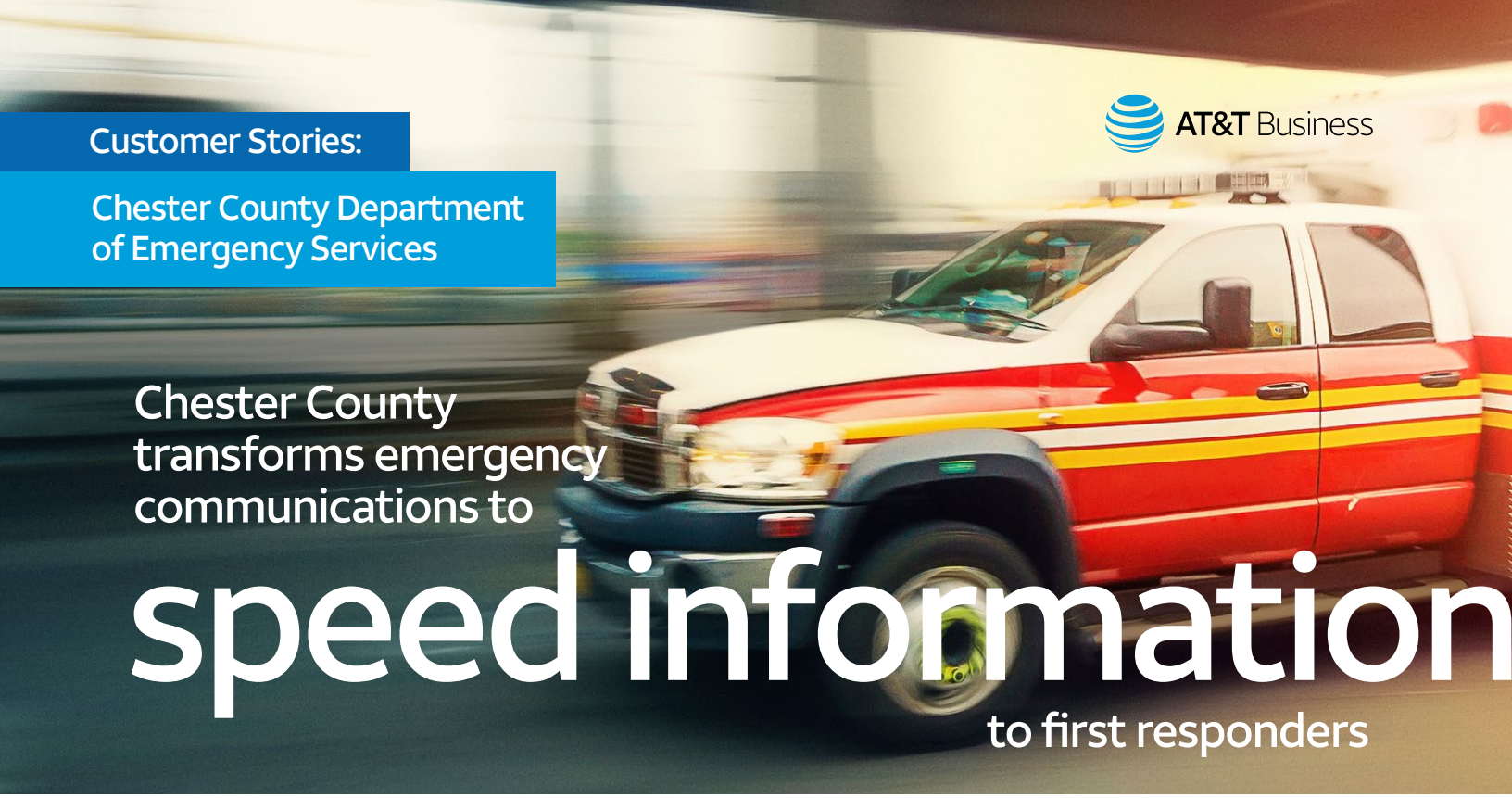

AT&T Business

Customer Stories:

Chester County Department of Emergency Services

# Chester County transforms emergency communications to speed information to first responders

- **Business Needs** - A network to enable faster, more complete transportation of information for first responders, and empower 21st century law enforcement innovations
- **Networking Solution** - A mobile data solution that delivers better information quicker and supports advanced law enforcement technologies like FirstNet
- **Business Value** - Enhanced emergency response, future-proof networking
- **Industry Focus** - County emergency management
- **Size** - $17 million annual budget

## About the Chester County Department of Emergency Services

The Chester County Department of Emergency Services coordinates communications among the police, fire departments and emergency medical services (EMS) for the county's 73 municipalities. As part of running the county's 911 Center, the department operates an integrated emergency communications system – including radio, computer-aided dispatch (CAD), mobile data, and fire and EMS paging.

## The situation

Chester County's emergency communications systems were slow, outdated and nearing end of life. Dispatchers were unable to share photographs or other images with police, firefighters and emergency medical personnel. The county needed a better, faster way to deliver information to first responders; officials also wanted a future-proof network that would enable the county to take advantage of emerging technologies.

## Solution

AT&T helped Chester DES upgrade 650 emergency response vehicles by extending the county's enterprise network into each vehicle, delivering information to first responders quickly and reliably. The solution, which is powered by an AT&T commercial data plan that leverages the nation's largest data network, positions Chester County to take advantage of federal law enforcement initiatives like Next Generation 911 and FirstNet, the new national broadband network for first responders.

## Coordinating communications for 200 first responder agencies

Beautiful Chester County in southeast Pennsylvania is the wealthiest county in the Commonwealth, and among the top 25 wealthiest in the U.S. The diverse county is home to eight colleges and universities, the Valley Forge National Park, and international businesses like QVC and Vanguard. It also comprises rich farmland and produces 400 million pounds of mushrooms annually – more than half of all mushrooms grown in the nation.

Fire, police, and emergency response services are provided by municipalities rather than counties in Pennsylvania. Bobby Kagel, director of the Chester County Department of Emergency Services (DES), said his agency manages emergency communications for the 73 municipalities within the county.

"We work with 73 emergency coordinators, 52 fire departments, 45 municipal police depts, two state police barracks and 32 emergency medical service organizations," he said. "We don't provide fire, police or emergency response services; ours is more of a coordination role."

The DES, with a budget of $17 million and 217 employees, operates the county's 911 center and integrated emergency communications systems.

"As a fairly affluent county, we're able to provide all the communications equipment and infrastructure," Kagel said. "Our responder departments don't have to buy their radios or mobile data computers and don't have to pay for mobile data connection because the county provides all of that."

## The promise of next generation technology

Chester County's emergency communications systems consisted of a COBOL-based CAD system installed in 1993 and a commercial messaging product. "The system was rock solid, bullet-proof," Kagel said. "But we were a text-only system, so if an officer were to query a driver's license, we could send text but no photos."

Linking the CAD system and messaging application was a reliable but slow radio data link access procedure (RD-LAP) system. "If you remember dial-up Internet, we were dealing with 9600 baud speeds," Kagel said. "Not very fast at all." The county needed a better, faster way to deliver information to first responders.

Kagel credits John Haynes, deputy director of Chester County DES, with understanding the potential of Next Generation 911, a federal initiative to replace the analog systems that many public safety organizations use with Internet Protocol (IP)-based technology. "John Haynes had the foresight and vision to say that we needed to prepare for Next Gen 911," he said. "One element of that was replacing our mobile data system, which includes our radio, CAD, mobile data and EMS and fire communications systems."

At the same time, the county knew that the federal government was working on FirstNet, a nationwide, broadband network to help first responders better protect U.S. communities. "The RD-LAP system was end of life, the vehicle modems were end of life, and we had the FirstNet thing looming over us," Kagel said. The county needed to upgrade its emergency communications systems to provide faster and better data for first responders and take advantage of the opportunities afforded by Next Gen 911 and FirstNet.

## Secure, turnkey and future-proof

Chester County hired consultants to assist and help determine the best way to proceed. "They helped us develop an RFP to replace our private data network, which we had because reliability and coverage were important to us," Kagel said.

The county requested proposals to create a new private network, since Kagel and officials weren't sure what would happen with FirstNet. "It may never happen, it may happen tomorrow, but we have a need to replace this aging equipment now," he said.

Even though the RFP specified a private network, Kagel's AT&T account representative strongly recommended a commercial solution with dual carriers to provide backup if coverage became an issue. "We were set on a private network, but they had enough foresight, and thank God they did, to put in a proposal despite the fact that we said we wanted a private network," he said.

After considering the private network proposals it received, Kagel and the others knew they were on the wrong track. "We realized we would be spending $5 million to be able at best to go from 9600 baud to

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56K and the new system wouldn't be compatible with FirstNet, if it were to happen," he said. "There would be no way to future-proof it."

The county needed a secure, turnkey solution that would be compatible with FirstNet and Band 14, the spectrum licensed for the exclusive use of public safety agencies. "The solution had to be FIPS (Federal Information Processing Standard) 140-2 compliant, future proof, and I wanted to be able to handle any issues with one phone call," Kagel said. "We started looking at AT&T and they checked every single one of those boxes."

## "Money well spent"

Chester DES chose an AT&T solution that equipped 650 vehicles with Sierra Wireless Onboard Mobile Gateways (OMGs), which the county configures, monitors and manages via a browser-based Airlink Mobility Manager. The solution enables the county to collect, log and preserve operational data.

"This gives us 140-2 compliance and extends our enterprise network into the vehicle," Kagel said. "It consolidates security into a single platform, allowing all our devices and apps to stay connected, and we don't have to worry about static IP addresses."

The solution is powered by an AT&T commercial data plan with state contract pricing. "AT&T provided turnkey installation, maintenance and support, contracted with local radio hop access to the AT&T operations center," he said. "At the end of the day, it certainly cost us a little money but it's money well spent." Kagel said the deployment was "incredibly smooth," and took only about 10 months to go from the contract signing to the maintenance phase.

Chester County DES can now use private radio depot, Wi-Fi and cellular to connect first responders to the apps they need. "If an ambulance or firetruck is sitting in the station the OMGs are configured to connect to the Wi-Fi instead of having to worry about in-building cell coverage, and it works great," Kagel said. "But when they're out driving around, they have the cellular connection."

## Biometrics and telemedicine enhance protection

Upgrading its communications has enabled Chester County to use automatic vehicle location (AVL) when dispatching EMS responders. "When the primary units aren't available, we're able to automatically send the second closest available unit," Kagel said, making emergency response even faster.

Police, firefighters and EMS crews can now connect easily to their record management systems, completing reports from their vehicles, improving patrol times and even enabling quicker invoicing for EMS services, he said. "We can now route through our CAD system, which was not possible under our old RD-LAP system," he said.

The new network enables police to also connect easily to JNet, the Pennsylvania Justice Network, to access material to assist in criminal investigations, and PennDOT, the state department of transportation for routing, road closures and other information they need. They can easily view photos from drivers' licenses and access lists of stolen vehicles.

"In the past, cops had to download the hot list onto a thumb drive at the beginning of their shift and plug it into

the car," Kagel said. "Now downloads are instantaneous; they get the information as soon as it's entered into NCIC (the National Crime Information Center)."

Chester DES can also access cameras in schools, businesses and residences, and push the feed to first responders, letting them know what to expect when they arrive on the scene. It can also send blueprints and diagrams to help firefighters and share crash information from cars equipped with telematics systems like OnStar.

The technology will help dispatchers monitor the status of law enforcement personnel and firefighters in the field via smart biometric sensors. "If dispatch hasn't heard from an officer, or detects a pulse increase, they can turn on the first responder's body cam to see what's happening," Kagel said. If there's a serious crash or other medical emergency, the county has the ability to bring the doctor to the scene to advise first responders about treatment.

## A commitment to public safety

Thanks to its new mobile data communications system, Chester County has the infrastructure it needs to move to FirstNet, and the county was the first in Pennsylvania to subscribe to the national first responder network. As a result, its police, fire and EMS responders will be able to connect to the critical information they need more quickly and easily, even during times of major regional events when mobile networks are congested.

Kagel said the county appreciates that first responders always have priority on FirstNet and the ability to preempt other traffic if the network becomes crowded. FirstNet gives the county's communications capabilities a major boost, providing a reliable, highly secure and "always on" communication.

Chester County Commissioners' Chair Michelle Kichline said protecting people and property is a priority. "FirstNet will help facilitate greater coordination and collaboration from dispatch to the actual incident scene and beyond, allowing us to better serve the community," she said.

Commissioner Kathi Cozzone said adding FirstNet connectivity will enhance county operations, considering other forward-thinking steps the county has taken. "It makes sense to capitalize on the major investments that we've made in recent years, including the development of the Public Safety Training Campus, the move to a new emergency voice radio system, and the installation of mobile CAD units in emergency response vehicles," she said.

County Commissioner Terence Farrell said the move will increase the effectiveness of county first responders. "By moving the in-vehicle systems over to the FirstNet platform, we are able to take our communications capabilities to a new level, bringing more efficiency and effectiveness to our fire, police and EMS personnel," he said.

Kagel said the commissioners' commitment to public safety is evidenced by their willingness to provide Chester County's emergency responders with the technology and facilities they need. "Being the first to join FirstNet in Pennsylvania, is another example of this commitment," he said. "We're excited about this and incredibly pleased with the AT&T and Sierra Wireless solution."