



MADISON COUNTY FIRE DEPARTMENT, TN



THE CLIENT

Madison County provides fire protection that covers 540 square miles. They also manage first-responder calls for EMS and other organizations. In the last year, they ran about 1200 calls and have received more calls each year for the last six years. Madison county has 17 fire stations with 180 personnel and 64 apparatus.

SITUATION

Madison County had a single-site conventional analog repeater and a single 300-foot tower to cover the entire county. Matthew Gay, the Maintenance Manager for Madison County, describes the situation. "With a single site and no redundancy, any kind of problem that we had could bring down our network. We had several lightning hits in a row on that site and ran into trouble with water as well. It was stressful to me knowing that if somebody called me and said the network isn't working, we wouldn't know what to do; there was no redundancy."

Coverage was also a problem. "We had to look for places that we could talk on a portable." In order to increase safety and performance, and reduce stress, Madison County needed to upgrade their communication system. They wanted a system that would allow them to continue talking, even if they lost a tower. Future-proofing and making the best use of taxpayer money was also a prime consideration: they wanted something they could expand in the future.

RESPONSE

Madison County partnered with Mike Badgett and B&E Electronics. Together, they decided on a Tait Analog Simulcast over IP (AS-IP) system. The network included four sites, offering greater redundancy and reliability, a clear upgrade path for the future, and better coverage.

Now, if one of their sites goes down, the system automatically recognizes the problem and coverage is picked up by another site. The system also includes an open-standard network monitoring app from OpenNMS.

Matthew Gay explains the app. "It's a huge upgrade from where we were. I don't have to wait until I get a call from another part of the county that our team doesn't have coverage. The app gives me an instant alert."

The overall system has a clear upgrade path for the future. Although they're starting with an AS-IP system, they could upgrade to P25 Simulcast or P25 Phase 2 trunking without any additional investment in the infrastructure.



180 STAFF

STAFF



TENNESSEE

LOCATION



PUBLIC SAFETY

EXPERTISE

SOLUTION OVERVIEW

- ▶ Tait Analog Simulcast over IP
- ▶ Four site system
- ▶ Pager integration

BUSINESS BENEFITS

- ▶ Redundancy and reliability
- ▶ Easy upgrade path to P25
- ▶ Increased coverage



Thanks to the Analog Simulcast overlay, if they decide to upgrade to P25, they'll still be able to use their pagers without losing any coverage. Chief Eric Turner says, "We can save a lot of money with this upgrade path. We're pleased with the coverage we have with our pagers, and it's nice to know we won't be sacrificing that if we migrate to P25."

OUTCOMES

Not only does Madison County have a fully upgradeable system with greater reliability, but the coverage has also shown dramatic improvement. Matthew Gay explains. "Before you had to look for places where you could talk on a portable. Now I'm trying to look for places where I can't, and I haven't found any yet."

"I've intentionally sent people to places where I knew the (old) system could not work. These areas had terrible coverage even with mobiles on our old system, so there's no way we would have had portable coverage. But since I wanted to see, I'd send people there and they'd talk on their portables and it's crystal clear. That's pretty amazing."

Madison has no regrets about their system, and if they had to do it over again, they'd buy the exact same thing, Matthew Gay says. "We wouldn't change anything. We believe we got the absolute best system we could get, and it was inexpensive. I don't mean we got the best system for the money we had; I mean we got the best that we could get. And it was inexpensive."

Chief Turner sums up. "We're pleased with our coverage. We're pleased with the service we're getting and the installation of the system was flawless. Overall, we're very pleased."



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Matthew Gay

Maintenance Manager
Madison County Fire