



# City of Charlotte Deploys a FirstNet Ready, FIPS-Compliant Interoperable Mobile Network

## A Sierra Wireless® Mobile Workforce Solution

### CUSTOMER CRITICAL CHALLENGE

- First responders were hampered by slow speeds on the 3G network and dual login to the VPN and laptop computer
- These challenges resulted in dropped calls, poor in-field application functionality, and an average downtime of 5-10 minutes per incident

### SOLUTION

- Deployment of Sierra Wireless's complete mobile router/management/security solution as the key communications platform for the City of Charlotte's law enforcement officers and firefighters

### BENEFITS

- Enhanced capabilities for real time, situational awareness improved first responder access to information and enabled more effective in-field response



**CHARLOTTE**™

### BACKGROUND

The City of Charlotte is a local government that supports more than 800,000 Charlotte residents. Charlotte is the largest city in North Carolina, and the 16th largest city in the United States. Employing approximately 7,600 people, Forbes lists Charlotte as one of the top 20 cities for businesses and careers.



*"Before we deployed the Sierra Wireless Solution, the team was constantly attending to tickets from officers having technical difficulties. This doesn't happen anymore, and the users – the officers and firefighters – are extremely happy about the new system and what they are seeing from it."*

Jeffrey Stovall  
Chief Information Officer (CIO)  
City of Charlotte

## Business Challenge

The business of public safety happens on the streets in real time every day, and being able to provide the most accurate and reliable information to first responders enables them to perform lifesaving duties. However, the public safety landscape is changing because the vast amount of in-field information that is needed requires more sophisticated data communications and end-user technologies. Real-time communications permits the effective and efficient deployment of public safety resources, in order to prevent or halt disruptive behavior.

Until 2015, police and firefighters performed much of their field duties using in-vehicle laptops equipped with 3G modems and a standard VPN client, but first responders were being hampered by:

- a) slow speeds on the 3G network,
- b) the need to login twice--to the VPN and the computer--and
- c) unreliable connectivity.

These issues were causing calls to drop and first responders would be forced to pull over and reboot their systems, resulting in an average downtime of 5-10 minutes per incident. The City of Charlotte's Innovation and Technology (I&T) department estimated that this was occurring frequently. "Asking our first responders to be IT experts didn't make sense, but they also couldn't get access to a number of applications they absolutely needed in the field – like electronic monitoring. All of these factors led the City to seek alternative communications platforms.



*"We needed to provide more effective response for the community, by offering enhanced capabilities to support real time situational awareness, and enable our operations personnel access to potentially lifesaving information for themselves and others."*

Jeffrey Stovall  
Chief Information Officer (CIO)  
City of Charlotte

## A Sierra Wireless AirLink® Solution

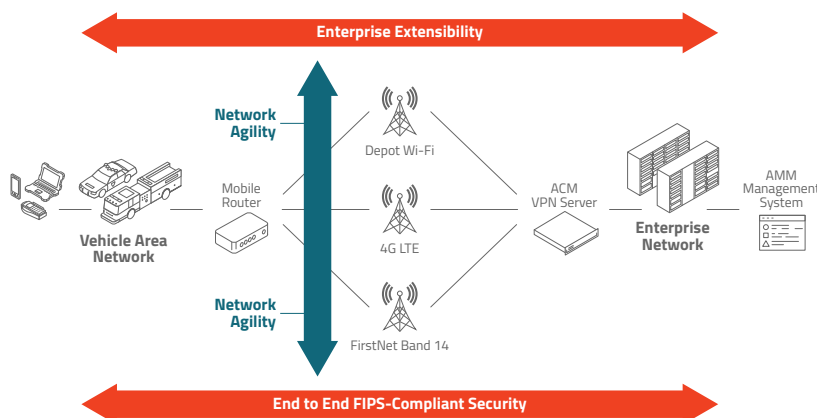
The City of Charlotte was one of several Broadband Technology Opportunity Program (BTOP) grant recipients, and had access to federal funds to improve public safety. However, the grant required that new vehicle communications solutions must be capable of supporting the FirstNet Band 14 Network. It also stipulated that all solutions meet the Federal Information Processing Standards (FIPS).

Working with first responders to uncover their needs, the IT team compiled a list of priority requirements for the new system. In addition to FirstNet Band 14 and FIPS compliance, the solution had to provide the following functionality:

- Wi-Fi capability
- automatic switching between cellular and Wi-Fi networks
- modular encryption to enable easy carrier switching
- multiple Ethernet ports
- scalable technology
- broadband
- ruggedized

The City evaluated six bids, and only Sierra Wireless met all its criteria. Deployment involved a large project team including employees and contractors, and it was completed over a nine month period.

Each of the City's 950 public safety vehicles are now equipped with Sierra Wireless mobile routers, which are being used in conjunction with Panasonic rugged laptops/tablets to provide the City's police officers with faster, real-time data access to critical policing applications, and an essential network infrastructure for applications such as electronic monitoring (EM) used to identify potential suspects near a scene of a crime.



Sierra Wireless Solution Overview



The new system allows the City's firefighters to better accomplish dynamic dispatching, sending the closest companies to the incidents by transmitting critical information, such as pertinent incident details, driving directions and locations of the nearest hydrants.

Each router is currently operating on a commercial LTE network, but the multi-network platform will be able to operate on FirstNet Band 14 as required.

## Result

Since deploying the new communications infrastructure, the City has realized immediate benefits. Its police officers now have truly mobile offices, enabling them to remain on the street, where the business of public safety happens. The City's firefighters now have the ability to communicate vital information in life threatening emergencies to paramedics before they arrive.

The major benefits that the City has seen since deploying the solutions are:

- a) Officers are now able to spend more time doing police work, and less time trying to solve IT problems
- b) System is much faster so it reduces the time officers spend waiting for responses
- c) Enables the City to consider new applications like video streaming, electronic citation systems
- d) Integration with electronic monitoring – officers on the street can now know where monitored offenders are located

The City's first responders are now equipped with the communications technology that will enable them to leverage new applications, such as body-worn cameras and multi-media communications, and a future national public safety broadband network.

Now that the City has deployed the new platform across their public safety fleet, other departments are interested in similar solutions. The IT department will look at expanding the platform to other mission critical city and county departments in the years to come; a deployment to the Charlotte-Mecklenburg school district police department is already in the works.

### About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster. Sierra Wireless has more than 950 employees globally and operates R&D centers in North America, Europe, and Asia.

For more information, visit [www.sierrawireless.com](http://www.sierrawireless.com).