



IBTS Case Study

City of Central, Louisiana

2016 Flood



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About this Case Study



This case study summarizes the lessons learned and experiences gained by the City of Central officials and municipal services staff, and IBTS staff during the Louisiana floods in August 2016.

The IBTS Central team, who are members of the Central community themselves, have performed municipal services for the city since 2011 under a nonprofit-public partnership contract. This case study also demonstrates the role this partnership played in the city's recovery from the storm.

Flood events are presented as they unfolded, highlighting the steps that the city and IBTS took to respond to the flood and how the city is navigating the recovery process. Intermingled are commentary and observations from those who were there, offering lessons learned before, during and after the disaster.

Study Participants

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Fast Facts

City of Central, Louisiana

Population: 27,947

Area: 62.5 square miles

Chief Industries: Service, retail, manufacturing

Median Household Income: \$64,484 (2015)

Median Home Value: \$209,325

Households: 11,176

Prologue



Central residents helped each other escape flood waters and reach safety. Photo credit: Bill Feig, The Advocate

Like other places in East Baton Rouge Parish, Central is no stranger to flooding. Its location between the Amite and Comite Rivers presents the city with unique flooding risks, particularly backwater flooding, when upstream flooding is caused by downstream conditions. About 60 percent of the city's incorporated area is within a special flood hazard area (SFHA) or floodplain. City officials and residents were equipped to manage flooding.

That changed in August 2016, when Central found itself in the center of what would amount to the fourth-most costly flood event in US history, second only to Hurricanes Sandy, Katrina and Ike. The magnitude of the disaster unlike anything residents had seen in their lifetimes. As the conditions rapidly surpassed any flood in the area's history, communications and roadway access were cut off.

Once the rain stopped, the city found itself with an unthinkable amount of damage affecting nearly all residents. Central's leaders immediately initiated the recovery process, knowing their actions could make the difference in whether the community could recover from the devastation.

Despite the unprecedented enormity of the storm, Central did not suffer any serious injuries or fatalities, thanks in large part to the city's commitment to its residents. According to City of Central Mayor Jr. Shelton, "You have to keep the best interest of the citizens as your priority."

City leaders, staff and residents are eager to share their successes, but they also want to share what they wish, in hindsight, they had done differently.

Also included are insights from local IBTS staff. The IBTS Central team had been working with the city since 2011, performing municipal services under a nonprofit-public partnership contract. This existing relationship allowed the IBTS team to work alongside city officials in the immediate response effort and to manage the city's complex recovery process.

In the face of an overwhelming natural disaster, all of Central's residents survived. In the months following the storm, the city has persistently pursued the best recovery options for its citizens. Central's residents, many of whom are still recovering from the disaster, have a renewed sense of pride and confidence in the strength of their community. "It may sound trite, but the city of Central functioned as a large family," explains Ashok Goswami.

Before the Flood

Thursday, August 11, 2016



Before the flood: Central residents celebrate the city's eleventh birthday in July 2016, a month before the storm.

5:30 p.m.

City of Central and IBTS staff members leave their offices, ready to face a rainy drive. Some are headed home. Others, like City of Central Mayor Jr. Shelton, are headed over to Central High School for a meeting between the City Council and School Board. The rain has been around for most of the day and will likely continue into the night.

Earlier that morning, the city posted a notice on Facebook asking residents to stay safe in the rain and to keep the possibility of flash flooding in mind. They don't want to overdo the warnings -- given the weather forecast, they're expecting the rain to be bad, but not unusual. Four months earlier, the city sent out warnings about potential flooding that never amounted to anything, and they know that crying wolf too often will do more harm than good. The Facebook post gets two likes and one share.

IBTS staff members, who provide municipal services for the city under a nonprofit-public partnership, are anticipating some areas that experience repetitive flooding may need

sandbags, and tomorrow's phones will likely be busier than usual with people reporting weather-related problems. Workers will probably spend the weekend filling work orders, clearing and repairing culverts and drains. They have been through this before.

"When we hear that there's going to be heavy rain, we get ready," explains Shelton, recalling the night before the disaster. "But there was no way to know that this was going to be a 500- or 1,000 year flood."

Many of the city's residents are on their way home from work too. They're also not worried about the rain. Most lived in the area when Hurricanes Katrina and Ike slammed the Gulf Coast, and there is no reason to think that the upcoming rains will compare in severity with those storms.



Before the flood: city staff and residents have ample experience with typical flood conditions. In this March 2016 photo, IBTS Program Director David Ratcliff (l) and Mayor Jr Shelton (r) help clear debris from a culvert. Photo credit: Jolice Provost, Central City News.

Those who live in the floodplain are required to have flood insurance, but they doubt they'll need it -- at most, they'll get a little water in their crawlspaces or ponding in their yards and they can take care of that themselves.

For those homeowners outside the floodplain, most have opted out of flood insurance to save the \$400 to \$500 annual insurance premium. It's an easy call – those who have lived in the area for decades know their houses stay dry even during the worst weather. Many newer residents also did not purchase flood insurance when they bought their homes, thinking that it was an unnecessary expense.

Tips Before a Disaster

► Build Relationships Now

Having strong, positive relationships already in place with state elected officials and with neighboring counties, cities and towns can make a difference in an emergency. If you don't know your local officials, find a reason to meet them, and keep the relationship going. You'll create a stronger bond now, not when you're asking for help under duress.

► Create Memorandums of Understanding (MOUs) with City and School Buildings for Use as Shelters

MOUs authorize use of a facility in advance, and describe equipment, roles and responsibilities, and conditions for returning the facility to its original condition. Working these details out in advance of a disaster makes the process smoother. Identifying multiple buildings in various locations allows for flexibility if a shelter is damaged in the disaster.

► Evaluate Staffing Needs

Staffing needs change drastically during a natural disaster. Plan for around-the-clock staffing and identify personnel to be on-call if primary staff are affected by the disaster. Clearly define and Communicate staffing roles and ensure that staff are trained and ready for their responsibilities as soon as disaster strikes. If possible, plan for employee shelters and nearby childcare to allow staff to work without worrying about their own families.

► Have a Policy in Place to Define How Market Value Is Determined

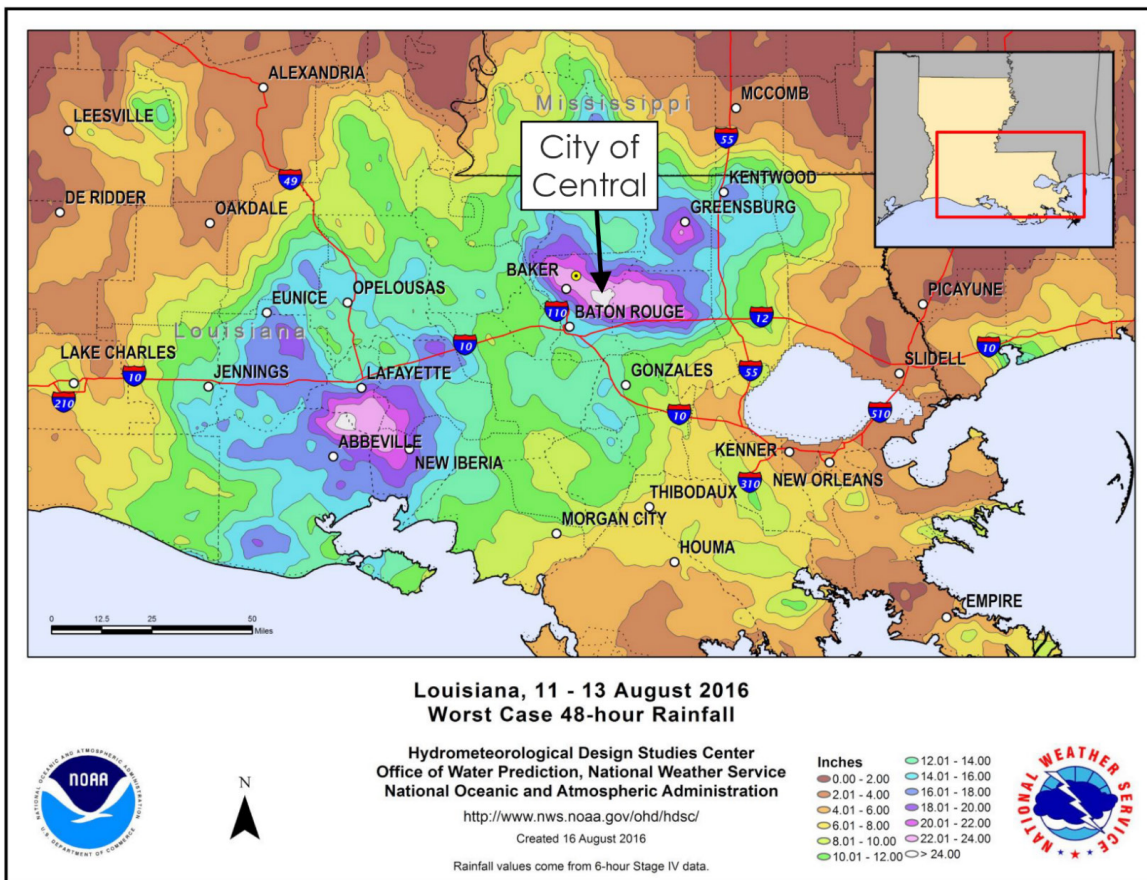
Home market values become critical when FEMA makes substantially damaged determinations. Communities that define and document how market value is determined in advance will save themselves and their residents from additional hassle during this process.

► Learn About the FEMA and HUD CDBG-DR Reimbursement Process In Advance

Funding, first from FEMA and later from Community Development Block Grant Disaster Recovery (CDBG-DR), can have an enormous benefit to communities during the recovery process. However, funding requirements can be complex and failure to comply with them can result in grant request denials or communities having to repay grant funds already received. Communities must begin documenting efforts during and immediately following a disaster, often when staff are overwhelmed and focused on more pressing immediate issues.

During the Flood

Friday, August 12, 2016



Louisiana rainfall, August 11-13. The City of Central received over 24 inches of rainfall in a 48-period. Image courtesy National Oceanic and Atmospheric Administration and National Weather Service.

7:00 a.m.

The rains continue through the night and by Friday morning, do not show any sign of letting up. So far, 11 inches of rain have fallen on Central, an amount that is nearly unheard of for a 24-hour period. As the city's residents prepare to head out, many realize that the rain is more of a problem than they anticipated. For some, the intensity of the rain makes driving nearly impossible. Others discover that flash flooding is preventing them from leaving their homes.

"On Friday morning, my husband asked me if I was going to work," recalls Julie Lafferty, a permit technician with IBTS's local office. Given IBTS's role providing municipal services under its nonprofit-public partnership with Central, Lafferty and the rest of the IBTS team consider themselves responsible for the well-being of the city. "My first thought was taking care of residents. People needed help. I had to go in to work."

9:30 a.m.

The situation is quickly deteriorating. The city makes sandbags available to those who need them, only to have some unable to reach them due to road closures that isolate parts of the city. Distraught residents begin calling the city to report that they are stranded in their homes, leaving city and IBTS staff scrambling to respond to each incident. The city issues a Facebook post warning residents to stay off roads unless it's an emergency.

"You couldn't even hang up the phone," Lafferty remembers. "We were receiving nonstop frantic phone calls about everything from what roads are open to what shelters can be accessed and where to get sandbags."

12:00 p.m.

By noon, 20 inches of rain have fallen. "It wasn't until then that anyone stopped to say, 'this is really bad,'" recalls Suzonne Cowart, director of finance for the City of Central. "It just doesn't register. It was rain, it wasn't even a hurricane!"

The situation is completely unprecedented, and city officials find themselves responding to a situation without sufficient historical or flood modeling data. “No one knew it could happen and no one had it modeled,” adds City of Central Councilman Jason Ellis, who is a civil engineer experienced with floodplain issues.

The city notifies the community of 27 road closures. To make matters worse, some staff members leave to check on their homes and loved ones, only to find themselves stranded, unable to return safely to work.

3:00 p.m.

Already operating at full capacity, staff members and first responders have realized that the parish emergency operations plan, which has guided the city through severe rainstorms and flooding in the past, is not equipped to account for such an unprecedented rainstorm.

Emergency staff prioritize keeping residents safe, albeit at the cost of completing other essential tasks like coordinating volunteer organizations or keeping records of spending and activity.



Flooding along Highway 946 in Central.

Photo credit: David Grunfeld/NOLA.com The Times-Picayune via AP



Flooding around the Magnolia Bridge in East Baton Rouge Parish.

Photo credit: Bill Feig

Friday, August 12, 2016



A sign on Hooper Road in Central demonstrates the amount of water covering the roads. Central was effectively cut off from surrounding areas during the worst of the storm. Photo credit: Mike Gardner, Central City News

“We moved first to protect our citizens,” says IBTS Program Manager David Ratcliff. “That was our first and most important priority, and we could not be more proud and thankful that not one life in the City of Central was lost during the flood.”

“Regular staff levels were lean,” Cowart adds. “You have a limited number of people who can respond in an emergency situation.”

Even with limited staff, the city kicks into action. Each staff member fills multiple roles, jumping in as needed. Decisions are made rapidly as previously unthought of problems arrive.

Shelton stresses the importance of not letting speed overtake reason. Decisions that may fill an immediate need can have long-term consequences. “You’ve got to slow down to hurry up,” he says. “You’re going to have to make some quick decisions.”

In an effort to keep citizens off the road and safe, the city announces that a curfew will be in effect from 8 p.m. until 6 a.m. the following morning. Staff members get to work on finding a shelter for displaced residents.

The Nonprofit-Public Partnership Model

Under its unique nonprofit-public partnership model, IBTS provides municipal services to localities, including the City of Central.

As a 501(c)(3) non-profit organization, IBTS is committed to serving residents by ensuring that municipal services are delivered in a manner that is efficient, seamless and transparent, all at a reasonable cost. In doing so, local officials and leaders are able to make better use of their municipality’s resources.

“Our municipal services are emblematic of IBTS’s mission over margin,” says Goswami. “We are invested in not just being a service provider, but in being part of the communities we serve.”



Small watercraft owners helped Central residents evacuate their homes during the worst of the flooding. The group of rescuers were known as “the Cajun Navy.” Photo courtesy of The Advocate; photo credit Caroline Ourso.

3:30 p.m.

City officials successfully set up the first shelter location for those forced out of their homes at Zoar Baptist Gymnasium.

City employees quickly get the word out about the shelter’s location, posting the information on Facebook. They don’t know it at the time, but this will be their last social media post of the day.

4:00 p.m.

The city’s communications networks are not spared from physical damage and outages from flood waters. An AT&T switching facility in Baton Rouge is flooded, and knocks out cell service across the region. Central loses cell service and the information gap both for the public and among IBTS and city workers becomes a pressing concern.

“It was a straight downpour for hours and hours,” IBTS Planning and GIS Technician Kathi Cowen describes. “It would stop and then start again. It sat over us, pulling water from the Gulf and dumping it on us.”

City employees are unable to get online to update the city’s website and Facebook page to push information to the public. The city loses communication with the public for the rest of the night.

8:00 p.m.

As the night wears on, displaced residents begin pouring into Zoar Baptist Church to take refuge from rising floodwaters. The Central Fire Department works through the night to rescue citizens from rapidly moving floodwater. Roads are impassable, and the rescue crews and emergency response go into the night navigating flooded streets by boat.

Saturday, August 13, 2016

7:00 a.m.

The city announces the opening of two more shelters, one at Bellingrath Elementary and one at Life Tabernacle Church. Dozens of volunteers begin showing up, ready to help, but the city does not yet have anyone in charge of organizing volunteers or setting up a volunteer reception center.

Likewise, donations start pouring in, but the city cannot access the firehouse and municipal buildings where flood relief donations would normally be stored. Additionally, the volume of donated supplies is massive, unlike any the city has seen before. Some are placed on the ground, but moving them to a more secure location will be no easy feat.

“We needed a forklift to manage the supplies, but we didn’t have one,” says Public Works Director Ray Lewis. “We’re a small town, we’ve never needed one before.”

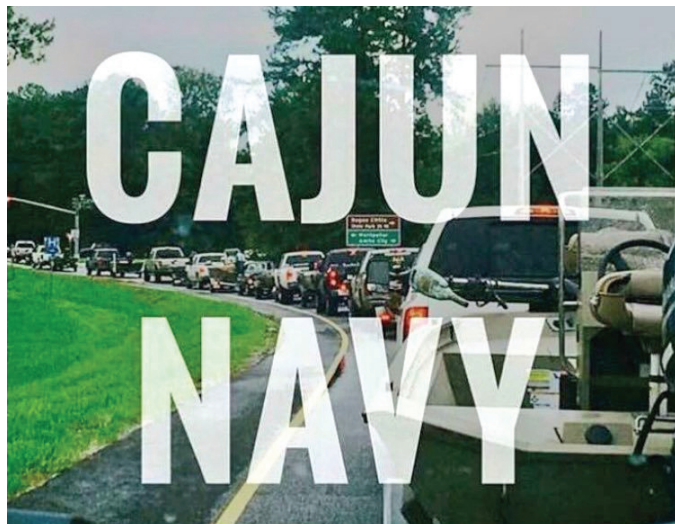
“You’ve got to define in advance who is going to manage donations and direct volunteers,” says Amanda Moody, City of Central economic development director. “Otherwise, these will add to the chaos.”

Friday, August 12, 2016

The city and IBTS staff also have permission to take supplies from local grocery stores to meet short-term needs. This helps the city survive the immediate aftermath, but in some ways, it only complicates an already unmanageable supply management situation.

“Any city should have at least a brief, but widely distributed life and safety plan for arriving helpers and volunteers,” says City of Central Councilman Shane Evans. For example, after computer equipment was damaged and inoperative, the city used a map and charts drawn-up on a whiteboard because they didn’t have access to their documents. “Even that is better than nothing to help direct volunteers and ensure everyone is accounted for in the flood. Have a plan for shelter and supply that includes contacts from both near and distant suppliers,” adds Evans.

With the entire region under water, Central can’t rely on neighboring cities and parishes for aid, and must call on their contacts from further away for assistance. Although it takes a few days, the city gets the help they need – metal sea containers to protect and store supplies, a forklift to unload donations and enough supplies to stock shelters.



Citizens with small watercraft quickly arrived in the area to assist with rescue operations. This image showing a line of trucks towing boats went viral on social media during and after the storm.

8:00 a.m.

Emergency workers have been working for hours and without sleep to rescue residents from their homes. They are exhausted and beginning to be overwhelmed by the need. From the masses of spontaneous volunteers emerges a group of small, private boat owners. These volunteers quickly become a vital asset to the rescue effort. Because their boats are small enough to carry by hand, their operators can cross strips of land that are still above water, giving them access to areas that larger rescue boats have been unable to reach.

They head into neighborhoods, rescuing residents still in their homes, including some who are disabled. They also save stranded animals and livestock and help transport residents from shelters back to their homes to retrieve medications and other essential items. This group of heroes will soon be referred to as “the Cajun Navy.”

12:00 p.m.

Yet the valiant efforts of the Cajun Navy are also met by some setbacks. Without wet routes mapped out, the volunteers still have difficulty avoiding blockages from railroad crossings and intersections. The small boats make traveling in deep pools

About the Stafford Act and FEMA

Under the Stafford Act, FEMA administers and coordinates funding and disaster response activities after a presidential disaster declaration. The Act encourages states and localities to:

- Develop comprehensive disaster preparedness plans,
- Achieve better intergovernmental coordination in a disaster,
- Protect themselves by obtaining insurance coverage,
- Encourage hazard mitigation measures, and
- Provide federal assistance programs for both public and private losses.

These requirements can be challenging for localities to understand and implement consistently. IBTS has developed a range of tools to help cities and counties conform with Stafford Act requirements before, during and after a natural disaster.

of flood water followed by sections of dry road possible, but not easy, especially for disabled residents. They are unable to take direct routes to homes, and with communications down, neither the Cajun Navy nor local rescue and law enforcement know where stranded victims are located or how to communicate with each other. Law enforcement resorts to traveling through flooded areas with bull horns to search for stranded residents.

Floodwater levels continue to rise and rushing water is flowing through the streets – the city is completely isolated, with no open roads, limited food and supplies, little or no access to traditional communication methods, and with stranded volunteers and workers.

“It got real when we were isolated,” remembers Moody. “The need for shelters and food were our first priorities, but with roads shut down we didn’t know how supplies would get delivered. Would we have to fly them in?”

Moody turns to Central’s Congressional Office for help. The city already has a friendly, established relationship with the office from non-flood related work. Within minutes,

Congressman Garret Graves’ office gets Moody in touch with the National Guard.

“Having a pre-established relationship with Congressman Graves’s office was key to getting the national guard engaged,” Moody recalls. “Once we contacted them they had us connected with the National Guard in 15 minutes.”

2:00 p.m.

The Life Tabernacle shelter, less than six hours after opening, is under a foot of water. Panicked residents are waiting to be taken by boat to another shelter, all of which are nearing capacity. The city opens three more shelters at Central Middle School, First Baptist Church and Old Starkey Gym. The number of residents seeking shelter continues to grow beyond what the city has anticipated or ever dealt with in past flooding.

“We were not prepared for shelters with enough supplies, staffing or space,” Cowart recalls. The city puts out a call on Facebook for cots and sleeping supplies, food, water and other basic supplies to stock shelters.



The Life Tabernacle Church in Baton Rouge was initially opened as a shelter for displaced residents. The church had to be evacuated just a few hours later when it began taking on water as well.

Friday, August 12, 2016

Rain slows and residents are lured into a false sense of safety, but the river continues to rise. Floodwater rushes into homes never hit by floods before, and even residents trying to wait out the storm at home are forced to seek shelter.

11:00 p.m.

In the Central Middle School cafeteria, close to 1,000 residents settle in for a restless first night without a home, as do thousands more in other shelters throughout the community.

1:00 a.m.

Across town, the IBTS team settles in on the floor of Ratcliff's living after working a 16-hour day for the first of several nights. Exhausted, worried about their families and unsure of their own homes, the IBTS team prepares for an around-the-clock schedule – many without a change of clothes or any personal items, to help the city navigate and survive the crisis.



Shelter operations at Central Middle School during the flood.
Photo credit: Central City News

Tips During a Disaster

▶ Have Redundant Systems In Place For Emergency Operations

These include multiple ways to communicate, multiple shelter locations, office locations and back-up staff.

▶ Have MOUs in Place With Surrounding Jurisdictions to Provide Shelter for Residents if Needed

Multiple shelters can become flooded and victims will need to be relocated.

▶ Have an Agreement With Local Stores to Take Food and Supplies During a Disaster

City staff should have access to stores to take supplies needed to meet the demands of shelters.

▶ Plan for Volunteers and Donations.

Volunteers can quickly become a burden if there is no system for assigning and recording tasks. Save time by having assignments ready for trained, affiliated volunteers when they arrive. Have a life and safety rescue plan for arriving helpers and volunteers that allows you to maximize volunteer efforts while ensuring their safety.

▶ Station Security at Emergency Shelters.

Hundreds of displaced, anxious and hungry residents in a small space can create volatile situations.

▶ Identify Secondary Locations for Response and Recovery Business

City officials and staff can afford little downtime following a disaster. If city offices are damaged or unusable, identify other locations such as a city firehouse, city hall or community center, where emergency operations can be conducted.

▶ Map Out Wet Routes in Advance With Identified Extraction Points.

For flood-prone areas, transport by boat may become necessary. Wet routes should navigate around blockage points that can prevent boats from getting through.

▶ Alert Staff to Store Toiletries and Extra Clothing at Work.

In a disaster, staff will likely be working long hours and may be unable to return home. Bringing personal items can make the situation less stressful.

▶ Have a Plan for Storing and Unloading Supplies.

If your community is hit with a large natural disaster, donations may exceed expectations. Have a forklift available for unloading supplies sent in on trucks; if, like Central, your community does not have a forklift, have a contract with a local vendor to have one delivered or available to pick up quickly. Metal sea containers to store and secure supplies can provide a temporary (and weatherproof) solution to storage space constraints.

After the Flood



Debris lines the sides of Hooper Road in Central.

Over seven trillion gallons of rain fell in the 48-hour period from August 11 to 13, 2016. The flooding, considered a 500-to-1,000 year event, was the most damaging US flood event since Superstorm Sandy in 2012, resulting in more than \$10 billion in losses for the area.

Flood waters had swallowed the city, with some areas under as much as six feet of water. The unnamed storm affected nearly all of the city's 27,000 residents. Over 6,000 homes – 60 percent of the single-family homes in the city – were flooded. In the days and weeks following the disaster, many wondered if the city would be able to recover.

Sunday, August 14

7:00 a.m.

Many of Central's residents are waking up on cots after having spent the night in shelters. After 48 hours, the storm has slowed, leaving behind a landscape that is hardly recognizable to them. They start adjusting to the new reality, giving comfort to each other and pitching in to help at the shelters. Some start the process of returning to their homes to investigate the damage and salvage what they can.

City officials focus on running shelters, ensuring that people have enough water, food and other supplies. They have a long day ahead, but at least the immediate danger is contained. The city has escaped with no serious injuries or fatalities. Other neighboring areas were not so fortunate; 13 people lost their lives in the flood elsewhere in East Baton Rouge and surrounding parishes.

10:00 a.m.

"After the flood, the complexities of recovery were realized and the social community impacts became the biggest overall concern," says City of Central Councilman Jason Ellis. "If all the homes that were damaged were demolished, would Central even exist?"

The enormity of the flood damage begins sinking in; the biggest concern among community members is getting back into their homes. Many of the houses are unsafe to live in, leaving residents to wonder when their lives will return to normal, if ever.

"All people want to know is 'can I rebuild my house?'" recalls Ratcliff. "This is the most vital, overwhelming question on people's minds. Imagine if it were you – questions don't get much more important than that."

12:00 p.m.

Now that the immediate threat to lives has abated, city and IBTS staff focus on clean-up efforts and debris removal, and keep an eye on how their residents will recover. They maintain a constant stream of communications with homeowners through continued posts to their Facebook page, and a local radio station that had resumed service on Monday morning.

"With IBTS, we had been contracted to perform these functions of the city's government," says Goswami, referring to the city's nonprofit-public-partnership. "But after [the storm], there was no sense of 'we're just here to meet this contractual obligation or do this service.' We were there to meet the needs of the citizens in any way possible."

Working to be compassionate and empathetic towards flood victims, staff are careful not to make promises about when – and if – residents will be able to return to their homes, but encourage those with property damages to register with FEMA.

"No one knew what would happen to their house," Ellis says.

Nearly 2,000 of the homes damaged by flood waters did not have – and were not required to have – flood insurance.

With a massive initial damage estimate in the billions, the city and IBTS staff are not deterred and set to work to maximize funding opportunities given their current situation.

Monday, August 15

The IBTS team returns to their offices to find them flooded, with a considerable amount of equipment and computers damaged beyond repair.

“Our first priority was to help citizens, protecting office equipment and supplies was a distant second,” Ratcliff says. “But saving equipment is important. It’s not about the cost of replacing it, it’s about having it there to use after the disaster. We had to record information by hand.”

IBTS and city staff convene in a makeshift office in City Hall. They are short-staffed, exhausted and operating on one working laptop with no server access.

The presidential disaster declaration has been made, and with FEMA assistance now on their radar, IBTS and Central staff shift their focus to navigating the FEMA assistance process.

“Homeowners’ main concern was getting reimbursed by FEMA,” says Cowart. Despite Central’s experience with flooding, the area has not had a federally-declared disaster in decades. Although staff have a working knowledge of FEMA requirements and regulations, they must immerse themselves in the details as they prepare to work with FEMA on behalf of their community for the first time.



FEMA and the Small Business Administration begin setting up a disaster recovery center in the parking lot of Central’s City Hall.

Tuesday, August 16

12:00 p.m.

The city holds an emergency City Council meeting. During the meeting, they discuss and approve a debris removal contract, and agree to waive permitting fees directly related to the flood event with proof of insurance or FEMA claim. The council also agrees to allow residents to use vehicles for living purposes while rebuilding their homes.

3:00 p.m.

The city notifies the community that every property owner with any damage to their property must register with FEMA to get the most assistance possible. They open City Hall to residents who need access to phone, computers and the internet to complete the application process.

Residents begin pouring into City Hall. Before they get too far into the application process, city and IBTS staff are careful to inform the community of the most frequent missteps and points of confusion that can reduce or even eliminate FEMA assistance and National Flood Insurance Program (NFIP) claims. IBTS is well-equipped to help with this stage of the process given the organization's years of experience helping communities in other locations navigate the post disaster process.

"We encouraged homeowners to document everything and take as many pictures as they could," remembers Lewis. "We didn't want them to be surprised when FEMA and SBA [the Small Business Administration] come back and asked for documented pictures of the damage. I went through a great deal of effort to photograph my own home and I can't stress the importance of this enough for any homeowner following a flood."

But city staff members quickly realize that helping residents understand the NFIP requirements is difficult. This was particularly true of NFIP's definition of "substantially damaged" properties, or properties that incur damage estimated to cost 50 percent or more of the structure's value to repair.

"Substantial damage assessments with respect to Base Flood Elevation (BFE) is critical, but it's a topic not well-understood by most people," explains Ratcliff.

Homes located in designated flood hazard areas that are substantially damaged must be elevated above the BFE and be brought into compliance with the community's floodplain ordinance -- or be demolished.



Once the rain stopped, residents began returning to their homes to inspect the damage and recover necessary items. Many will be unable to live in their homes due to the amount of damage.

"Why would anyone know in advance that the homes with 50 percent of damage have to be raised above BFE?" says Ellis.

"Understanding the details about substantial damage is the single most important recommendation I can make to community leaders."

"It's one thing to read about all the NFIP rules in advance," says IBTS Floodplain Manager and GIS Analyst Kathi Cowen. "It's another thing to put them into action by making thousands of decisions under duress."

To be approved for funding, homeowners have to prove their homes weren't substantially damaged by bringing in contracts showing the cost to repair is under 50 percent of their home's value. Homeowners begin requesting damage assessments from their private homeowner's insurance companies, who in turn quickly send homeowners checks for the damage. Although initially a welcome relief, homeowners would discover weeks later that FEMA actually evaluates checks for over half the property's value as defining the house to be substantially damaged.

"Homeowners got penalized for the damage assessment conducted by a private insurance representative," explains Cowen.

As the potential of razing damaged homes becomes the biggest issue facing the community, IBTS and Central staff quickly have to develop a way to help residents comprehend the NFIP process and requirements. To reach large numbers of the community at once, the city pushes basic information out through Facebook – including who will estimate the damage costs, how estimates are done and how to navigate the appeals process. And later, the city starts a series of blog posts on their website to provide simplified explanations of the process and requirements, and answer the emerging frequently asked questions.

7:00 p.m.

Already, thousands of people impacted by the flood have registered for federal assistance, yet many have set their expectations too high. Many homeowners think FEMA will be able to assist them through recovery until their homes are restored, making them whole again. In reality FEMA's role is to keep flood victims safe, secure and sanitary until longer-term arrangements can be made.

"We had to explain to many homeowners that FEMA doesn't just come in and take care of your property for you -- you own the property and you're responsible for it," Cowen says.

Wednesday, August 17

Although much of the community is still displaced, their new, post-disaster lives begin to take shape and residents start returning to work -- the first step on a long, uncertain road to recovery. With schools still shut down, the city opens several emergency camps and programs for children in an effort to assist parents who have to return to work.

For a community that prides itself on hard work and self-sufficiency, there is no shortage of residents who want to help; for many, lending a hand may come easier than taking a handout. "It's important to respect people's privacy and autonomy," says Goswami. "With donations, don't make it about showmanship. Something simple matters more than a grand gesture. Let people know, there is food here, water over there. Don't make it feel like charity."

According to Goswami, these simple gestures may not immediately come to mind for those addressing the disaster in a professional capacity. "You may have a list of items you have to get through [when talking with a homeowner], but you have to think beyond that," he explains. "How do you create a sense of security for that person? It's better to just listen, let the person tell you their experience. You don't force them to tell you, but you need to know when to be quiet and let them talk."

IBTS's involvement in the recovery process will go far beyond just performing a job. For IBTS staff, Central is their home too. There is a shared sense of grief and desire to help the city recover.

Helping residents out of shelters and into other housing is an important part of helping them achieve a sense of security and normalcy. As displaced residents begin applying for FEMA's Manufactured Housing Units (MHUs), which provide temporary housing for up to 18 months to residents who meet certain requirements, the city quickly focuses on demystifying FEMA's technical terms and requirements for MHUs. "We worked with a FEMA liaison, but the requirements had a lot of acronyms and unclear wording," recalls Shelton. The city changes some policies to both facilitate and control their use.

Manufactured Housing Units (MHUs)

FEMA may provide manufactured housing units (MHUs) as a temporary housing solution for individuals or households in the aftermath of a disaster. MHUs are a type of Temporary Housing Assistance that FEMA may provide to those whose homes are inaccessible or uninhabitable because of a disaster. Generally, they are the last type of Temporary Housing Assistance offered.

FEMA will first try to place eligible applicants with Rental Assistance, which provides financial assistance for renting alternative housing. If applicants cannot use Rental Assistance, FEMA may contract with property owners to repair multifamily units for use as temporary housing. If that option is also not possible, FEMA will provide MHUs.

MHUs are furnished units constructed in accordance with HUD and FEMA guidelines. Applicants receive a one-, two- or three-bedroom unit, depending on the construction of their pre-disaster home. They are maintained monthly by FEMA. MHUs may be placed on private sites, such as the homeowner's property or in a pre-existing commercial park. As a last resort, local officials may approve a new group site, which will be constructed and maintained by FEMA.

MHUs are intended to be only a temporary solution. FEMA provides MHUs for up to 18 months, though localities may request an extension due to extraordinary circumstances. Applicants living in MHUs must demonstrate that they are showing progress toward permanent housing.

September 2017



City of Central and IBTS staff members worked together day and night to help the community manage the disaster. Here, Mayor Jr. Shelton (top left) and IBTS staff say a group prayer during the immediate aftermath.

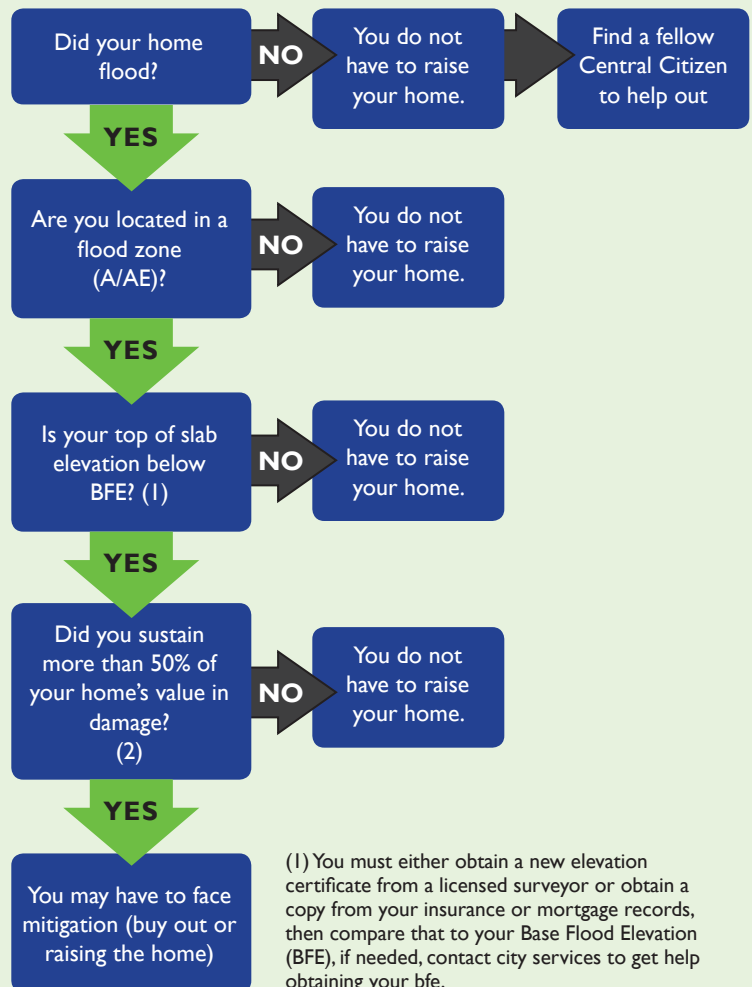
A month after the disaster the MHUs began to arrive, bringing with them requirements for water and electricity hookup permits that are processed by IBTS. The city works diligently to allow residents to install MHUs on their own property rather than on group sites. It is worth the effort, as hundreds of residents will still be living in MHUs six months later. Although they are anxious to get back in their homes, living on their own property allows them to keep an eye on their house and re-establish a sense of normalcy.

Residents are encouraged to apply for Small Business Association (SBA) loans, which offers disaster assistance to low-interest rates to businesses and homeowners. These loans are helping residents in the short term. But the loans are a second lien on their homes and must be paid off before selling the home, making the long-term burden of the loans a concern. Because the state only ends up receiving \$1.3 billion of the \$3.3 billion requested from Congress, many of the homeowners who received SBA loans will not receive grants from FEMA, putting them underwater for a second time.

“Most people now wish they’d just paid the \$400 to \$500 per-year for flood insurance,” Cowen says. “It’s not a lot to protect your investment, and I would recommend it to anyone who can afford the extra payment to do it.”

Navigating the disaster recovery process isn’t any less confusing for city staff and residents once the initial money begins flowing in. Different requirements for homes in and out of flood zones confuse residents; homes across the street from each other are in different flood zones and have different requirements for rebuilding. Regardless, all flood-damaged properties are required to have a permit before they can start rebuilding or making repairs, and city and IBTS staff find themselves overwhelmed with the process of issuing permits

Remain, Raise, Relocate, or Demolish Flowchart



(1) You must either obtain a new elevation certificate from a licensed surveyor or obtain a copy from your insurance or mortgage records, then compare that to your Base Flood Elevation (BFE), if needed, contact city services to get help obtaining your bfe.

(2) Compare construction/rebuild quote with recent appraisal or assessed value from tax assessor (contact City Services for assistance). (Rebuild cost estimate divided by value of home = percentage)

needed for the thousands of flood-damaged homes to begin rebuilding.

“We worked seven days a week for six weeks,” Cowart says. “The line wrapped around the building all day.”

To help get residents back into their homes more quickly and remove some complexities around issuing permits for substantially damaged homes, the FEMA Substantial Damage Liaison advises the city to issue permits to homes that had under 36 inches of flood water, assuming that they will likely not need to be razed. Homes with over 36 inches of floodwater that are located in a Special Flood Hazard Zone are required to have a substantial damage analysis performed.

“Substantial damage rules in relation to issuing permits was the biggest issue and the greatest challenge impacting the permit office,” Ellis says. “It created a stressful, time consuming situation each time.”

“We needed to develop simple, commonsense ways to streamline the process,” Ratcliff recalls. Homeowners who have flood water levels below electrical outlets are issued a permit and can begin rebuilding after a moisture test is performed; homeowners who have water above electrical outlets need a building permit and an electrical permit, which must be requested by a licensed electrician.

To keep the local economy moving, the city also separates permit processing for construction not impacted by the flood to prevent contractors from having to wait.

Once permits are issued, homes still have to be inspected, presenting another monumental task. IBTS brings in additional home inspectors from across the country, and even with assistance they are still stretched to keep up with demand to perform moisture tests and inspect homes.

Throughout the disaster recovery process, City of Central municipal staff and IBTS staff worked around-the-clock to help residents return to their homes as quickly as possible and make the community whole again. They provided disaster recovery subject matter experts, who helped the city get a handle on the stringent and complex FEMA rules and regulations.



The National Flood Insurance Program & the Community Rating System

The National Flood Insurance Program (NFIP) allows homeowners in participating communities to purchase flood insurance from their insurance company at affordable rates. These rates are a fraction of the cost it takes to repair uninsured homes damaged by a flood. Obtaining flood insurance can have enormous benefit for a community even if flood insurance is not required. In the City of Central, more than 2,000 homes damaged by floods did not have, nor were required to have, flood insurance.

To participate in the NFIP, communities must develop and enforce building and zoning ordinances that mitigate future flood damage.

Three components of the NFIP include:

1. Providing flood insurance
2. Improving floodplain management
3. Developing flood zone hazard maps

Communities that exceed NFIP's minimum requirements are eligible to enroll in the program's Community Rating System (CRS), which offers insurance discounts that increase as communities improve their rating. The CRS awards points for activities like elevation certificates, preserving open space and making flood protection information publicly available.

Tips After a Disaster

▶ Document Everything and Establish a System for the Documentation Process

Documentation is critical to grant funding following a disaster. Have a system for scanning and uploading documents to cloud storage to protect them. Ensure staff know documentation procedures. Have a pre-determined file-naming protocol that is grouped by vendor and includes the function, vendor name and invoice number.

▶ Ensure that Residents are Given Respect and Privacy

Affected residents may feel uncomfortable with receiving donations. Be sensitive when communicating the availability of donated goods and services. Make it clear that support is provided because of the disaster; this is not an everyday occurrence. Work with local businesses to provide coupons and discounts to residents for necessities. Make every effort to give residents autonomy and privacy. For example, ensure that media do not photograph residents without their permission.

▶ Be a Good Listener

Residents generally expect interactions with the city to be transactional; it is easy to go beyond expectations. Allow residents to share their stories. Train employees in good listening skills; if possible, enlist help from a grief counselor. Be compassionate and understanding, but do not make promises that your locality may be unable to keep.

▶ Communicate Best Practices For Working With FEMA

Ensure that homeowners know to photograph all damage and debris before, during and after repairs, and to save all receipts related to repairs. Recording and live streaming FEMA meetings allows the community to hear FEMA's plans directly, and provides your locality with a record of discussions with FEMA.

▶ Hold – And Prepare For – A Town Hall Meeting With Local Leaders and FEMA, SBA and Other Involved State And Federal Representatives

Town hall meetings are useful for disseminating information to the community at once and allowing homeowners and business owners to ask questions. However, it is important to be prepared for questions on FEMA's manufactured housing units, FEMA assistance and insurance. Brief FEMA representatives ahead of the meeting to ensure their answers are consistent with the city's recovery approach.

▶ Ensure Community Leaders And Homeowners Understand NFIP Requirements

Staff and homeowners must understand the details of substantially damaged properties; homeowners in Special Flood Hazard Zones must be aware that they may need to raise or demolish their homes. Staff should not give details to the community on NFIP until they are certain they understand the requirements and process.

▶ Verify Contractor Licenses And Insurance Information

Once contractors submit their license numbers, these can be verified online through state-provided databases. Verify the general contractor's insurance information, and ensure it won't expire in the middle of recovery projects. Cross-train office staff before the verification process begins to ensure all contractors meet the same requirements.

▶ Consider A Third-Party Contractor To Help Manage The Grant Process And Paperwork

Compliance with FEMA and HUD CDBG-DR grant requirements can be complex and time consuming. Hiring a consultant to facilitate this process can relieve the burden on localities with staff who are already overwhelmed with other recovery efforts.

▶ Have A Separate Process In Place For Issuing Different Types Of Permits

Create separate lists for homes that are substantially damaged (and therefore need an inspection before being issued a permit), and those that just need a permit to begin rebuilding.

▶ Ensure Homeowners Understand Manufactured Housing Unit (MHU) Requirements.

MHUs are intended to be a temporary solution only; homeowners living in an MHU must demonstrate that they are working toward a permanent housing solution. Ensure that homeowners contact their utility company for water and electricity permits and installation.

Epilogue

Lessons Learned: Louisiana Strong October 2016 – January 2017



IBTS Central staff prepare to cook lunch for those attending the city's Health and Business Expo in October 2016. The event is an important one for Central, with over 20 booths and hundreds of participants. Originally scheduled for August, the city postponed but did not cancel the event. City leadership views events such as these as critical to reinforcing the sense of community among residents and businesses.

The city's determination to do everything possible to benefit its residents in the wake of the disaster is still present in its actions several months after the disaster. The city is now working with the United States Geological Survey (USGS) in a project that will use light detection and ranging (LIDAR) technology to create real-time flood maps that can be used to model flooding scenarios.

"It will provide a tool for first responders, and give us a better system for planning and issuing warnings before a disaster," says Councilman Jason Ellis. "Citizens can use it too," adds Evans. "They can see how their homes may be impacted, how the routes to and from their homes could be affected in a scenario."

The city is also investigating NFIP metrics. Ellis, a civil engineer, discovered the NFIP metric for Central was based on the National Geodetic Vertical Datum (NGVD) of 1929 and had not been replaced by the more recent and accurate NGVD of 1988. Because the vertical datum has shifted, the base flood elevations are likely inaccurate and can impact which homes will need to be raised to comply with NFIP requirements.

Likewise, Ellis states that the city is developing a policy for defining market value. "Every community needs a policy for this," explains Ellis. "FEMA cannot use the assessed value. It's not the same as market value." The City of Central, like many communities, uses a formula to calculate a home's appraised value based on several factors. The appraised value is typically significantly lower than market value. Use of this lower value can lead to the percentage of damage estimates being higher than they should be resulting in a denial of claims or a

determination that a home must be demolished rather than repaired.

Over these past several months, IBTS staff has played an ongoing role in helping the city manage recovery efforts. As a nonprofit organization dedicated to helping local governments meet their needs, assisting Central through the crises aligns with IBTS's public service mission. IBTS headquarters gave the IBTS Central team approval to do whatever was necessary to help.

IBTS staff helped Central identify and meet compliance requirements for FEMA, such as making sure that the city kept track of volunteers and their hours so that they could report those numbers back to FEMA. "Our federal cost share was 10 percent of eligible public assistance costs. FEMA paid 90 percent," explains Ratcliff. "Whatever your community's cost share amount is, you want to pay what you can with volunteer labor rather than with cash from the city."

Despite enduring one of the most destructive weather events in US history, the City of Central remains a close-knit community that is intent on full recovery. Central's experience provides a wealth of lessons for other communities, yet it also provides an example for how a community can work together to overcome incredible adversity. During the flood, the city prioritized the safety of its residents above all else, committing to a tireless search and rescue effort until all citizens were safe and accounted for. Despite having little to no advanced warning, the city moved rapidly to set up shelters, leaving no residents without a place to sleep for the night.

Immediately after the flood, city officials sprang into action to vote on a contract for emergency debris removal services, making Central the first city in the parish to begin debris operations. The city was also the first to have work trucks on the road, repairing utilities and other immediate needs so that residents could have access to clean water and electricity. For several days following the flood, the city coordinated hot meals, often served by city or IBTS staff and volunteers, for those in need.

In the weeks and months following the disaster, officials took every step possible to get the city back to a sense of normalcy. Streets were cleared and the power was turned on as quickly as possible. The city worked with residents to understand FEMA regulations and the implications for their homes. Months after the flood, officials diligently keep residents informed on all recovery efforts, while IBTS staff remain a resource to help home and business owners manage the process.

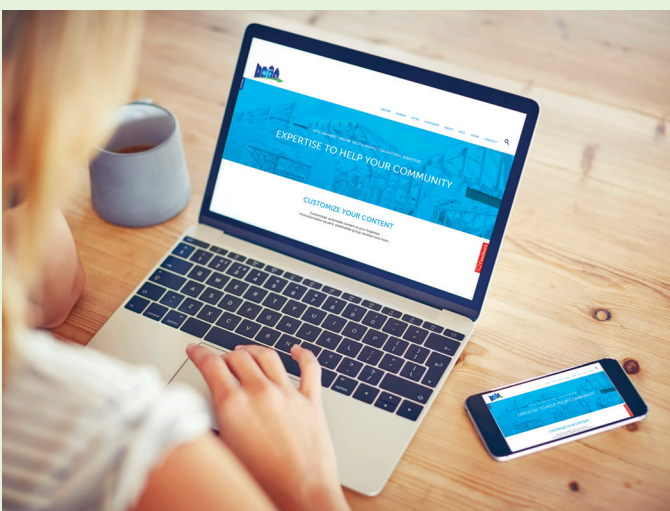
Among the ongoing recovery efforts, city officials also recognize the need for opportunities that create a sense of community, such as holiday celebrations in Central Square and its Health and Business Expo. In late December, the city holds a “Bike with a Badge” event, inviting the community to bike around Central Square with local police officers, helping strengthen the bond between residents and the city. In January, the city meets the new year with a new saying that reflects its commitment to the future: “New Year, Stronger Central.”



Central hosted its first Christmas in Central Square event in December 2016.



Central's new Facebook profile image in January 2017 shows the city's positive outlook for the future and reinforces community pride and strength.



IBTS OnHAND Website

IBTS is developing the IBTS Online Help and Advice for Natural Disasters website (IBTSOnHAND.org), a free, online resource to help communities prepare for, respond to and recover from natural disasters.

The resource will leverage IBTS's experiences gained from helping communities manage the natural disaster process. Users will access content that is based on real-world stories, tips, tools and references, and identified and optimized for users by stakeholder groups, perils, demographics and locations across the US.

The new IBTSOnHAND.org website is currently in development and will launch in 2017.

Glossary

Base Flood Elevation (BFE): Computer models calculate the BFE as the elevation to which floodwater is expected to rise during a base flood. For FEMA, the BFE is the regulatory requirement for the elevation or floodproofing of structures. The relationship between the BFE and a structure's elevation determines premiums for flood insurance. BFEs are shown on Flood Insurance Rate Maps (FIRMs) and on flood profiles.

Cajun Navy: A group of spontaneous volunteers who used their watercraft to rescue residents stranded by flood waters in the Louisiana flood of 2016.

Community Rating System (CRS): A voluntary program through the National Flood Insurance Program (NFIP), which provides reduced flood insurance premiums to policyholders who live in communities that implement flood management practices that exceed the minimum NFIP requirements.

Community Development Block Grant for Disaster Recovery program (CDBG-DR): Through this program, the US Department of Housing and Urban Development (HUD) provides flexible grants to help cities, counties and states recover from Presidentially-declared disaster areas.

Manufactured Housing Unit (MHU): A temporary housing structure provided by FEMA to residents who have been displaced by a disaster. According to FEMA, housing Louisianans after the historic August 2016 floods is one of the largest housing efforts the agency has undertaken.

National Flood Insurance Program (NFIP): Managed by FEMA, the NFIP provides low-cost flood insurance to residents in participating communities. The program also improves floodplain management and develops maps of flood hazard zones.

Substantially Damaged (SD): Damage that is equal to or exceeds 50 percent of a building's fair market value prior to a disaster. Buildings located in designated flood hazard areas that are substantially damaged must be elevated above the base flood elevation (BFE) and be brought into compliance with the community's floodplain ordinance, or be demolished.

IBTS Mission Statement

IBTS's mission is to deliver quality services to meet the challenges of governance at all levels while enhancing public safety, economic development and the general welfare of the community.

IBTS strives to:

- Increase awareness of building technology and safety among members of government, industry and business, as well as consumers.
- Increase the availability of safe, durable, affordable residential and commercial structures.
- Provide a better understanding of, and uniformity in, the application of government regulations.
- Create better relations with industry by providing unbiased, expert technical services in a reliable and cooperative manner.
- Improve coordination among government, industry and research organizations, and facilitate open discussions and meetings.
- Reduce the cost and risk for program participants and consumers while complying with regulations and improving our products and services.
- Use the latest computer technology to collect data, improve efficiency and promote accountability in all areas.

IBTS offers these services through contracts and grants from federal, state, and local governments, in addition to subcontracts and teaming agreements with other organizations and corporations.

