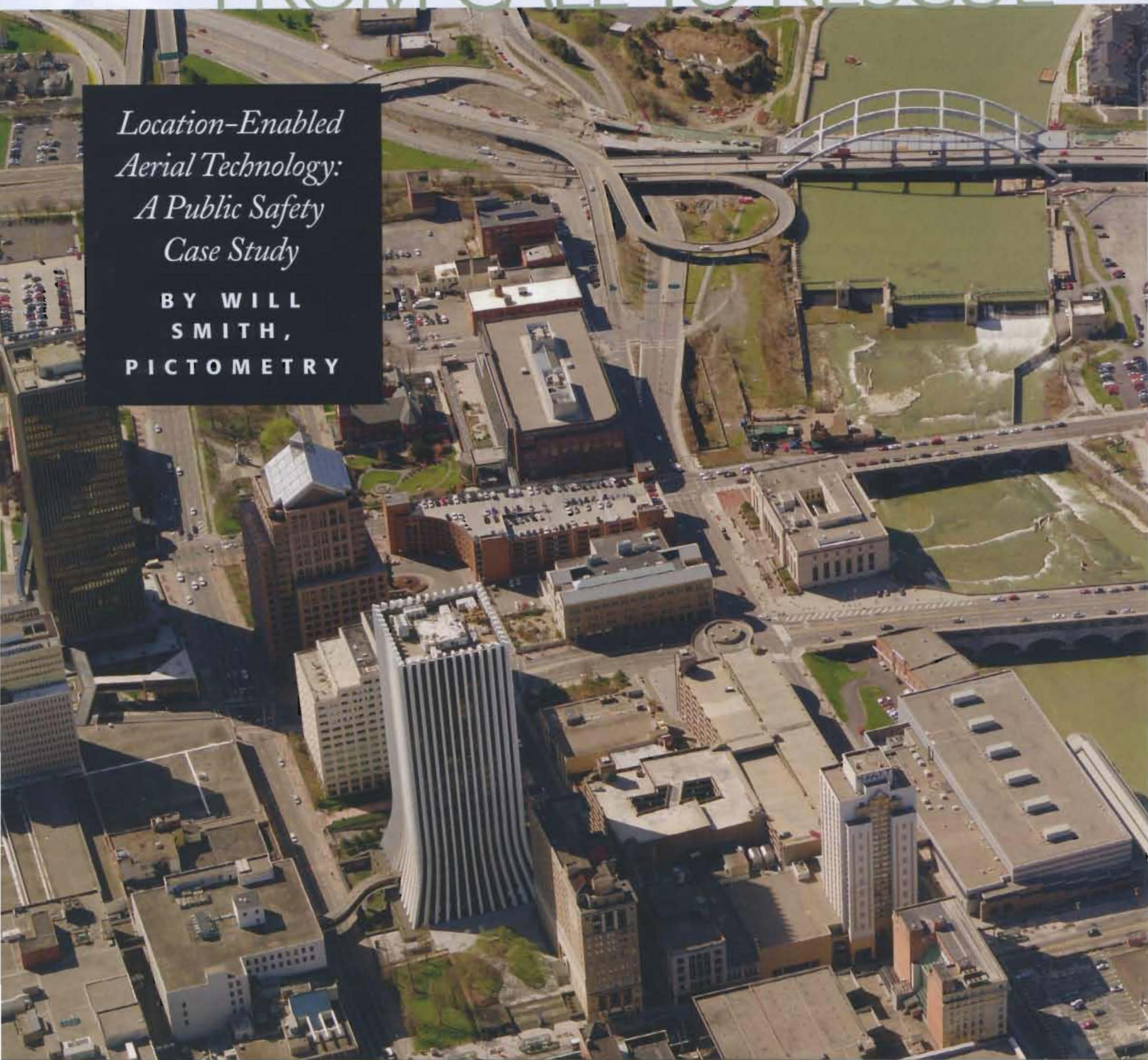


Seven Minutes

FROM CALL TO RESCUE

*Location-Enabled
Aerial Technology:
A Public Safety
Case Study*

BY WILL
SMITH,
PICTOMETRY





Interior view of some of the more than 25 telecommunicator workstations inside the Monroe County 9-1-1 Center in Rochester, NY, named as the E9-1-1 Institute's 2007 Outstanding Call Center.

Monroe County (NY) encompasses 659 square miles in western New York State, with Syracuse to the east and Buffalo to the west. With an estimated population of over 770,000 residents, dispatchers at the centralized city and county 9-1-1 center manage a wide range of calls for services. The terrain of the county includes waterfront properties, city high rises, rural farmlands, and growing suburban developments.

In 2004, the 9-1-1 center underwent a major renovation of its headquarters and telecommunications infrastructure, progressively expanding its technical capabilities to provide improved services. The efforts have paid off as the 9-1-1 center has been named as the E9-1-1 Institute's 2007 Outstanding Call Center.

John Merklinger, director for the communications center, notes that the organization's technical advancements

have helped them get to this level of achievement. "Our call center staff has been trained on the latest technologies, including our Pictometry oblique aerial imaging system that is used on a daily basis to help our call takers get a better idea of the location area for our calls for service. The system routinely enables us to more quickly and accurately locate hard-to-find incident areas in minutes, as well as enhance our communication efforts between call takers, dispatchers, and first responders by using the system's measuring capabilities."

Monroe County 9-1-1 is typical of any 9-1-1 center in that originating calls for service can involve any number of particular dynamics where the exact location of a situation in progress is not readily available to either dispatchers or first responders en route. One such incident took place last September at around 10:45 PM.

Dispatcher Jeremy Demar, a four-year veteran, was on duty that night and

An oblique aerial photograph of downtown Rochester (NY). This kind of aerial imaging is used on a daily basis to help dispatchers get a better idea of the location area for calls for service, enabling them to more quickly and accurately locate hard to find incident areas.



COURTESY BRIAN JACKSON

Monroe County Dispatcher Jeremy Demar processes a call. Last September, Demar used the Pictometry imaging system in conjunction with latitude/longitude data from a 9-1-1 caller's cell phone to zero in visually on the area he was calling from, guiding responders to the caller's location by describing landmarks that he could see in the aerial photos.

took the call from an injured hit-and-run victim. The caller had been thrown away from the road, knocked unconscious, and had multiple injuries including two broken legs. "This individual was out for an evening walk when he got hit. When he came to, he was not very coherent, as a result of his injuries, and did not know his location," said Deputy 9-1-1 Director Craig Johnson.

"Using the latitude and longitude coordinates from his cell phone, I was able to spot his position on Pictometry, which was off a primary road in a farming area," said Demar. "I continuously rebid the position coordinates to make sure that if he did crawl to another location, we would be able to keep tabs on his whereabouts. But it turned out he could not get too far from where he originally was struck. The measuring component from Pictometry was very helpful as it showed him to be approximately 45 feet off the side of the road - not an easy place to see from the road, especially at night."

A local fire department rescue squad was called to respond but was having difficulty locating the person. "I could hear the sirens in the background of the call while they were trying to locate the situation, but were not able to easily find him," said Demar, who stayed on the line with the caller. Using the dispatching job card software that provides real-time text communications between the call taker, the dispatcher, and the responding vehicle, Demar was able to

communicate when the driver went past the caller. "In any situation, we always keep the people on the phone. There were a few buildings in the immediate area that I was able to confirm as visual clues from the aerial photos with the caller to help better communicate his location to the first responders. At first,

Tech Snap Shot

City of Rochester and Monroe County
Emergency Communications.

Mapping software: Proprietary.

Georeferenced aerial oblique imaging
technology: Pictometry.

GIS: ESRI.

Number of call stations: 25
telecommunicator positions, map-
ping, and Pictometry are available on
approximately 70 workstations in the
building.

Staff: 180 employees/staff/managers.

Computers and monitors used: All IBM
equipment and 17" flat panels, telecommu-
nicator positions are typically equipped with
a four-monitor layout.

Furniture: Custom-built Watson Furni-
ture.

Phone system: CML digital switch and
phone positions.

Call volume and percentage of wireless:
Approximately 1.2 million calls per year with
an average of 40-45% wireless calls for
service.

Web site: www.monroecounty.gov/safety-ecd.php



the caller said they drove past him and we were able to have the vehicle turn around and proceed to the caller's area. When he said he saw the rescue truck, we knew that the situation was resolving quickly. The nice thing about it was being able to actually hear the fire department on the way."

The total approximate time from the initial call to where Demar heard the rescuers arrive on the scene and the accident victim was seven minutes. Merklinger notes that the ability to more quickly arrive at the proper location of calls for service is more frequent through the use of the oblique, 3D-like view, imaging technology. "We recently had a number of other situations where the aerial imaging system was crucial in our response effort," Merklinger noted that one such situation involved using the location-enabled, high-resolution images to help a patient with Alzheimer's who was lost and called 9-1-1 to get the assistance needed to return her home.

Seasonal incidents in the upstate New York region also provide their share of challenges as well. "We had a snowmobile accident a few months ago, and in this situation the driver was unfamiliar with his location," said Merklinger. "He thought he was in one area, but when we confirmed through the visual clues he provided and his cell phone coordinates, in reality he was over two miles away from where he thought he was," said Merklinger.

The combination of oblique aerial imaging, measuring software, location coordinates from cell phone, and existing mapping systems creates a powerful solution for today's tech-savvy public safety agencies. "When people don't know where they are when they call us, this type of immediate visual data allows our people to quickly resolve these situations, saving time and often lives," said Merklinger. **9-1-1**

Will Smith is the marketing manager for Pictometry International, a rapidly growing visual information systems company. His career spans some 20 years in marketing, public relations, and sales in a variety of high-tech industries including geospatial imaging, embedded systems, IT consulting, audio and video broadcast technologies, and telecommunications. He can be reached via e-mail at will.smith@pictometry.com.