★ 2024 TECHNOLOGY INSIGHTS ★

Second Edition: Emergency Management Solutions

How to address modern public safety challenges with today's technology

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tyler technologies

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INTRODUCTION

Throughout the United States, public safety organizations — emergency communication centers (ECCs), fire and EMS departments, police departments, and sheriff's offices — need software solutions to do their jobs effectively.

Most of all, they need solutions that will help them stay safe on the job while they improve the safety of the communities they serve.

Public safety solutions that:

- Comply with state and federal reporting mandates
- Put real-time information at their fingertips
- Offer instant data sharing across disciplines and jurisdictions, along with intelligence-led responses
- Ensure help arrives faster and better prepared

Emergency communication centers consist of public safety answering points (PSAPs), public safety communication centers (PSCCs), emergency operations centers (EOCs), and other public safety command centers.

However, these technological needs remain unmet for many public safety agencies throughout the country. That's why Tyler Technologies — a public safety vendor with more than 40 years of experience — created this eBook series to introduce solutions that meet unmet needs and make a difference in the way agencies operate and serve their communities.

This edition uncovers the following challenges with unmet technology needs in 911 centers throughout the U.S.

- As staffing remains down in dispatch centers across the nation, the pressures of doing more with less are felt even more by dispatch center staff. In addition, dispatchers are expected to:
  - » Adhere to Next Generation 911 (NG911) standards along with the policies set forth by each agency they dispatch for
  - » Collect and share data instantly with first responders and throughout their public safety software system — and even beyond jurisdictional boundaries when necessary
  - » Send and receive text and video messages during an emergency call for service

ON AVERAGE, A 911 DISPATCHER ANSWERS **184 CALLS** EACH WEEK

MORE THAN **102,000** 911 DISPATCHERS ARE CURRENTLY EMPLOYED IN THE UNITED STATES

THE PROBLEM WITH UNMET TECHNOLOGY NEEDS IN 911 CENTERS THROUGHOUT THE U.S.

According to standards set by the National Emergency Number Association (NENA), 90% of all 911 calls are to be answered within 15 seconds, and 95% are to be answered within 20 seconds. Once a call is answered, law enforcement, fire, and EMS crews adhere to their own standards surrounding the first unit dispatched and first unit arriving on the scene.

90% OF ALL 911 CALLS ARE TO BE ANSWERED WITHIN **15 SECONDS**

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There are close to 6,000 primary and secondary public safety answering points (PSAPs) in the U.S., serving more than 3,000 counties and 331 million people. With this many people depending on them, it is imperative that the individuals working in this field have the tools necessary to send safe, effective responses.

In situations where every second counts, dispatchers play a vital role in ensuring not only that those in need receive emergency services, but also that first responders have the mission-critical data they need to stay safe on the scene. To do this, they need to rely on a computer-aided dispatch (CAD) system with:

- NG911 compliance
- Capabilities to adhere to policies specific to the agencies they serve
- Easy data sharing between dispatchers, first responders, and public safety systems
- Built-in text and video messaging capabilities

Without this functionality, dispatchers can be faced with situations in which every second counts, and yet responses sent are delayed and information regarding locations, individuals, and first responders is inaccessible or unknown. While dispatchers are known for their steadiness in dire situations and dedication to providing fast responses, without the proper tools to assist during a call for service, the stress placed on each individual in a call center elevates.

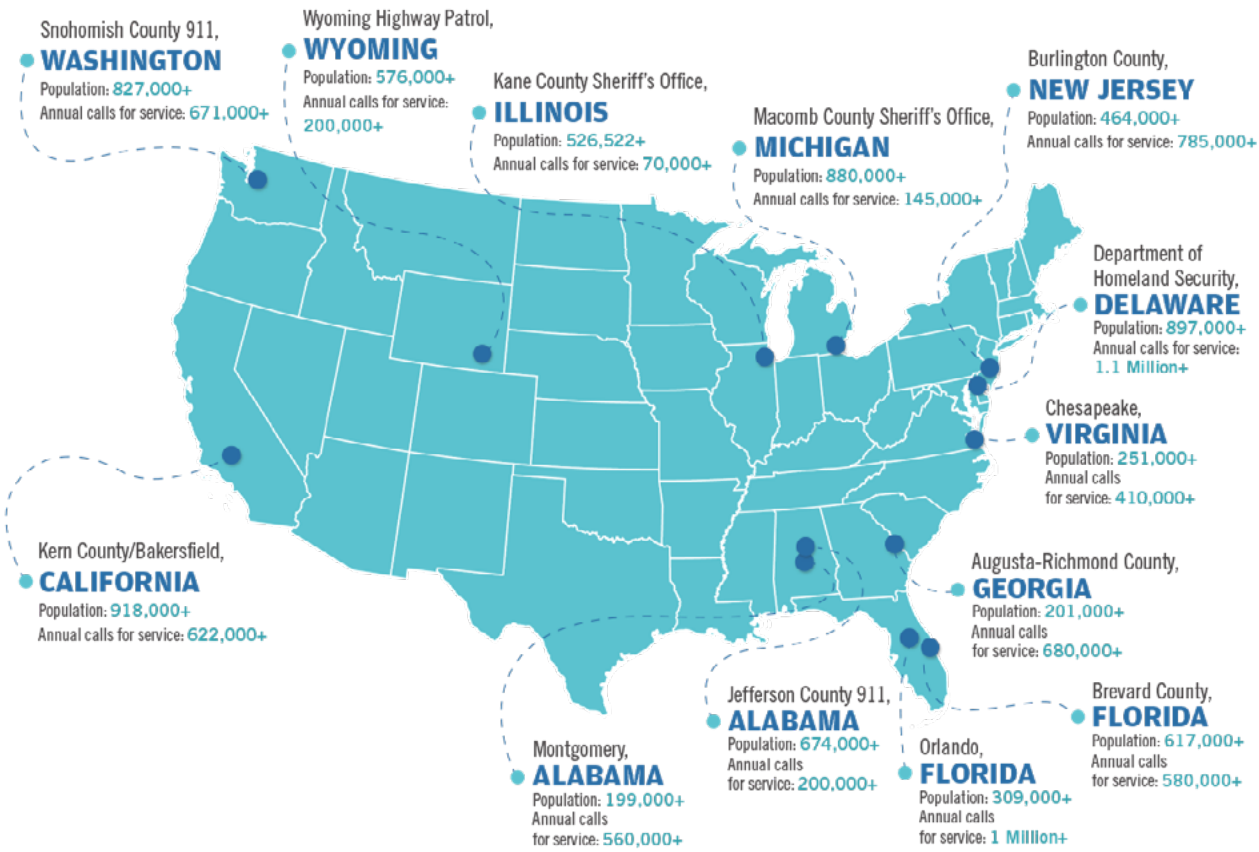
While implementing change is challenging up front — especially in mission-critical industries like emergency services — the payoff is significant when technology makes processes more efficient. That's why technology-savvy dispatchers, early adopters, and influential figures in the field know the importance of selecting tools made by public safety experts for public safety personnel.

And that's precisely what dispatchers get with Tyler's Enterprise CAD solution.

FAST FACTS ABOUT DISPATCH

Did you know Tyler provides dispatching services for some of the biggest PSAPs in the U.S.? Tyler's Enterprise CAD solution provides leading dispatching capabilities for police, fire, and EMS agencies handling large call volumes in all types of communities. Because this solution is fully integrated with Tyler's Enterprise Public Safety suite, dispatchers, first responders, and command staff have access to mission-critical data for smarter, safer responses.

READ ▶ Discover how Greene County, New York dispatchers located a missing hiker with quick thinking and advanced technology



Tyler provides dispatching services for many PSAPs nationwide, a few of which are listed on the map above.

MEETING THE NEEDS OF TODAY'S 911 CENTERS WITH ENTERPRISE CAD

From the moment a 911 call comes in, Enterprise CAD helps even the most complex, high-volume, multi-agency dispatch centers accelerate response times. Enterprise CAD includes advanced features that put critical information at telecommunicators' fingertips. It is designed to streamline dispatch activity and maximize situational awareness across all disciplines for law enforcement, fire, and EMS.

This system provides an integrated workflow that maximizes efficiency by giving agencies access to all their data in one place. Enterprise CAD natively integrates with Enterprise Law Enforcement Records and Enterprise Law Enforcement Mobile so telecommunicators can reference alerts, building/business information, locations, vehicles, weapons, pre-plans, and more from a single application to minimize the need to function outside of their CAD environment.

This solution also integrates with smart devices such as tablets and smartphones, so emergency response teams can stay connected to dispatch information that can be accessed virtually anywhere, using Enterprise Law Enforcement Field Mobile and Enterprise Fire Field Mobile.

Enterprise CAD offers:

- Multi-jurisdictional functionality for dispatching law enforcement, fire, and EMS
- Dynamic response plans that provide real-time updates
- Automated unit recommendations based on proximity and resources
- Powerful GIS capabilities for improved routing and faster response times
- Optimizable workflows for users
- Fully integrated RapidSOS capabilities for instant access to life-saving location data
- Video sharing capabilities for increased communication and situational awareness
- Dark theme option available for CAD interface

Enterprise CAD's industry-leading recommendation engine serves up appropriate response plans to help streamline decision-making even further. Tyler works with each agency to set up and configure response plans in the CAD system, so they'll be operational the moment the system goes online.

As response plans evolve, Tyler partners with agencies to update the plans in the system as needed. Tyler's goal is to make the system as easy to use as possible, allowing telecommunicators to focus on what's most important — the emergency on the other end of the line.

READ ▶ The Macomb County Sheriff's Office takes the growing opioid epidemic head-on using their CAD technology to make critical decisions quickly and accurately.

Enterprise CAD dispatch features include:

- Direct integration with text-to-911, Carbyne, RapidSOS, and ASAP
- Embedded Esri GIS and automatic vehicle location (AVL) to show the closest available units, traffic data, and more
- Offline support to manage call data in a disconnected environment
- Configurable command lines and function keys that save time and keystrokes
- Full integration with call interview software to rapidly collect critical information
- Integrated shift management solution, including integration with TeleStaff automated scheduling solution CAD paging to send call information to smartphones, pagers, and additional devices

READ Explore how dispatchers in Macomb County streamlined their emergency response for a water rescue that resulted in saving a man's life.

Next Generation 911 Tools You Expect

Text-to-911 functionality allows telecommunicators to receive emergency calls for service and send follow-up communications via SMS text messages instead of voice calls. As of 2020, 85% of PSAPs support text-to-911 capabilities.[1] Because of this increase in adoption, texts to 911 increased from approximately 1,000 in 2014 to nearly 500,000 in 2020.[2]

47 states and the District of Columbia have PSAPs that are capable of receiving text-to-911 messages.

Not only is text-to-911 a key step toward modernizing public safety communications as part of the Next Generation 911 (NG911) initiative, but it also gives the public another — sometimes safer — avenue to reach out for assistance. However, from the telecommunicator's perspective, this functionality isn't always user-friendly or integrated with existing workflows.

Tyler's text-to-911 feature, integrated with Enterprise CAD, is designed to help telecommunicators manage all communications in a single application, so voice calls and texts to 911 are easy to manage simultaneously using familiar workflows. Telecommunicators can continue using the same CAD interface they're familiar with — no switching keyboards between two programs or missing incoming texts due to focusing on the CAD event.

Texts to 911 conversations are managed in CAD. Telecommunicators can view alerts and prior text conversations associated with a phone number, quickly relay the text conversation to first responders, pinpoint the exact location of the mobile device via RapidSOS integration, and leverage other features of CAD when managing texts to 911.

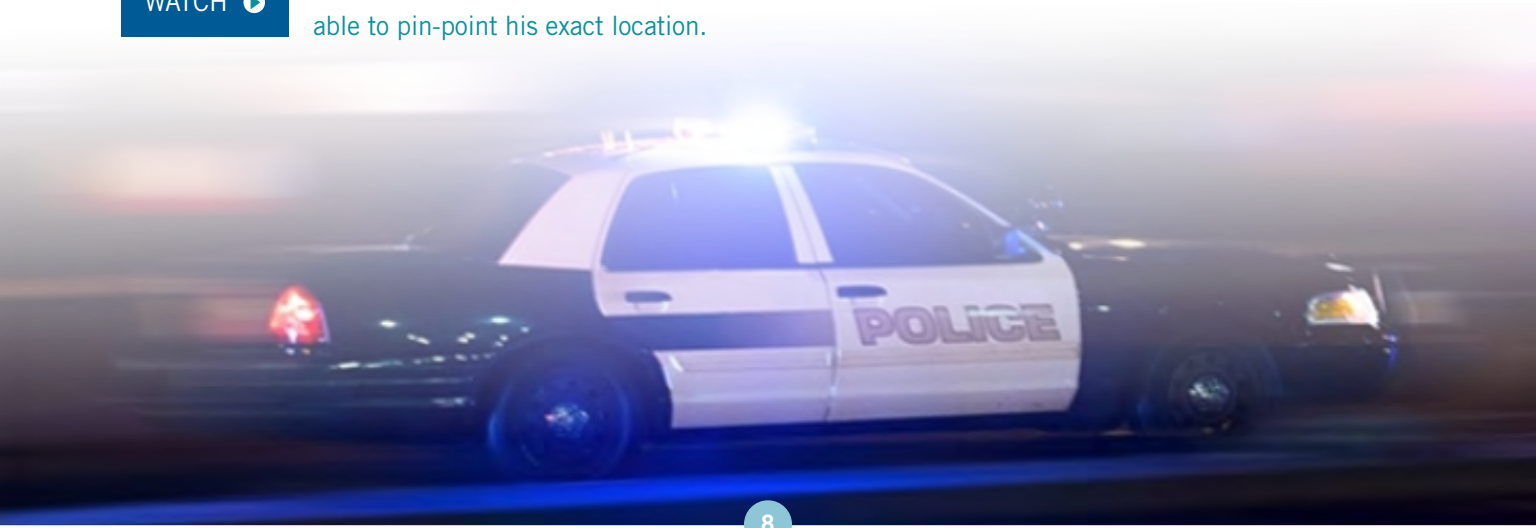
Telecommunicators can also use this functionality to send outgoing messages. With text-to-911 functionality, they can discreetly follow up on domestic or sensitive incidents, notify callers that a first responder has been dispatched, and simplify communication with hard of hearing or deaf individuals. With the influx in accidental 911 calls in recent years due to smartphone emergency call features, outgoing messages also allow telecommunicators to save time responding to hang-up calls with a preconfigured text response instead of a return phone call.

To support this integrated text-to-911 functionality, Tyler designed a solution that can integrate with multiple text-handling handling vendors, like NG911 industry leader INdigital®. A cloud-native solution, text-to-911 requires no additional hardware, so setup is simple. And, because the functionality works within Enterprise CAD, the learning curve is minimal.

Text-to-911 features include:

- Similar workflow as existing voice calls for service
- Text messages automatically associated with and saved to call for service records
- Ability to view alerts and prior text conversations associated with a phone number
- Ability to send outgoing text messages
- Customizable pre-configured responses for hang-ups, accidental calls, and common questions and answers
- Customizable auto-responses for completed calls
- Easy setup, with no additional hardware requirements
- Ability to pinpoint exact location of texter's mobile device with RapidSOS integration
- End-user training available through Tyler University, Tyler's product course library
- Compliance with the latest security standards

WATCH The Paducah Police Department rescued a missing hiker with a text message. Learn how they were able to pin-point his exact location.



Easily Share Mission-Critical Data and Send the Best Responses

Enterprise CAD is the cornerstone of Tyler's Enterprise Public Safety suite. As such, Enterprise CAD allows information to be shared easily with other applications in the suite, ensuring dispatchers, command staff, first responders, and even support staff have vital data in real-time.

With messaging capabilities built-in to Enterprise CAD, dispatchers and first responders can communicate via chat functionality in the solution, ensuring call for service information and any other details germane to the situation are easily shareable. This functionality also helps keep sensitive data off radios, protecting the citizens involved.

91.6%
OF THE U.S. POPULATION IS COVERED BY THE ENHANCED 911 PHONE SYSTEM

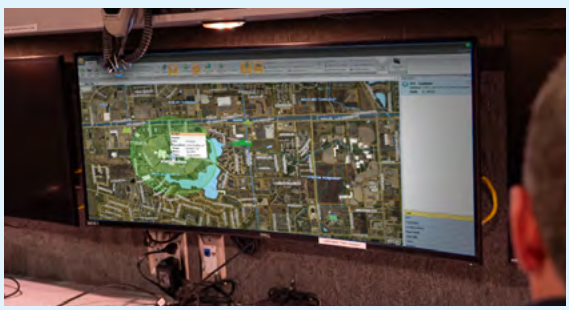
In addition, Enterprise CAD improves communication and multi-agency coordination with CAD-to-CAD interoperability for transferring call information between dispatch centers. With Enterprise CAD's web view, command staff and field personnel stay informed with real-time call and unit status information via a web browser.

WATCH ▶ Learn how the Titusville Police Department in Florida is doing more with less with CAD-to-CAD interoperability.

To ensure current data is always driving decision-making when sending a response, Tyler's unique development partnership with Esri allows Enterprise CAD to deliver industry-leading GIS integration and dynamic response plans to first responders. These NG911-compliant GIS features provide for better routing that factors in travel time, one-ways, height and weight restrictions, turn delays, fractional house numbers, multi-addressable locations, and rural addresses.

With AVL, telecommunicators can track all devices (such as tablets, mobile devices and radios) and units in real-time and respond instantly when a unit calls for backup. Since Enterprise CAD leverages existing local Esri map data and the latest technology, CAD maps are easy to maintain and update. In addition, supervisors and authorized personnel can make changes on the fly, reducing downtime and avoiding interruption of dispatch activity.

Users can also set up geofencing on the Esri map and receive notifications when units or apparatus enter or leave that area. Telecommunicators can use that information to keep track of who's approaching the call for service or if a unit is leaving the jurisdiction. Increase dispatch efficiency even further by setting geofences to make automatic updates to unit status when a unit arrives or leaves the designated area.

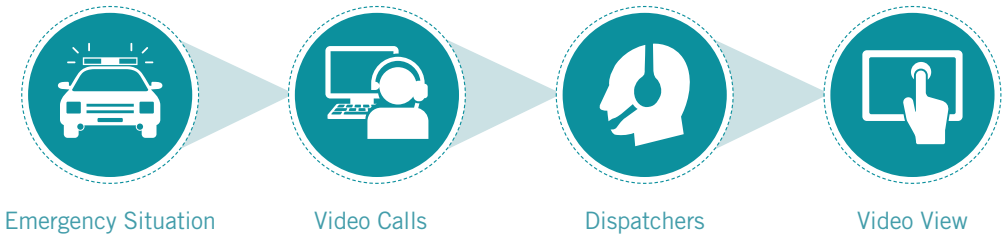


ACCEPT AND SHARE VIDEO MESSAGES IN ENTERPRISE CAD

Video is another emerging technology that can help ensure an appropriate emergency response. Tyler Technologies has partnered with Carbyne, a leading provider of public safety communications, to enhance emergency responses using video. Carbyne's Emergency Communication as a Service (ECaaS) technology integrates into Enterprise CAD, standardizing video sharing from 911 calls and providing dispatchers with live, actionable data leading to more efficient and transparent operations.

In addition, first responders can receive a direct video view of the incident via a mobile device through Carbyne's Responder Connect functionality.

So, how does it work?



The telecommunicator sends the caller a link, which the caller then uses to share live video streaming from their device with 911. The video gives the telecommunicator a real-time view of the emergency, resulting in a more appropriate response.

While telecommunicators can opt not to view the video, the message is still recorded and can be viewed by first responders.

For instance, in the event of a fire emergency, a panicked caller could state that a structure is engulfed in flames, when in reality the situation is less severe (or more severe). A video could help the telecommunicator send a more appropriate and better-informed response.

The integrated EcaaS technology is licensed by workstation, allowing supervisors to control access to the technology. For example, a dispatch center may have a single license for one workstation to receive video calls, keeping this option controlled by call type and need.

Adding video to calls for service can help 911 centers ensure rescue responses are tailored for what's needed most for the emergency at hand.

SHOWING VIDEOS TO FIRST RESPONDERS

With Carbyne's Responder Connect functionality, first responders can receive video views of the situation at hand. The sharing and distribution capabilities enable all responders across jurisdictions and departments to view live caller video and/or pinpoint caller location (including speed, floor, altitude accuracy, and more). Collaboration and communication are improved, resulting in more lives saved and better safety for all involved in an emergency response.

With CAD solutions that work how dispatchers need them to work, dispatchers have the tools they need to send smarter, safer responses resulting in safer communities, better prepared first responders, compliance with state and federal mandates, and less stress on the dispatchers.

WATCH A long list of benefits for Tolland County Mutual Aid as they discuss their success with shared CAD, shared costs, and shared resources within Enterprise CAD.

MOVING FORWARD

Contact us to learn how Tyler can help:

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TYLER TECHNOLOGIES, INC.

Tyler Technologies (NYSE: TYL) is a leading provider of integrated software and technology services for the public sector. Tyler's end-to-end solutions empower local, state, and federal government entities to operate efficiently and transparently with residents and each other. By connecting data and processes across disparate systems, Tyler's solutions transform how clients turn actionable insights into opportunities and solutions for their communities. Tyler has more than 44,000 successful installations across 13,000 locations, with clients in all 50 states, Canada, the Caribbean, Australia, and other international locations. Tyler has been recognized numerous times for growth and innovation, including on Government Technology's GovTech 100 list. More information about Tyler Technologies, an S&P 500 company headquartered in Plano, Texas, can be found at tylertech.com.

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