

# It Could Happen Again

How New Orleans is using mobile shelter systems to get ready for future emergency events.

*A Case Study*



## Setting the Stage

In the late summer of 2005, the City of New Orleans experienced an event of extreme proportions. The effect of Hurricane Katrina on the City was catastrophic and long-lasting. When the center of Katrina passed east of New Orleans on August 29, 2005, winds were in the Category 2 range, and tidal surges were equivalent to a Category 3 hurricane. Though the most severe portion of Katrina missed the city, the storm surge caused more than 50 breaches in drainage canal levees and also in navigational canal levees and precipitated the worst engineering disaster in US history.

By August 31, 2005, eighty percent of New Orleans was flooded, with some parts under 15 feet of water. Ninety percent of the residents of southeast Louisiana were evacuated in the most successful evacuation of a major urban area in the nation's history. However, many of the elderly and poor remained, taking refuge in the Louisiana Superdome and in some cases swimming for their lives or wading in deep water. Many also remained in their homes, trapped in their attics or on their rooftops.

Two years later, while still in the process of rebuilding, New Orleans experienced three tornadoes right before the February 2007 Mardi Gras event. Two areas within the City, and one outside of its borders, experienced tornado touchdowns. The tornadoes caused damage and necessitated quick response by the City's Office of Emergency Preparedness.

With both Katrina and this more recent event in mind, the Office set out to purchase a mobile field hospital that could be stationed outside of a hospital to help with surge or to be used as an onsite treatment or surge capacity shelter - as was necessary during the tornado touchdowns.

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## **Determining the System Requirements**

In early 2007, personnel from the office dispersed to trade shows and held demonstrations to find the best system that could meet the City's needs. Their requirements were simple - find a mobile, shelter system that would help mitigate, not only large scale events, but also could be used during general city events, such as Mardi Gras, to reduce the number of patients visiting area hospitals. To do this, the system needed to fulfill the following requirements:

### **Modular/Flexible**

The system needed to be able to be taken apart and used in various locations to take care of situations, such as the hurricane touchdowns, where help was needed in three different locations at once. The systems also had to be able to connect to other systems already purchased by the State.

### **Self-Contained, Robust Power Generation and HVAC System**

Because of the various technical and power equipment that is generally used in a mobile emergency, surge or command and control facility, the system needed to be able to handle the strain and stress that lighting and providing temperature control for multiple mobile shelters would entail. However, it also needed to have ample power left over for everything else. Because the system might have to be set up in places where no power was available, it had to be fully self contained.

### **Quick and Easy Set Up and Strike**

In the middle of a disaster, not all personnel would be available because many would be busy dealing with the disaster in their backyard. The City needed a system that would go up very quickly and could be taken down just as quickly with a minimal amount of people.

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## **Finding a Solution**

After a selection process in which different companies' products were compared for modularity, flexibility, power generation and easy set up and strike capabilities, the Office of Emergency Preparedness selected the Deployable Rapid Assembly Shelter (DRASH) System in December 2007 as their shelter system of choice.

The City purchased a DRASH J Shelter (1,250 square feet), two DRASH M Shelters (748 square feet), and one DRASH 6XB Shelter (413 square feet), all which met the above requirements in the following ways:

### **Modularity/Flexibility**

All four DRASH shelters are modular and flexible enough to be used together or sent to different locations, depending on the need. The shelters may also be easily attached to non-DRASH shelters, a requirement important to New Orleans because of the volume of non-DRASH shelters previously purchased by the state of Louisiana. Now, shelters could be used independently or with state-run mobile facilities for maximum effectiveness.

### **Self-Contained, Robust Power Generation and HVAC System**

The shelters are fully sustainable and have enough power generation to provide both power and environmental control for the shelters and any equipment that would be used inside of them.

### **Quick and Easy Set Up and Strike**

The DRASH systems can be set up quickly, with minimal personnel. The largest of the three, the J Shelter (1,250 square feet), is pushed up via an inflatable bladder within 40 minutes. The "smaller" shelters can be pulled out and pushed up within 20 minutes with no more than six personnel. Unlike traditional tents, the shelters do not have too many separate pieces to assemble. The smaller shelters were comprised of a double-layer fabric pre-attached frame, stakes, ground cover, and flooring. The J Shelter came with similar components as well as the inflatable bladder.

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## **Immediate Implementation**

The benefits were instantaneous. The City used DRASH shelters during its 2008 Mardi Gras festival as a Mardi Gras Temporary Urgent Care Clinic for the final week of festivities.

Revelers in need of medical care were able to seek help in temperature-controlled, well-lit, fully stocked mobile care facilities provided by the New Orleans Office of Homeland Security and Emergency Preparedness and New Orleans Emergency Medical Services. The facilities provided a total of nearly 2,000 square feet for urgent care, 442 square feet for medical care and 304 square feet to use as a command post area.

The Clinic was staffed by Board Certified emergency medicine physicians, registered nurses, licensed paramedics and emergency medical technicians. It was able to handle minor traumatic injuries and illnesses during the carnival weekend. By the end of the week, the clinic managed to respond to 1,164 calls for service, greatly minimizing area hospital emergency room surges, normally an issue at this time of the year.

For more information about Reeves modular DRASH systems, visit [www.reevesems.com/shelter](http://www.reevesems.com/shelter).