MAX Dispatch Spans Across Missouri State

The 11-site MAX Dispatch system recently implemented by the Missouri Department of Transportation is providing the updated, flexible communications the agency requires to manage and maintain roads and highways throughout the entire state.

Zetron's MAX Dispatch system is garnering high praise in a geo-diverse implementation that spans the entire state of Missouri.

Installed by Zetron reseller A&W Communications for the Missouri Department of Transportation (MoDOT), this MAX Dispatch solution is showing Missourians that it is fully capable of doing what's necessary to help keep things moving smoothly over Missouri's vast system of roadways.

MoDOT Spans the state of Missouri

MoDOT is headquartered in Jefferson City and has seven districts that span the state. The agency oversees the care a maintenance of Missouri's 33,884 miles of roadway.

"We take care of everything on the highway," explains MoDOT Senior Engineer, Rick Bennett. "That includes plowing snow, putting down salt, and performing road repairs and maintenance. We fix pavement, guard rails, bridges, and traffic signals. We put stripes on the road, install signage, and mow during the summer. It's a big operation. To do it all, we employ about 5,100 people, 3,500 of which are field staff."

Radio dispatch for MoDOT

With such a diversity of tasks and such a large number of field staff to manage, it's not surprising that MoDOT would use radio dispatch to coordinate its activities.

"We've got 4,000 mobile radios and a network of repeaters that supports them," says Bennett. "That basic system was built in late 60s and early 70s, and we still use it in much the same way now as we did then for our field communications."

One lightning strike away

Prior to the recent installation of MAX Dispatch, MoDOT's district offices were equipped with Zetron Model 4010 standalone consoles. Although the consoles performed like workhorses for many years, they were about 20 years old—ancient in technology years. "We were about one lightning strike away from losing some of our sites," says Bennett. "It was time for us to get new equipment."

Hammering out a plan

To find and install a new, updated system, Bennett enlisted the help of A&W Communications.

With offices in Eolia and Jefferson City, Missouri, A&W focuses on two-way communication sales and service, primarily for public safety agencies. In business since 1985, they've earned a solid reputation with MoDOT for the quality of their work. "A&W has been taking care of all of our radio system repair and maintenance for years," Bennett says. "They've done a great job of solving any issues we've had."

When it came to selecting a new dispatch system for MoDOT, Bennett's past experiences with Zetron made the decisions an easy one. "We've gotten very reliable performance from our existing Zetron consoles," he says. "So we were predisposed to Zetron. We got

together A&W president, Tom White, and told him what we wanted. Between him and Zetron and us, we hammered out a plan for a system that would not only support everything we were doing before, but would give us more features, updated technology, and the ability to communicate statewide."

The solution they arrived at included two installations of the MAX Dispatch control-room equipment—known as "nodes." One would be installed at MoDOT's central office in Jefferson City, and the other would be installed at their district office in Kansas City. The nodes would control radio equipment at 10 tower sites and a total of 11 MAX Dispatch consoles implemented at MoDOT's district offices across the state.

Decluttering the infrastructure

Tom White says that the project began with removing much of the pre-existing infrastructure.

"Previously, we'd used multiplexers to transport audio from the existing consoles across the network," he says. "But because MAX Dispatch is IP-based, we didn't need those multiplexers anymore so we removed them. It was pretty slick. Now, you go out to tower sites where we used to have six-foot-tall racks of hardware, and the racks are almost empty. This not only cleaned up and decluttered the sites, but it also eliminated many points of failure."

Staging and installation

MAX Dispatch underwent preliminary staging and evaluation at A&W's office, then the equipment was installed at the district offices, one site at a time.

"We split up our team so several technicians were installing the MRGs [MAX Radio Gateways] as I was installing the consoles for a particular location," White says. "We tested them right then and there, and it all went very smoothly. We set it up so that on the Jefferson City node, there would be eight MRGs, 16 channels, and seven positions. On the Kansas City node, we'd have nine MRGs, 18 radio channels, and four positions. The implementation only took about two weeks, maybe three."

Training is easy

A&W provided training at each site as soon as its console installation was finished.

"It was easy to train the operators," says Caleb Tucker, an A&W technician who helped with the project. "Training took all of about 20 minutes," he says. "It was mostly just a matter of learning how to select channels, and that's much easier with MAX Dispatch than it was with their previous button-based system. I've installed a number of MAX Dispatch systems, and in my experience, training is always easy because MAX Dispatch is so intuitive."

MAX Dispatch shows them how it's done

MAX Dispatch is now delivering improved features and functionality that even the most tough-minded Missourian would approve of. It supports the geo-diverse, statewide communications MoDOT requires, provides expanded interoperability across different radio equipment, and ensures that operations can be taken over and handled by any of one of the agency's offices, if needed.

Bennett is pleased with MAX Dispatch and all it offers. "The system is cost-effective, much easier to use than our old equipment, gives us great flexibility, and offers a host of enhancements we didn't expect, but really appreciate," he says. "Now, we can communicate from truck to truck and across all our district offices. If we have an emergency and one district goes down, another district can just pull up the screen for the district they're helping and take over. And our dispatchers really love it, which is a big plus."

The system also offers an important possibility for the future. "We have an extensive network of satellite-based backup communications," says Bennett. "Missouri is an earthquake state, so we have to be ready and able to maintain communications during a large-scale disaster. With the help of A&W and Zetron, we're now exploring whether we can engineer MAX Dispatch to work over satellite system. We plan to start with a trial site. And if it works, we'll roll it out statewide."