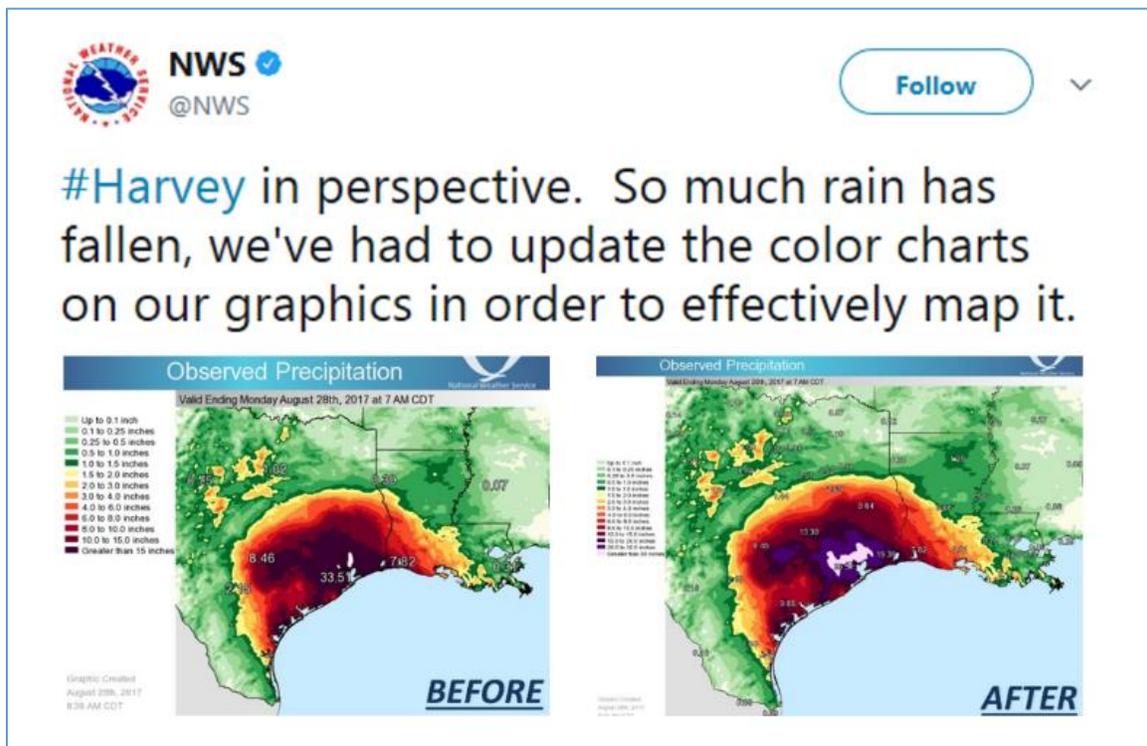
We can minimize the cost of future disasters by investing money now to mitigate damage in the future. For example, Texas is funding hazard mitigation projects in communities impacted by Hurricane Harvey through FEMA's Hazard Mitigation Grant Program (HMGP). The funding from FEMA will provide an estimated \$1 billion for projects designed to both help Texas rebuild and reduce the risk of future damage from flooding and hurricanes. The HMGP is an example of a state-federal partnership that targets financial resources towards local projects that will help “future proof” against the next storm.

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Attachment:

Historic Storm

- NATIONAL HURRICANE CENTER, “Tropical Cyclone Report, Hurricane Harvey,” Jan. 23, 2018. https://www.nhc.noaa.gov/data/tcr/AL092017_Harvey.pdf
“Harvey started as a typical weak August tropical storm that affected the Lesser Antilles and dissipated over the central Caribbean Sea. However, after re-forming over the Bay of Campeche, Harvey rapidly intensified into a category 4 hurricane (on the Saffir Simpson Hurricane Wind Scale) before making landfall along the middle Texas coast. The storm then stalled, with its center over or near the Texas coast for four days, dropping historic amounts of rainfall of more than 60 inches over southeastern Texas... Harvey was the most significant tropical cyclone rainfall event in United States history, both in scope and peak rainfall amounts, since reliable rainfall records began around the 1880s. The highest storm total rainfall report from Harvey was 60.58 inches near Nederland, Texas, with another report of 60.54 inches from near Groves, Texas. Both of these values (and from five other stations) exceed the previously accepted United States tropical cyclone storm total rainfall record of 52.00 inches at Kanalohuluhulu Ranger Station, Hawaii, in August of 1950 from Hurricane Hiki.”
- @NWS, Aug. 28, 2017. <https://twitter.com/NWS/status/902174274571689984/photo/1>



Rescue, Recovery, and Rebuilding

- OFFICE OF THE GOVERNOR, REPORT TO THE PEOPLE, “Steps to Recovery,” Jan. 29, 2018. A snapshot of action taken by the Governor; not inclusive of all briefings, hearings, proclamations, actions or events in Texas. Begins on page 28:
https://gov.texas.gov/uploads/files/press/2018ReportTOThePeople_01292018.pdf

Economic Loss/Damage

- NATIONAL HURRICANE CENTER, “Costliest U.S. tropical cyclones tables updated,” Jan. 26, 2018. Table 3b. Costliest mainland United States tropical cyclones, 1900-2017, after accounting for inflation to 2017 dollars.
<https://www.nhc.noaa.gov/news/UpdatedCostliest.pdf>

RANK	TROPICAL CYCLONE	YEAR	CATEGORY	DAMAGE (U.S.)
1	KATRINA (SE FL, LA, MS)	2005	3	\$160,000,000,000
2	HARVEY (TX, LA)	2017	4	\$125,000,000,000
4	SANDY (Mid-Atlantic & NE US)	2012	1	70,200,000,000
5	IRMA (FL)	2017	4	50,000,000,000
6	ANDREW (SE FL/LA)	1992	5	47,790,000,000
7	IKE (TX, LA)	2008	2	34,800,000,000
8	IVAN (AL/NW FL)	2004	3	27,060,000,000
9	WILMA (S FL)	2005	3	24,320,000,000
10	RITA (SW LA, N TX)	2005	3	23,680,000,000

- INSURANCE JOURNAL, “Top 10 Global Economic Loss Events,” Jan. 24, 2018. Insurance Journal estimates Harvey exceeded \$100 billion in economic loss; only \$30 billion was insured. <https://www.insurancejournal.com/news/international/2018/01/24/478246.htm>

Date(s)	Event	Location	Deaths	Economic Loss (USD)	Insured Loss (USD)
Aug.25-Sept. 2	Hurricane Harvey	U.S.	90	~100 billion	~30 billion
Sept. 18-22	Hurricane Maria	Caribbean Islands	651	~65 billion	~27 billion
Sept. 4-12	Hurricane Irma	U.S., Caribbean Islands	134	~55 billion	~23 billion
October	Wildfires	United States	43	13 billion	11 billion