

Public safety in Pima County

Navigating the journey to next generation 9-1-1



Pima County, Arizona

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- County government
- County covers approximately 9,200 square miles
- Population projected to reach 1.4 million by 2041
- Home to Tucson, the University of Arizona, portions of the Sonoran Desert

Challenges

- Migrate emergency services and Public Safety Answering Points (PSAP) to next generation 9-1-1 (NG9-1-1) technology
- Find a technology partner that can work within funding and operational constraints

Solutions

- MPLS network backbone dedicated for 9-1-1 service with built-in security
- Dedicated Network Operating Center (NOC) with 24/7/365 monitoring
- Intrado VIPER and Motorola Solutions VESTA for PSAP call handling
- Managed services and staff training on using new system

Results

- Saved \$30,000/month in operating costs
- Eliminated unnecessary redundant network with no impact on public safety
- Invested in new services such as Geographic Information Systems (GIS) integration
- Improved, faster call handling
- Integrated new technologies, capabilities

“ We have a commitment from a team that says we’re going to help you today and in the future. Lumen has a heart for 9-1-1 that you just don’t find in the corporate world.”

— Sheila Blevins,
9-1-1 Coordinator
Pima County, Arizona



Challenge

Too little money, too many moving parts

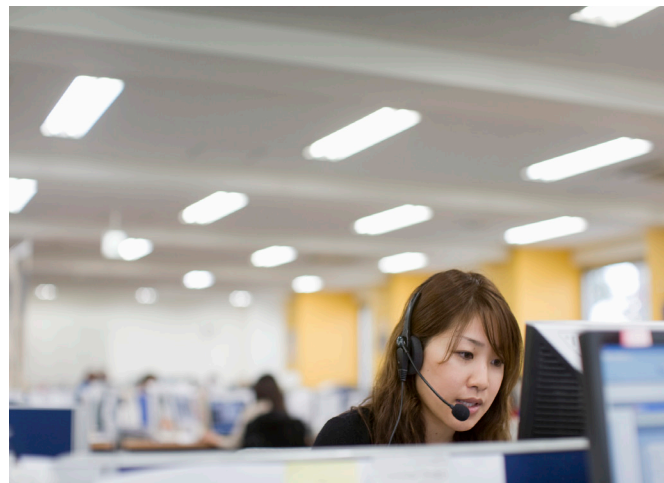
Pima County Arizona is the home of Tucson, the University of Arizona, portions of the Sonoran Desert and about a million citizens. The population is concentrated in Tucson but also spread out among suburbs and sparse desert communities. The landscape changes from urban to rugged terrain in moments of driving. Like every other local jurisdiction in the nation, Pima County faces the challenges of migrating its emergency services infrastructure and Public Safety Answering Points (PSAP) to next generation 9-1-1 (NG9-1-1) technology.

A major capital expenditure to upgrade nine PSAPs across the county was not possible. Yet, even a phased approach was problematic because some of the PSAPs had equipment that was reaching end of life. They would have to be first in a phased approach, but that would drain funds for further upgrades quickly and further work would be dependent on securing funding in the state budget cycle. The past capital-intensive model of owning and maintaining all the pieces of the solution was simply not feasible.

“Nobody has enough money to do this the way we’ve always done it,” said Sheila Blevins, Pima County 9-1-1 coordinator. “We needed a new approach that would upgrade the whole system, but be flexible enough to work within our funding and operational constraints.”

Blevins is a long-time public safety leader in the area and an advocate for NG9-1-1. Her Pima County peers chose her to lead the consolidated effort with the state to upgrade the system. She challenged her team to think broadly about what they really needed, both today and in the future. The more they thought about how public safety will evolve, the more they knew they needed more than just a different funding model.

Once they moved to an IP-based network, they would have immediate benefits of NG9-1-1, such as text inputs from citizens, with the foundation for future evolutions to multimedia inputs such as video as well. Because of the pace of technological change, they would also be able to integrate new technologies in the future more quickly. Working on their own, however, they would face the same capital cost issues in absorbing each innovation if they stayed with their current approach. They might also face the need to hire new experts to integrate and manage some of that new technology.



“You can quickly get behind the technology curve with so many PSAPs and so much new technology constantly emerging,” Blevins said. “A fully managed service would allow us to spend our dollars wisely and evolve the solution as technology advances.”

Any change can be disruptive, so the provider they chose had to help train staff on the new equipment and any operational changes that entailed. Those changes also had to improve ease of use and communication or there would be resistance to the change.

“We needed a solution flexible enough to fit our needs and our people,” she said. “It needed to work for the people actually working in the PSAPs and the first responders. That meant that any provider needed to be willing to work with us to train 100 percent of the staff at each PSAP. And of course, that’s just the beginning. We need someone who will be with us for the long term.”

Pima County officials came to the conclusion that the migration to NG9-1-1 was the beginning of a journey, not an isolated event. They needed a technology partner who could work with them to build and execute a strategic migration plan that covered all aspects: great technology, cost containment and training the people who would save lives.

Solution

Managed 9-1-1 service frees up funds, creates partnership for future

Lumen has a long history of providing services in the region. Working together with Pima County, an end-to-end solution was built for public safety infrastructure and the PSAPs using the extensive Lumen NG9-1-1 portfolio of services. The Lumen solution also included a capital investment in the project in conjunction with state funds.

The solution was built on the Lumen MPLS network backbone. It provided a dedicated network for 9-1-1 service and came with a dedicated Network Operating Center (NOC) with 24/7/365 monitoring. The call-handling systems available to Pima County PSAPs were the Intrado VIPER and Motorola Solutions VESTA. A PSAP could choose one or the other. The systems set calls up for dispatchers and performed call routing within the PSAP or one-button transfers to other emergency services personnel.

The Lumen® Managed NG9-1-1 service included working with state and Pima County staff to train PSAP workers to demonstrate the ease of use of the system. PSAP staff was impressed with advanced features such as geolocation which they could immediately see helping locate hikers needing help in the local desert.

“We have a tremendous relationship with the Lumen team,” Blevins said. “They really want what’s best for our citizens.”

Results and future plans

Saving money to expand services, safety

Pima County saved millions in capital costs across all 9 PSAPs through the Lumen managed NG9-1-1 service. Blevins reports that Pima County 9-1-1 services are saving \$30,000 a month in operating costs with the new system versus the costs of the old analog network, all with improved services and the future-proofing the IP network provides. The network reliability allowed her to eliminate a redundant network with no impact on public safety. That savings has allowed her to reinvest money in new services such as Geographic Information Systems (GIS) integration.

All staff at each PSAP has been trained on the new system. They can handle calls faster, transfer them easily. Calls are no longer being “stacked” for processing. Vesta call-handling systems package all information for a given call, including location mapping even for mobile callers as they move. Users can customize screens to deliver information the way they can process it most efficiently. Staff can transfer calls with one-button ease.

“What all this means is that our citizens are safer,” Blevins said.

The network was updated in early 2020 to handle text- to-9-1-1 capabilities. Using video inputs from the populace is also planned. Blevins and Lumen are now beginning to look at longer timeframes to see what technologies are likely to emerge.

Blevins and her staff are no longer tasked with maintaining the infrastructure, keeping citizens safe and planning for the future all at the same time. They have a trusted partner to help with all those missions. Lumen is working with other jurisdictions across the state of Arizona to replicate the Pima County model.