City of Yakima, Washington

Sierra Wireless Connects Yakima with Robust Cellular Solution

The City of Yakima serves an urban population of more than 125,000 residents. For many years, Yakima has been leveraging technology to improve thecommunity and increase the safety of its citizens and public works employees. One such example of the City’s innovative technology application is theirimplementation of Geographic Information Systems (GIS) software for computer mapping, which enables location data for mobile city services - such as fi rstresponders, law enforcement, waste management, and public transit - to easily be shared citywide among staff and the public.

BUSINESS CHALLENGE

When the City of Yakima began implementing its GIS program almost 25 years ago, it was dependent on radio service for mobile communication and hadlimited GPS capability. The GIS solution was implemented in police vehicles to accommodate AVL and dispatch communication.

More than two decades of wireless technology advancements have enabled the City to move to a cellular-based solution that has improved their mobilepositioning readings from 100 meters to within fi ve meters accuracy. The city was also able to consolidate dispatch for police and fi re and began rolling GIS services to ambulances.

“Cellular goes everywhere; when we were on our radio system, we were confi ned,” said Tom Sellsted, supervising senior (GIS) analyst for the City ofYakima. “The fact that we can monitor these service fl eets more accurately is huge from both a management and safety aspect. If an ambulance has to travelas far as Seattle, we can track the entire route and ensure there are no issues or respond quickly if there are.”

With the move to a cellular solution, the City of Yakima wanted to expand their AVL

and dispatch services to additional departments. The City needed to fi ndmobile, broadband devices that could meet the requirements specifi c to multiple departments, including ruggedness for waste management trucks and portabilityfor public transit vehicles that were taken in and out of service, The City of Yakima was using Sierra Wireless AirLink® gateways provide the robust capabilities forpolice and fi re, and the City’s GIS team knew they could trust the AirLink product line to provide the functionality and durability required for expanded services.

SIERRA WIRELESS AIRLINK® SOLUTION

The City of Yakima currently has more than 200 Sierra Wireless AirLink gateways enable AVL and dispatch capabilities throughout city servicedepartments deployed in police cruisers, fi re trucks, ambulances, refuse trucks, and buses to enable two-way communication and vehicle location in order toprovide effi cient response, service management, and public access to real-time public transit schedules.

“Being able to remotely confi gure the devices over the Internet and manage an entire fl eet from a web browser is invaluable,” explained Sellsted. “Weespecially like the rugged quality of the gateways. You should see what these things go through in our refuse trucks, but they are absolutely bullet-proof.”

Simple Integration, Solid Support

The City of Yakima has been working with Sierra Wireless partner Astral Communications for many years. As a long-time and trusted value-addedreseller of AirLink equipment, Astral supports Yakima in procurement, confi guration, and installation of the Sierra Wireless devices.“Our reps at Astral are very technical; they understand our issues as well as we do and are willing to do the groundwork and work closely with Sierra Wirelessto get our problems solved,” said Sellsted.

“Yakima has always been ahead of the curve in terms of integrating technology into public infrastructure,” said Chip George, title at Astral Communications.“Between the City, Sierra Wireless, and Astral Communications, we’ve developed a great team and process to help Yakima implement, maintain, and update their solutions based on their evolving priorities.”

Sellsted also described the many in-vehicle device installations as “clean” and “seamless. “Every time we end up with integration issues, it’s never the AirLink gateway.”

Scalable Solution

Based on the success that Yakima has experienced with the Sierra Wireless AirLink gateways, the City has continued to expand their use of the technology.The latest project is for their public transit system, where they have equipped 28 buses on 11 routes with AirLink gateways. The highly rugged devices areintegrated with mapping software that allows riders to track buses along individual routes for accurate bus stop arrival times and calculated time between stops.

With buses on time-sensitive schedules, the real-time location information allows riders to better plan trips while enabling the City to closely monitorthe planned versus actual schedules. In addition, easy installation, rapid deployment, and a highly rugged design enables easy portability of the devices between vehicles, with minimal potential for damage.

Due to urban expansion and increased congestion, the average trip for riders has become longer. To enhance the public transit experience, the City hasbegun utilizing the AirLink gateway to offer free Wi-Fi so that passengers can be productive—or simply entertained—by using laptops and smartphones while in-transit.

“We want to increase ridership and improve the public transit experience in any way we can,” explained Sellsted. “By having the Wi-Fi technology readilyavailable, we are hoping to entice new riders, and have existing riders use our services more often.”

RESULTS

The City of Yakima is looking to expand AirLink communications capabilities to additional public transit vehicles, such as specialized vans and minibuses.In addition, the City would like to implement a Dial-a-Ride dispatch service that would allow residents to request personalized transportation through the public transit system.

“Right now, the cellular coverage provided in Yakima is insuffi cient,” explained Sellsted. “We have plans for video streaming from buses tomonitor situations and use in an evidentiary manner, but that’s not really feasible until we have 4G capability here.

For now we can map and dispatch based on event location, vehicle location, drive-time to incident, and provide the public with valuable, time-sensitiveinformation.

We can take care of issues in seconds, and administer everything from anywhere,” he continued. “The Sierra Wireless solutionshave been rock solid, and I look forward to using their new LTE gateway when cellular providers deploy 4G in Yakima.”

APPLICATION: AUTOMATIC VEHICLE TRACKING AND DISPATCH

CUSTOMER CRITICAL CHALLENGE:

- Mobile communications solution for critical city services, including police, fi re, ambulance, waste management, and public transportation
- Requires strong, persistent wireless communications for vehicle tracking and dispatch and ruggedness for uninterrupted use in harsh environments

SOLUTION:

- AirLink® rugged, intelligent gateways provide real-time vehicle tracking data to dispatch and accurate location information to the public for a comprehensive GIS

BENEFITS:

- Secure, reliable cellular and Wi-Fi connectivity for critical city services
- Seamless installation, easy confi guration, and on-going remote management
- Durable form factor to provide consistent performance despite harsh environments
- Portability for continued use when vehicles are taken out of service

RESCUE