



Smart Cities Case Study

BUILDING SMARTER—AND SAFER—COMMUNITIES

New technology is transforming the way our cities work—especially in helping public safety departments better protect our neighborhoods and businesses.

THE CITY OF CHARLESTON

Settled by English colonists in 1670, Charleston is South Carolina's second-largest city and a hub of industry, shipping, and tourism on the southern Atlantic coast. Charleston runs one of the nation's fastest-growing and most efficient ports, and more than four million people visit the city each year to experience its historic architecture, fine cuisine, and world-famous arts festivals. Approximately 450 law enforcement officers serve the city of Charleston's population, forming South Carolina's largest municipal police force.

IRSA

IRSA (Intelligent Recording, Storage, and Administration) is an enterprise platform for the acquisition and management of digital evidence. The technology integrates video systems (for police interview rooms, breath alcohol-testing sites, and law enforcement vehicles), wearable recording devices, backend asset management, crime mapping, and analytics.

Police officers, firefighters, and other first responders operate in dynamic—and often dangerous—circumstances. By nature, their work also keeps them highly mobile—a necessity that can make communication and collaboration difficult. But the safety of both officers and citizens depends on real-time situational awareness and immediate contact with colleagues and support personnel. Verizon Smart Cities solutions work to bridge the information gap, helping departments provide officers the data, applications, and support they need in an efficient and cost-effective way.

CHALLENGES

Like many cities, Charleston, South Carolina, recently faced a need to improve its public safety-related IT and communications infrastructure to help deliver more efficient public safety services for its fast-growing population. Above all, Charleston wanted to find better ways to coordinate the efforts of its police, who are charged with protecting more than 125,000 residents scattered across 127 square miles, along with parks, waterways, and coastal areas. On top of that, the city welcomes more than four million tourists every year, presenting a unique challenge for local police.

In addition, the city of Charleston anchors a metropolitan area of about 700,000 people, with several municipalities in a small geographic area, all served by their own separate law enforcement agencies. Sharing information among jurisdictions sometimes proved cumbersome, complicating efforts to respond to developing situations in a timely manner.

Of course, keeping officers safe in the line of duty remained a top priority, and the city wanted to ensure that new technology met internal mandates for cost-effectiveness and sustainability.

SOLUTIONS

Charleston's Department of Information Technology—which implements and supports about 95% of the IT-related technology used by the city's police and firefighters—took on the challenge to find the right answer. As early as 1999, the police department tested a system to give officers mobile access to crime databases

and other communications. At the time, the solution was incomplete and not cost-effective enough to deploy departmentwide, but the experiment showed that the right technology could play an important role in boosting the force's effectiveness. Over the next decade, the IT team explored other options but didn't find the mix of technology, cost, and customer support it wanted.

Finally, Chief Information Officer Wes Ratterree and his IT team selected Verizon to help build a solution that met the city's requirements: Address the department's unique needs, fit its budget, and integrate with the city's current IT infrastructure. They then developed a six-month implementation schedule that allowed officers to adopt the technology easily, without disrupting their usual activity.

Beginning in 2010, the IT department collaborated with Verizon and makers of in-car video recorders (IRSA) and ruggedized laptops (Getac) to equip 72 Charleston police cars with a system that allows officers to stay in contact with dispatchers, supervisors, and other patrol units wherever they are in the field. The system immediately helped increase productivity for both officers in the field and personnel back at headquarters.

Serving the City More Efficiently

According to Charleston Senior Traffic Officer Kyle Ryan, patrolmen have reduced the length of traffic stops by almost two-thirds—from about fifteen minutes to five. And even though citizens may not like receiving a citation, they appreciate the officers' efficiency and accuracy.

GETAC

Getac (TWSE: 3005) provides rugged laptops, tablets, and handheld computers for professionals in environments that require rough handling and outdoor mobility. Getac serves a range of markets, including military and defense, law enforcement, public safety, emergency services, utility, field services, oil and gas, telecommunications, transportation, and industrial manufacturing.

Our Smart Cities solutions are built on the nation's largest 4G LTE mobile network, providing reliable connectivity and access to leading security, cloud, M2M, data management, and professional services to help your community communicate and work more effectively.

Verizon has provided technology and communications services and M2M solutions for more than a decade.

In the future, the department could roll out additional features to help enable faster overall response times for emergency calls. Frequently, dispatchers send multiple units to a traffic stop, especially if there is a lapse in communication with the first responding officer. But new technology would allow dispatchers to observe in-the-field encounters remotely, allowing them to provide backup when necessary or deploy resources elsewhere if there's no need for additional officers at the scene.

“The access we have now has completely changed the way we work, in comparison to just a few years ago. We no longer have to radio back and forth with a dispatcher to get information. Within seconds, we can verify identities or get other pertinent information about the car or driver,” Officer Ryan explains.

Lieutenant Rusty Myers has noted greater efficiency on an even larger scale: “With all cars connected to our database, I can pull incident reports from any area, compare what’s happening there with other parts of the city, see who’s involved, and understand activity trends in near-real time. Before, there was too much lag time in processing paper reports to respond as effectively as we can now. We’re getting more information far faster than we used to.”

Sergeant Jason Bruder—a member of the implementation team—adds that before adopting mobile field reporting, the department depended completely on paper documents. The agency had a simple database, but access was extremely limited, and reporting, data input, and analysis were time-consuming and inefficient.

“Our intelligence and analytic capabilities have gone through the roof,” Sergeant Bruder says. “We’ve traveled light-years from writing reports by hand and sticking pins on a map to using a cloud-based system that keeps officers informed minute by minute about problem areas across the city.”

The data also helps the department plan for future staffing and equipment needs, and it gives civic leaders and citizens valuable insight for addressing ways to improve the community.

Verizon also facilitated troubleshooting for the system, working with city IT personnel to maintain a seamless connection across the department. And the Verizon Wireless network has provided reliable access for the extensive area patrolled by the Charleston police.

“Since we moved to Verizon 4G LTE, we haven’t seen any coverage problems at all,” says Sergeant Bruder. “With our old setup, we had to completely reboot the computer if we lost signal, losing five to ten minutes every time. Verizon helped us solve hardware and software issues that were causing the problems—and they did it in an outstanding turnaround time.”

Protecting Those Who Serve

In addition, the technology helps officers understand circumstances even before they approach a vehicle. For example, the Verizon network provides the ability to push updated police records to each squad car. Units can also connect to databases for automatic license plate readers to get information about the stopped vehicle and probable driver—such as arrest warrants—so officers know whether the encounter is likely to be dangerous.

“If a driver has been stopped four or five times for suspicious activity in other areas,” Lieutenant Myers explains, “we know about it before encountering the suspect. We’ll be prepared with information we never had at all before.”

Multiplying the Department’s Power

Verizon Smart Cities solutions also helped the city of Charleston connect to a consolidated dispatch center established to improve interagency communication for nearly a dozen neighboring jurisdictions. The facility enables the Charleston Police Department to collaborate with supervisors and officers across the region to monitor activity, offer backup, or exchange information as events unfold.

“The consolidated dispatch effectively increases our manpower,” says Sergeant Mike Edwards. “In any given moment, we’re watching out for all the other departments, and they’re watching out for us.”

According to Lieutenant Myers, this cooperative effort has helped improve law enforcement and protection for the community.

It's no longer a question of **if** you'll have to adopt smart technologies, but **when**. We can help you with the **how**—with cost-effective, easy-to-implement solutions available today.

"Cutting the time it takes to get information makes a dramatic difference. We usually learn about crimes three to five minutes after they happen," Lieutenant Myers explains. "By the time we respond, a criminal could be several miles away, in another jurisdiction. But with the consolidated dispatch, our colleagues in the next town can pull up the call and make a stop—just as the suspect hits their area."

RESULTS

Our Smart Cities solutions enable entities like the city of Charleston to transform data from connected machines into insight that can help make communities more efficient, productive, sustainable, and secure. In the case of public

safety, we connect personnel, systems, and applications across diverse organizations to help improve situational awareness and facilitate fast, effective service.

Giving officers the ability to quickly communicate and retrieve data, images, and forms helps them make accurate decisions and work safely in the field. Officers are also able to receive more precise direction, and various departments can work together more efficiently to address the needs of their neighboring jurisdictions—helping control costs, improve response times, and protect the well-being of the larger community.

CHALLENGES

- Help improve public safety services to a growing population scattered across a wide geographic area.
- Better coordinate with neighboring jurisdictions to maintain seamless protection for the metropolitan area.

SOLUTIONS

- Verizon teamed with Getac and IRSA to install systems in police cars that let officers quickly access police records.
- Verizon helped Charleston connect to a consolidated dispatch center that enables the police department to communicate more easily with law enforcement teams in various jurisdictions.

RESULTS

- Officers have greater access to current information that helps them increase situational awareness and handle events more quickly and safely.
- Different agencies in the Charleston area are able to determine the quickest and most effective response, improving deployment of resources to better protect their respective citizens.

LEARN MORE

Find out how Verizon Smart Cities solutions can help you create a more efficient and sustainable community for citizens and employees. Contact your account manager or visit verizonenterprise.com/solutions/connected-machines/smart-cities/.

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