



West Metro Fire Protection District Increases Bandwidth for Advanced Technologies

A Sierra Wireless® Mobile Workforce Solution

CUSTOMER CRITICAL CHALLENGE

- Legacy 800 MHz radio system for mobile communications did not offer the bandwidth to support deployment of the latest dispatch, medical device and data technologies.
- Fire crews relied on tear-sheets for call details, paper maps for directions to incident scenes, and resource manuals for information on structures and hazards.

SOLUTION

- AirLink mobile router supports in-vehicle applications and AirLink Mobility Manager (AMM) enables remote management.

BENEFITS

- The router's GPS signals reports back to the CAD system. Using automatic vehicle location (AVL) the system recommends the closest responding vehicle, shaving minutes from emergency response times.
- The router enables maps and turn-by-turn directions to the scene to be instantly and wirelessly downloaded to in-vehicle computers.
- Fire crews can obtain CAD and incident information on the fly, enabling crews to respond and be routed to incidents quickly.



**WEST METRO
FIRE RESCUE**

BACKGROUND

West Metro Fire Protection District is a special multi-jurisdictional district west of Denver, Colorado. The state's second-largest fire and emergency medical services provider, West Metro protects property with a market value in excess of \$24 billion in a service area that includes the cities of Lakewood, Morrison, Littleton; and Golden, Jefferson and Douglas Counties.



"With the mobile router, our crews have information at their fingertips that we could never have imagined just a year ago. And, unlike other solutions that must be replaced as technology changes, the device was designed to be easily upgraded. This investment will improve our emergency responses today and into the future. Our upgraded communications will improve our responses and the service we provide to the residents of the West Metro Fire."

Patrick Purdy
Director of Information Technology
West Metro

Business Challenge

For years, West Metro relied on a legacy 800 MHz radio system for mobile communications. Although this technology provided reliable analog voice communications, it did not offer the bandwidth to support deployment of the latest dispatch, medical device and data technologies. West Metro crews, like most fire crews, relied on tear-sheets for call details, paper maps for directions to incident scenes and resource manuals for information on structures and hazards.

In 2006, West Metro's IT/GIS Director, Patrick Purdy, began a search for a communications solution that could keep pace with rapidly advancing communications technologies. Commercial cellular carriers were moving to 3G networks and testing WiMax. Local communities were considering municipal Wi-Fi mesh-networks, and the Federal government was planning a nationwide 700 MHz public safety communications network.

A survey of other fire departments revealed that most were using modems and integrated wireless cards. This approach provided improved data capabilities, but when network technologies change, agencies will be forced to discard and replace expensive communications gear. West Metro – committed to using state-of-the-art technology in the most fiscally responsible manner possible – rejected this approach and began the search for a "future proof" solution.

West Metro had two primary objectives: to improve connectivity and enhance the management of operations and assets, and to identify a "future-proof" solution that could adapt to the latest networks and technologies. West Metro has deployed a state-of-the-art IP infrastructure that transforms how it handles emergency calls, putting digital dispatch, building access, hydrant locations and other information at the fingertips of agency firefighters and medics. Stations are equipped with video monitors to display call details, and Wi-Fi.

BENEFITS CONTINUED

- Detailed incident scene information enables firefighters to plan their response before arrival.
- Each router functions as a mobile, high performance, wireless hotspot, providing all first responders with reliable, secure connectivity.
- Medics can send ECG and other patient information to the hospital from the field, improving patient care, and saving time when seconds can mean the difference between life and death.



Sierra Wireless Solution

For mobile communications, West Metro chose an AirLink mobile router, used by hundreds of public safety, healthcare, municipal, transportation and utility organizations worldwide. The router turns emergency vehicles into secure, high performance mobile hotspots, enabling any data devices – including laptops, PDA's, video surveillance equipment, ECGs and other medical devices – to connect while the vehicle is in the station, in transit, or at incident scenes.

The AirLink Mobility Manager (AMM) provides organizations the information needed to manage operations to peak efficiency, extending asset lives, improving response times and reducing costs. Simple to deploy and easy to use, the AMM continuously collects and analyzes information from router-equipped vehicles to provide headquarters staff with a virtual dashboard of information from the field. The AMM works with standard web-browsers and displays detailed information about vehicles, networks and devices on a three-dimensional map, and sends email alerts based on pre-set thresholds.

Results

Working with Wi-Fi hotspot technology in their fire stations and the AirLink router onboard their vehicles, West Metro is able to upload aerial and digital map information for their mobile computer aided dispatch (CAD) application. On the road, the router creates and manages connectivity, so fire crews can obtain CAD and incident information on the fly. This mobility allows West Metro fire crews to respond and be routed to incidents in less time than a radio-based dispatch.

Because the router supports all wireless networks, they are able to move seamlessly between Wi-Fi and cellular services. The device works with multiple network cards to handle situations where a single network may be unavailable.

The router is equipped with GPS, so West Metro can track emergency vehicles. The GPS signal reports back to the CAD system, and using automatic vehicle location (AVL), the system can make the best recommendations for the closest responding vehicle. This technology shaves minutes from emergency response times.

When a call comes in, the router enables digital dispatch information – including maps and turn-by-turn directions to the scene – to be instantly and wirelessly downloaded to in-vehicle computers. Detailed incident scene information – including aerial photographs with points of access and the location of hydrants – enables firefighters to plan their response before arrival. Through proprietary incident reporting software, first responders can mobile fax, or data store patient care information while on the road using the router as the primary wireless connection. West Metro are currently looking at the device's capability to provide EKG information to the hospital separately from the patient care report they track on laptops.



At the scene, each device functions as a mobile, high-performance, wireless hotspot, providing all first responders with reliable, secure connectivity. Crews at the scene can communicate using voice, email, fax, video and other devices. Firefighters can begin patient care immediately, and electronically send information to medics when they arrive. Medics can send ECG and other patient information to the hospital from the field, improving patient care, and saving time when seconds can mean the difference between life and death.

The router can also provide a mobile hotspot for other agencies; West Metro are currently looking at giving access to their mobile hotspots to local police, sheriff, and other emergency agencies.

By deploying an end-to-end IP infrastructure and future-proof data networking technologies, West Metro has seen dramatic communications and operations improvements. Today, by the time West Metro crews are in their vehicles, they have access to all the information they need to get to scene faster, respond more effectively, and save lives and protect property as never before.

The AirLink solution has enabled West Metro to meet the original objectives of its communications platform search. According to Purdy, "It has been a great investment for emergency services mobility in our agency." Today, operations command is able to manage assets – vehicles, communications, and mobile data gear – remotely and in real time. In the future, these solutions will also enable West Metro to upgrade to the latest wireless technologies, saving money and ensuring that it serves the people of Colorado with state-of-the-art, life-saving technologies.



About Access Wireless Data Solutions

Access Wireless Data Solutions (AWDS) provides advanced cellular connectivity solutions for M2M and IoT fixed and mobile applications. We understand wireless and as an industry leading distributor and value-added reseller of cellular gateways and modems we work closely with our customers to implement technology to keep them connected.

Access Wireless Data Solutions is your premier value add reseller for the best in brand cellular routers and modems. Access is the first word in connecting your networks. These devices from industry distinguished OEM manufacturers are designed to fit your cellular application, both fixed and mobile, in our modern IoT and M2M world. Our professional consultative sales team is ready to assist with device recommendations for your project. Let us do the heavy lifting so you don't have to.

For more information contact AWDS at (813) 751-2039 or visit www.accesswds.com.

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.

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