

AN EMERGENCY MANAGEMENT CASE STUDY | GENERAL DYNAMICS

SMALL TOWN IN THE FAST LANE

MORGAN COUNTY, OHIO, ROLLS OUT NEXT GENERATION 911



A rural area located about 90 minutes from the state capital of Columbus, life in Morgan County, Ohio, population 15,000, is stereotypic small-town America. However, when it comes to emergency communications, Morgan County is very much in the fast lane. Recently, the county completed a Next Generation 911 (NG9-1-1) implementation — a feat most counties and cities many times its size with far greater budgets have not even attempted, let alone achieved. We talked to David Bailey, Morgan County’s NG9-1-1 coordinator, to find out how they did it.

NG9-1-1: A Decade and Counting

Before one can appreciate Morgan County’s accomplishment, it’s necessary to know the history of NG9-1-1. First proposed by the National Emergency Number Association (NENA) in 2000, NG9-1-1 will modernize legacy e911 infrastructure and enable public safety answering points (PSAPs) across the country to receive text, data, images and video, as well as more accurately pinpoint a caller’s location through increased mapping capabilities and receive all calls faster with more appropriate information. But progress with NG9-1-1 has been slow. NENA started

“I’ve been involved in public safety in excess of 45 years, as well as industrial safety. And when lives are at stake, NG9-1-1 is not a luxury, it’s a true necessity. It needs to be implemented, posthaste.” — David Bailey, Morgan County NG9-1-1 Coordinator



DAVID BAILEY, MORGAN COUNTY NG9-1-1 COORDINATOR

development of the initiative in 2003 and now, 11 years later, few jurisdictions have implemented NG9-1-1 — and many have no plans to modernize in the near future. According to a Center for Digital Government (CDG) survey, which queried over 150 state and local government IT professionals in early 2014, 73 percent of respondents said they either were not or didn’t know if they were considering replacing their e911 system.

The latency in NG9-1-1 progress is largely due to significant challenges, including funding constraints, security concerns and system interoperability hurdles. But while moving to NG9-1-1 is formidable, it can be done — and Morgan County is a perfect example.

NG9-1-1’s Benefits Too Big to Ignore

Morgan County began planning for its NG9-1-1 implementation over two years ago. Bailey says the impetus for the move was always about better ensuring citizen safety and doing the right thing for the public. “The reality hit home here when we realized we had young people as well as general citizens carrying cell phones with more capabilities than any 911 center in the U.S. could process,” says Bailey.

The county had implemented an e911 system in 2009 and had expected that system to last for many years. However, relatively early in its life, the system had already started to develop errors, with Bailey describing it as “cantankerous.” The system provider had also informed the county that it would stop providing support for the many proprietary parts of the system by 2015.

Due to this and the need for a solution that improved citizen safety and potentially saved lives, the county started looking into NG9-1-1 systems — ultimately choosing General Dynamics Information Technology (General Dynamics IT) as its partner — and found the specific benefits were too good to pass up, including:

Faster call routing and more accurate information. With NG9-1-1, when the PSAP receives a call it comes with much more accurate information regarding the location of the caller and also the call type — whether that be wireless, landline or VoIP. Additionally, NG9-1-1 allows calls to be routed much more effectively and efficiently, meaning the correct PSAP receives the call first. Calls do not have to be transferred, which wastes precious time.

“If a cell tower sits near the border of a county or a surrounding county, NG9-1-1 uses X and Y coordinates and allows the proper county to receive the call,” says Bailey. “That’s a tremendous benefit.”

Increased mapping capabilities. NG9-1-1 also provides increased mapping capabilities, including the ability to share map information

“In Morgan County, Ohio, with our tight financial budgets and concerns, as well as our population limitations, if we can move forward with NG9-1-1, why can’t others? With the savings, we are also able to add an Alert Public Safety Solutions NG9-1-1 Computer Aided Dispatch system for the first time in our history.” — David Bailey, Morgan County NG9-1-1 Coordinator

among jurisdictions and to provide routing instructions with expected arrival times for responder units.

Bailey shares a story about two women who were hiking on the Buckeye Trail several years ago and subsequently became lost in the woods. Although the women had a cell phone and made calls to 911, they didn’t have GPS capabilities in their phone and the PSAP did not have the mapping capabilities, provided by Digital Data Technologies, Inc. (DDTI), that it has today.

“We couldn’t actually pinpoint those folks,” says Bailey. “We found them 24 hours later, but these women spent a rainy night lost in a heavily forested area and I’m sure they were less than comfortable. Just think how much faster we could have found them with the technology we have today.”

Text-to-911, video and data transfer. Finally, NG9-1-1 also provides the coveted text-to-911 and data, image and video transfer. Legacy e911 infrastructure simply cannot accommodate texts and other multi-media communications — a reality that has proven to be

potentially hazardous, especially when ultra-connected citizens have no idea about the limitations many PSAPs face and try, unsuccessfully, to text 911 in emergency situations. In many jurisdictions, those messages will never be delivered or received.

Bailey says text-to-911 is especially important in rural Morgan County, where cell phone coverage can be sporadic. Sometimes citizens may not have enough signal to complete a call, but they are able to get a text message to send. Bailey says it’s also critical that citizens with disabilities like hearing loss can use the text functionality to communicate with emergency responders.

Overcoming Common Challenges in Morgan County

Challenges in implementing NG9-1-1 are making it difficult for other jurisdictions to move forward. According to the aforementioned CDG survey, 42 percent of respondents said funding and the lack of grants and budget allocations was their No.1 challenge in moving to NG9-1-1. Fourteen percent said

SHARED SERVICES: MORE THAN SAVING MONEY

State CIOs realized some time ago that shared services provided them with a more efficient way to upgrade outdated information technology systems with limited budgets, so it comes as no surprise that shared services can be a major boon to local governments looking to implement NG9-1-1.

Morgan County’s system was deployed with sharing in mind and Bailey contracted with the state of Ohio to use facilities that would be easily and affordably accessed by other jurisdictions in Ohio. The taxpayers of Ohio have invested in an efficient modern communications architecture and Bailey wants to make the most of it.

It is robust enough to handle at least four additional counties, says Bailey, and that

would be a major cost savings opportunity for not only Morgan County, but the additional counties using the system as well. Bailey says neighboring jurisdictions as well as additional jurisdictions across the state have contacted Morgan County about the potential of sharing its system.

But the benefits of shared services go beyond cost savings. Shared services allow agencies to better share data and information, which is particularly useful during an event that crosses jurisdictional lines. For example, if a multi-vehicle accident occurs on the interstate at the edge of a county, multiple jurisdictions might be involved. These jurisdictions could have pre-determined routines and call routing for this particular incident could be sent to one

PSAP to keep other PSAPs free to respond to other emergencies.

In a shared services arrangement, each jurisdiction is able to retain full capability within its own system, but it also has the ability to collaborate with other jurisdictions, share information and transfer data in a more robust manner.

Bailey says a shared services agreement with a system like Morgan County’s offers jurisdictions sustainability. “The solution is sustainable, not only in cost, but in future upgrades and additions. This is absolutely the best solution I could find in the United States, and obviously with our resources it comes at an affordable price.”

their greatest challenge was the fact that new technologies do not integrate with existing technologies; and 61 percent said cybersecurity was a concern of implementing NG9-1-1.

Bailey says Morgan County has very limited 911 financial resources, with the 911 budget composed of fees imposed upon wired and wireless phones and money received from a small grant obtained through the state of Ohio. The 911 department has no paid personnel and all funds go to equipment maintenance, upgrades, replacements and dispatch. Every dime in the county for 911 counts. The county overcame this by being frugal to a fault.

“Realizing years ago that NG9-1-1 was going to become a reality, Morgan County guarded our money very carefully in preparation and hopes to achieve an NG9-1-1 standard compliant system,” says Bailey.

Morgan County needed an entire system replacement and Bailey searched for a private sector partner that could provide the all-encompassing requirements the county was looking to fulfill in one contract. “We wanted a team that could put the solution together, with total ease of operation for the end user. We wanted them to manage the project, maintain the system and monitor the system 24/7 after installation,” says Bailey.

The system had to be robust and reliable, and also extremely user friendly. “I can’t spend all my money on training when it’s very limited to begin with,” says Bailey.

The county reviewed multiple NG9-1-1 proposals over several months, and Bailey found what he was looking for in General Dynamics IT, a company that specializes in emergency management and IP-based communications to state and local public safety organizations.

“General Dynamics IT is fully compliant with NENA’s i3 architecture standards,” says Bailey. “Working with multiple partners, they provide hardware, security, mapping, call routing and compliant software that has already been tested and meets or exceeds standards. In addition, General Dynamics IT was a true joy to work with from day one.”

Bailey says the NG9-1-1 implementation was flawless and expeditious and the county was able to connect two PSAPs to the hub in Columbus in a single afternoon. By working with General Dynamics IT as a systems integrator, the county was able to ensure interoperability among systems, and since the company can bring together tried and true vendors, the county was able to find the absolute best solution to fit its specific needs.

This combination of partners also meant the county had access to experts in areas like cybersecurity, which is something many — if not most — local jurisdictions simply can’t afford. This access has made Bailey completely comfortable with the security of the system.

No Time for Delay

Bailey’s words of advice to other jurisdictions are to start now and not wait. “Other jurisdictions need to take a strong look at NG9-1-1 and realize the benefits it brings to citizens,” he says. He encourages others to also take a look at the General Dynamics IT solution: “It’s here; it’s real and it’s a standards-compliant system.”

The cost of the system, the level of support and the ease of implementation have all contributed to his fervent praise for General Dynamics IT and its partners. “It’s been a total success,” says Bailey of the NG9-1-1 implementation. “I’m smiling from ear to ear.”

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