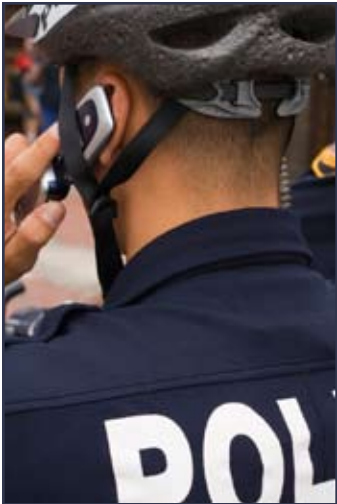


# Wilson Electronics Case Study

## Yavapai County, Arizona, Sheriff's Office



**“Without the Wilson boosters there would be no MDCP. We knew from testing that the bare aircard would not cut it. We could make the project work with Wilson.**

### Executive Summary

- The Sheriff's Office (YCSO) upgraded data communications capabilities for more than 120 rural patrol vehicles by installing systems made by Wilson Electronics
- The Wilson signal boosters enable deputies to use on-board computers and cellular modems to access the department's computer network directly from their patrol vehicles, even in remote areas of the rural, mountainous county.
- The Mobile Data Computing Project (MDCP) modernized the department's field communications system, literally replacing pens and paper.
- As the department researched feasibility of the MDCP, field testing confirmed that the cellular signal in many areas of the county was too weak to allow reliable connections.
- To solve that problem the department installed Wilson boosters and antennas to detect and amplify faint cellular signals. Payoffs include:
  - More effective use of deputies' time.
  - Enhanced communication and coordination.
  - Faster response to calls.

### Background

Yavapai County, Arizona, covers approximately 8,100 square miles, an area roughly the size of Massachusetts and larger than the U.S. states of Connecticut, Delaware, Rhode Island, and New Jersey. The county lies between suburban Phoenix on the south and the South Rim of the Grand Canyon to the north, with topography ranging from a low of desert rock and scrub 1,900 feet above sea level to mountain peaks nearly 8,000 feet high. About 250,000 residents live mostly in less than a dozen incorporated cities and towns. The Yavapai County Sheriff's Office (YCSO) has the responsibility to enforce laws and protect citizens in the unincorporated areas of the county.

### The Challenge – Modernize the department's mobile data communications despite weak cellular signal throughout the mostly rural county.

The need to bring the department's mobile data communications into the 21st century was clear. To conduct investigations, YCSO deputies literally were issued pens and pads of paper. They took handwritten notes at an investigation scene, then drove to the nearest substation, often 80 or 100 miles away, to log into the computer system to access records and file reports.



YCSO proposed to modernize data communication by installing on-board laptop computers and cellular modems in patrol vehicles. In theory, the proposed Mobile Data Computing Project (MDCP) would allow deputies to remotely log into the department's computer system from their vehicles virtually anywhere in the county.

Similar systems are standard equipment for many law enforcement agencies across North America. But the rural nature of Yavapai County, its widely dispersed population centers, the ruggedness of much of the local terrain, and the weak cellular signal in many remote areas posed special challenges to the MDCP proposal.

Lt. Brian Hunt, the Technical Services Bureau commander for the YCSO, knew that providing proof of concept for the MDCP proposal would not be easy. He directed research of the project's feasibility by conducting extensive field testing all over the county. The testing confirmed Hunt's suspicions - the cellular signal in many areas of the county was too weak to allow in-vehicle modems to reliably connect with the department's computer system.

**Solution: YCSO tests and purchases cellular signal boosters from Wilson Electronics.**

Bottom line: to make the MDCP proposal work, the department had to find a way to reliably boost the weak cellular signal in some areas of the county, and do so without breaking the project's budget. "We needed to increase the capability and reliability of the Novatel cellular modem within our vehicles," Hunt said. "We needed a robust signal to facilitate communications for those times when, literally, lives depend on it."



Lt. Hunt began his quest for a solution with online research into cellular signal boosters. Then he got some help from an unexpected source.

"I was approached by somebody in the department, a member of the SWAT team, a knowledgeable fellow," Hunt said. "He said 'Hey lieutenant, you ever heard of Wilson Electronics?' He told me he had used Wilson boosters. I took his advice seriously because it came from someone I trust. The next day I contacted Wilson and sent for some eval units. I installed one in my vehicle and started driving all over the county to test it. Within about 72 hours I knew (the MDCP project) was going to work."

After evaluation, YCSO purchased and installed more than 120 Wilson signal booster systems in patrol vehicles to implement the MDCP.

"What drew me to Wilson is that signal boosters is what Wilson does - it's their only business," Hunt said. "I prefer to work with sources that I know have expertise. I'm not willing to play around with those who don't because what we do is too important. We want our people have the equipment they need to do their job."

"It's a plus that Wilson boosters are made in the USA. And we like the customer service component. Dustin, our sales rep, always gives us a blistering fast response to any questions we have."

**Results: More effective use of deputies' time, enhanced communication and coordination, faster response to calls.**

"The system serves as a redundant or tier 2 communications channel for our field people," Hunt said. "If our voice radios have a weak or nonexistent signal, our people can still communicate through email or instant messaging."

"If we need to look something up online, now our people have the resources of the office in their vehicles. This has cut down on 'windshield time' and allowed more time for investigations and other law enforcement activity."

"We had a recent search and rescue operation in an area where the searching units had no cellular coverage according to their handheld devices. But with the air-cards in our vehicles, responding deputies had service through the Wilson booster and were able to IM and stay in contact with the communications center."

"We're realizing that this project has reduced deputies' response times. I was hearing in a community meeting people raving about how quickly our deputies are able to respond to calls. Deputies assigned to an area now have immediate access to the computer system, so they can stay closer to where they need to be."

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"I've scoured the earth to find a negative comment from anyone, and I can't find one. Even the grumpiest grumps are down with it. Our people in the field are reaping the benefits of the systems. They have tools and resources to do their jobs that they didn't have before, and they appreciate that. Most of them got into this work to help people. Now they have a better opportunity to do that."

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