Case Study

Improving Public Safety and Situational Awareness at Super Bowl XLVII and 2013 Mardi Gras

As national and international events become bigger and more complex, agencies are presented with challenges to secure and protect the public from potential outbreaks, threats or danger. FirstWatch Solutions, Inc. has become a key component for Public Safety/Health, local DHS and Office of Emergency Preparedness officials. Through real-time monitoring and analysis of data coming into a city's 911 centers, FirstWatch has been successfully deployed in major cities to both track and map potential threats surrounding special events. Deployments include the U.S. Open, NCAA Final Four, APEC, National Governor's Conference, G8 summit, the Democratic and Replublication National Conventions, and most recently Super Bowl XLVII and the 2013 Mardi Gras.
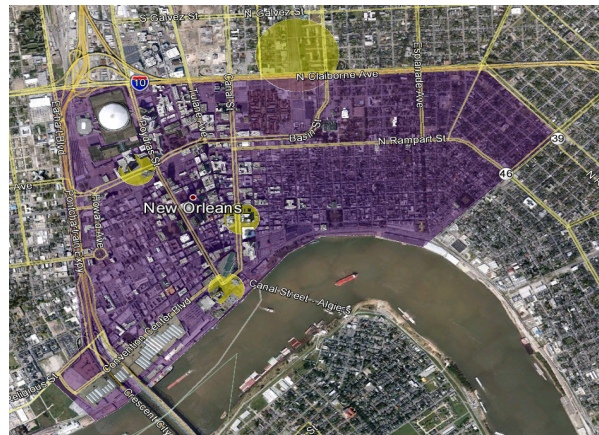
The Super Bowl and Madri Gras overlapped in 2013, creating a special need for situational awareness.

Problem: With huge crowds expected to descend on New Orleans for Super Bowl XLVII and Mardi Gras, public and safety officials required up-to-the minute information on potential safety threats. With heavy vehicle and tourist traffic in and around the Mercedes-Benz Superdome, French Quarter and downtown areas, officials needed the events to go off smoothly and without incident to ensure the safety of all citizens.

Both Super Bowl XLVII and Mardi Gras are high profile events that attract thousands of people—local citizens, tourists, health and safety officials, media representatives, law enforcement officers and more. There was a serious need for all stakeholders involved (police, fire, EMS and homeland security) to properly prepare for, manage and maintain the safety of citizens throughout the duration of these events.

Solution: To manage the health and safety of everyone in New Orleans during these events, FirstWatch established *triggers*—a representation

of data based on specific criteria with one or more analytical methods to provide near real-time access that can alert officials to any potential threats within a defined area, called a geo-fence. Geo-fences were established within the city around designated high profile locations.

Multiple geo-fences – defined by officials – covered the city of New Orleans during Super Bowl XLVII and the 2013 Mardi Gras as shown above in purple and yellow.

The established situational awareness triggers monitored all police, fire and EMS events covered in the defined geo-fence area across four distinct segments: Citywide, Hospitality Zone, Hotel Zone and Convention Center Zone.

"FirstWatch gave us a full spectrum of what was going on along the parade route, which crosses multiple police and district boundaries, as well as in the hospitality zone, which included the French Quarter all of the major tourist areas downtown, the Convention Center, the Superdome and the New Orleans Arena," said Jeb Tate, a New

Orleans Paramedic/RN and FirstWatch project lead with the City of New Orleans Office of Homeland Security and Emergency Preparedness. "FirstWatch was a key component for public health and safety officials to monitor crowds to ensure the safety of all citizens and visitors enjoying Mardi Gras and the Super Bowl."

An aggregated symptoms map composed of multiple health surveillance triggers.

FirstWatch Triggers Created to Monitor New Orleans Activities

FirstWatch created a number of triggers for New Orleans public safety officials in two separate categories: Surveillance and Situational Awareness. Through these categories FirstWatch created the following user-defined triggers based on the interest level of all stakeholders involved:
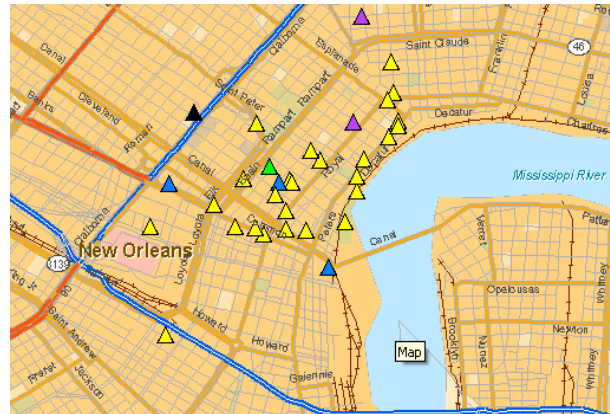
Health Surveillance Triggers:
- *Bio Terrorism Free Text*
- *CO/Inhalation/Hazmat/CBRN*
- *Death Related*
- *Gastrointestinal + Free Text*
- *Neurological + Free Text*
- *Respiratory*
- *Undefined*

Situational Awareness Triggers:
- *Convention Center*
- *NFL Sponsored Hotels*
- *Hospitality Zone*
- *Hospitality Zone Bio Surveillance*
- *Mercedes Benz Super Dome Screening Operations*

Each trigger above provided a variety of views for monitoring the data in near real-time; these include event listing, actual events chart, syndrome-to-all ratio chart, CSUSM chart maps, Google Earth feed and an analysis tool for the ability to review data for the aforementioned near real-time views retrospectively.

FirstWatch at Your Event: We understand the amount of preparation that goes into planning a high-level, high profile event. We have built our FirstWatch system in such a manner so that all stakeholders associated with your event can define their own separate triggers as well as those conjoining through ease of implementation and flexibility in our software.

While we absolutely recommend the use of geo-fence and free text, we offer an extensive list of ways to help you keep your city safe. Whether it is aggregated symptoms, bio terrorism, sentinel alerts, key locations or situation awareness triggers, we have a way to help you better use your incoming CAD data to keep the public safe.

FirstWatch is the only system of its kind that is specifically designed to work with disparate data sources for mining, monitoring, analyzing data in near real-time. In addition to the syndromic surveillance and bio-surveillance aspects of the FirstWatch system, it is capable of providing various levels of other analysis related to Situational Awareness, Sentinel Event Detection and Operational and Performance monitoring.

Baseline numbers were generated using the same criteria for each of the aggregate triggers for the same time period for the previous two years for comparison purposes. This allowed the FirstWatch system to accurately classify all events occurring during Mardi Gras and Super Bowl XLVII as below or above the average, permitting FirstWatch to then alert the right stakeholders in real-time should any unusual activity occur.