POLICE1 ⟩

The future of
law enforcement is
data-driven and mobile

To do more with less, agencies are turning to mobile tools to gain efficiency, enable transparency, and make informed decisions

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EDITOR'S NOTE

While it has always been the case that police departments are asked to do more with less, it's especially true today. The demand for greater agency transparency has led to a greater need for new and deeper sources of information just as many agencies are short-staffed.

Most police agencies have replaced paper-based processes with electronic workflows, and new mobile applications are offering not only the convenience of portability, they are enabling data collection, real-time information sharing and in-depth and timely reporting that leads to informed decision making.

In this eBook, explore how mobile tools are evolving to meet the needs of today and setting the stage for a paperless, data-driven future.

Nancy Perry, Editor-in-Chief, Police1

ABOUT THE AUTHOR

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THE FUTURE OF REPORT WRITING
IS MOBILE, COLLABORATIVE, AND DATA-RICH

The mobile office, combined with the need for increased transparency and deeper dives into more data, will require tools that create efficiencies so officers can spend more time in the community — and less time writing reports

Mobile reporting tools have evolved over the past 10 years to be more than a digital replacement for paper forms. The growing need for agency transparency — along with greater needs for data collection — have led to a growing and urgent need for more robust and sophisticated mobile reporting tools.

In addition, with mobile devices in their pockets, citizens expect answers — and action — with just the click of a button. Demands for transparency mean that citizens expect public safety agencies to have the facts at hand and share them quickly.

The need for more and varied types of data and the evolution of mobile tools are changing the way police reporting is done and setting the stage for a paperless, data-driven future.

MORE DATA, MORE TIME

Writing reports takes a lot of time — time that could otherwise be spent in the field, combating

crime and keeping the public safe. A 2019 study by Nuance Communications, a leading provider of speech recognition technology to public safety agencies, found that 56% of officers surveyed spend three hours or more per shift on reporting, and 71% spend one hour or more in the patrol vehicle completing incident reports.

Today, that number is trending even higher, says Duane Kietzman, product evangelist for Tyler Technologies, based on interviews he and his team conducted with more than 125 patrol officers.

"If you were to ask patrol officers, it's trending in the wrong direction," said Kietzman.

A key reason that report writing is taking more time is because more data is being collected and with greater specificity. While this is more time-consuming for the officer, the amount of insight gleaned from that additional data benefits both law enforcement and the public.

States like Texas and California mandated that traffic stop data, including perceived demographic and other details, be collected to monitor and help ensure that stops are conducted without bias. Blind data helps ensure fair and equitable treatment and assists law enforcement agencies in identifying policy violations when they do occur to help highlight training opportunities.

Initiatives like the FBI's National Incident-Based Reporting System (NIBRS) captures a greater depth of detail on crime than its Summary Reporting System, which only aggregates a monthly tally of crime. Incident-based reporting (IBR) collects details like location, time of day, and whether the incident was cleared, along with information on victims, known offenders, relationships between victims and offenders, and property involved in crime. Collecting more details on each single crime incident provides circumstances and context for the crimes and yields useful statistics that agencies can use to map crime trends and inform decisions.

"The goal of the IBR process and project is to help give agencies the information they need to better run their departments," said Kietzman. "The data collected can be used to support requests for additional resources, staffing, and other needs."

Agencies can also contribute their data to projects like [FBI's Crime Data Explorer](#) to expand the public's access to crime data, promote transparency, and improve police accountability.

REINVENTING REPORTING

Speed is important. But as everyone knows, to have quality data output you also need quality data input. Simply converting paper processes into a digital form is not enough to keep up with where policing needs to be in a world with infinite data points. That's why Kietzman and his team at Tyler Technologies are undertaking the monumental task of re-envisioning report writing for the future.

"We did a lot of research to understand what's good about today's tools and where they fall short," he said. "What technology did was to digitize that process, but a lot of it still boils down to those paper-based forms. Technology has evolved from that into shareable, collaborative documentation tools. You just don't really see that in police reporting today."

To illustrate how a minor incident can turn into a major reporting headache, Kietzman gives the example of a traffic stop that turns into a DUI incident. From that one relatively common scenario, numerous reports are generated — from an offense report to an arrest form to a tow sheet.

"What we really set out to do was to help simplify the process and create an experience that allows officers to meet the needs of their department, but work in a way that makes sense to them," Kietzman said. "To them, it's all one event."

DESIGNING REPORTING SOFTWARE FOR THE FUTURE

Law enforcement needs a new report writing solution with modernized capabilities that will streamline the collection of data, connect to analytics, and provide more insight, as well as something that's designed for the way officers really work. Tyler Technologies is taking inspiration from intuitive, intelligent software and applications that police officers may already be using in their personal lives and developing a tool specifically designed for the way law enforcement really works.

Here are seven key ingredients needed to ensure that report-writing software meets evolving law enforcement and agency needs:

1. Connect with CAD and RMS.

Being able to collect data and connect it back to computer-aided dispatch, the records management system, and other systems is crucial. That way, factual details like location, name, date of birth, license plate information, and the like can be pulled into the reporting system from the CAD and RMS, eliminating the need for the officer to enter the data by hand. This saves time and ensures greater accuracy.

2. Tailor software to the way officers work.

On the other hand, you don't always want to rely solely on the CAD or RMS. An officer needs some flexibility to customize the fields to the situation.

"One of the reasons why we're creating a separate report writing product and not just using data entry screens from a records management solution is we want to keep that officer experience tailored exactly for how police officers work," said Kietzman.

If, for instance, there is a traffic violation in a residential neighborhood — say a gang member is pulled over — the report doesn't need the stop information associated with a specific address,

just a block range. If, however, the officer is in a foot chase with someone who throws a bag of marijuana into the bushes, he or she would want to record the precise latitude and longitude of where the evidence was recovered.

3. Start and finish from any device.

Take another common incident: A person's car is burglarized. The responding officer will want to gather as much data about the stolen items as possible, but it may not be feasible in the moment for the victim to provide details like serial numbers on a stolen laptop.

Using an app on a mobile phone, the officer can dictate or type a general description of the stolen property while on scene and quickly move on to the next call. The officer can later update the report from his or her laptop or desktop when the victim is able to provide additional detail.

4. Connect to data analysis tools.

The point of harnessing all the additional data from traffic stops and crime incidents is to be able to make intelligence-based decisions. Reporting software needs to be able to integrate with an agency's data analytics tools to show crime trends and inform agency decisions around resource allocation. Public and aggregated data can also be shared with crime-watch groups, neighborhood associations, and other organizations to provide real-time insights on crime and agency processes.

5. Enable collaboration.

Certain types of incidents, like a domestic violence call, typically require collaboration among several officers. One officer may be interviewing witnesses, another may be separating the victim from the suspect, and another may be collecting evidence. Each officer has a separate version of a paper form to fill out, and someone has the tedious task of collating

that information and making it usable to create the overall picture of what that incident looks like.

"In the real world, when you're in the field, you're collaborating, but the reporting tool isn't supporting that," said Kietzman.

A collaborative software for police reporting might pull factual data like a subject's name, date of birth, incident address, responding units, date, time, and location from the CAD or RMS system into one report that can be shared by all officers involved in an incident.

But it will also allow individual officers to add to specific sections of a unified report. Instead of four reports from four officers, each individual officer will be able to upload bodycam footage or write a narrative from his or her point of view (and according to department policy), into one comprehensive incident report. This reduces the number of individual reports and the amount of time spent inputting repetitive data.

For security and to preserve the chain of custody, access to different sections of the report can also be restricted to need-to-know personnel. Patrol officers involved may be able to upload video and write a narrative, for instance, but only command staff may be able to view or share portions of the entire report. Access can also be audited so that any changes can be tracked to their source.

6. Be intuitive and easy to learn.

Report writing software of the future needs to be intuitive and easy to use, especially for new officers who are digital natives. You shouldn't need a lengthy training on how to use the app, says Kietzman. Instead of focusing on how to use the tool, department leadership can use training time to teach officers how to write a probable cause statement. This will let them focus on the things that really matter and not the more mundane parts of the job.

7. Be fully mobile.

Above all, the next generation of report writing software will allow any officer to be fully mobile, says Kietzman. This applies not just to officers on patrol in their vehicles with their tablets and MDTs. It will also apply to the underserved police populations — detectives, school resource officers, officers in retail crimes divisions, bike cops, mounted patrols, and others who don't typically work from a station or a patrol vehicle. They'll be able to do most of what they need to do from the palm of their hand.

"The report writing software of the future will really help everybody be more efficient and more effective," said Kietzman. "It's empowering them to stay out in the field to be engaged to work from anywhere."

REMOTE VIEWING
How Clovis PD in California keeps track of everything, everywhere in its jurisdiction
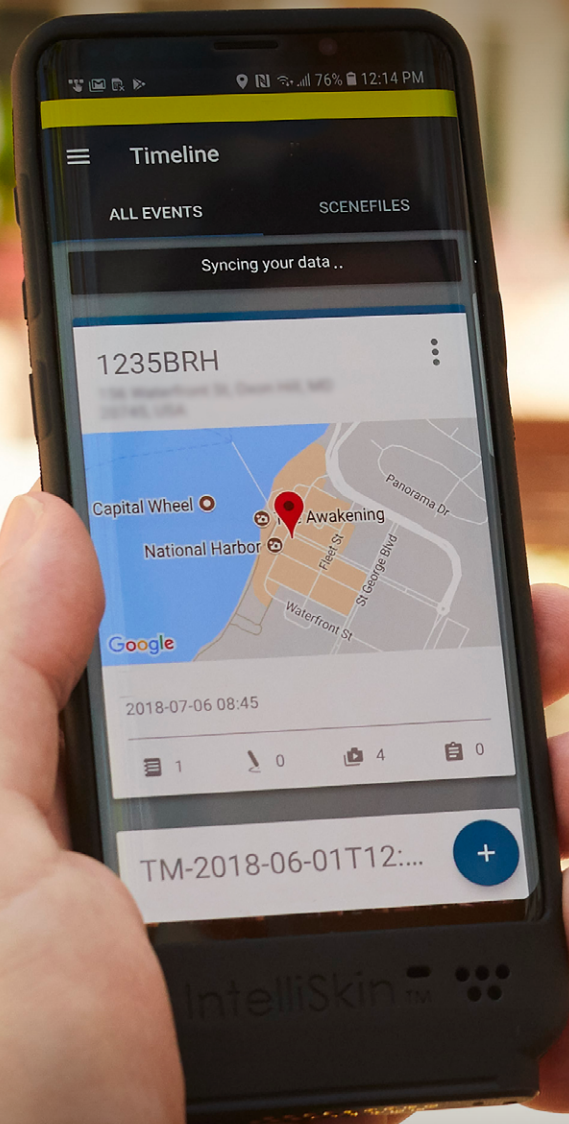
New World ShieldForce enhances tactical awareness and officer safety with access to mission-critical systems in the field and visibility of all units to command staff

While the city of Clovis, California, enjoys a relatively low crime rate, it borders the city of Fresno — which has a population of approximately 500,000 and the second-highest property crime rate in the county. This means the Clovis Police Department often deals with crime spilling over from its neighbor. Like most agencies, Clovis PD is short-staffed, so it has to make up for the shortage by working smarter.

"The only way we can provide the service levels that we currently provide is if we keep refining our operation, making things more efficient and constantly examining our workflows," said Lt. James Munro.

To do this, Clovis PD invests in mobile technologies that help it get more done in the field. A few years ago, an IT analyst on staff at Clovis PD developed an app to help the department keep track of where all its units were deployed.

"We could see the unit status, we could see where everybody was, we could see the map,
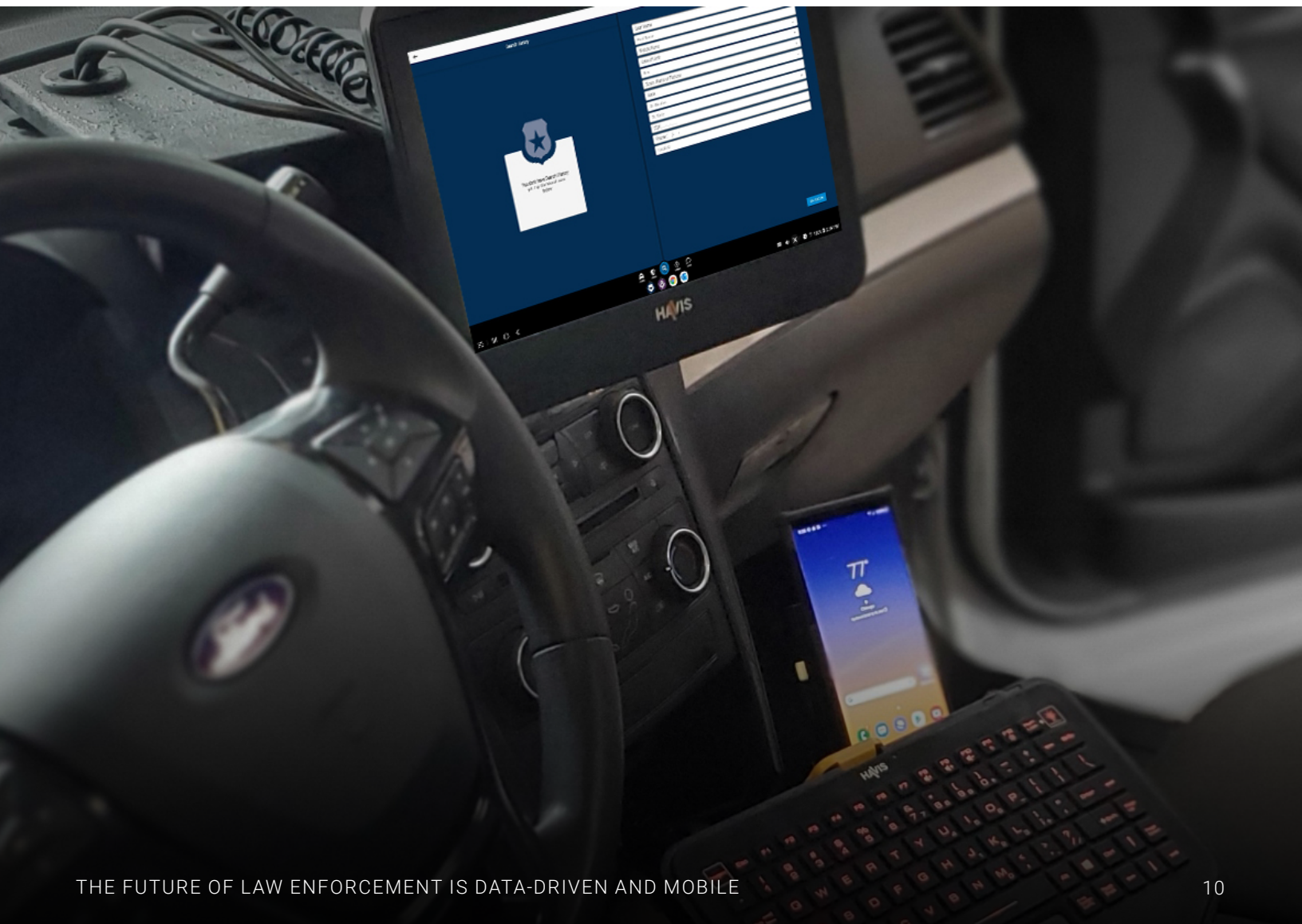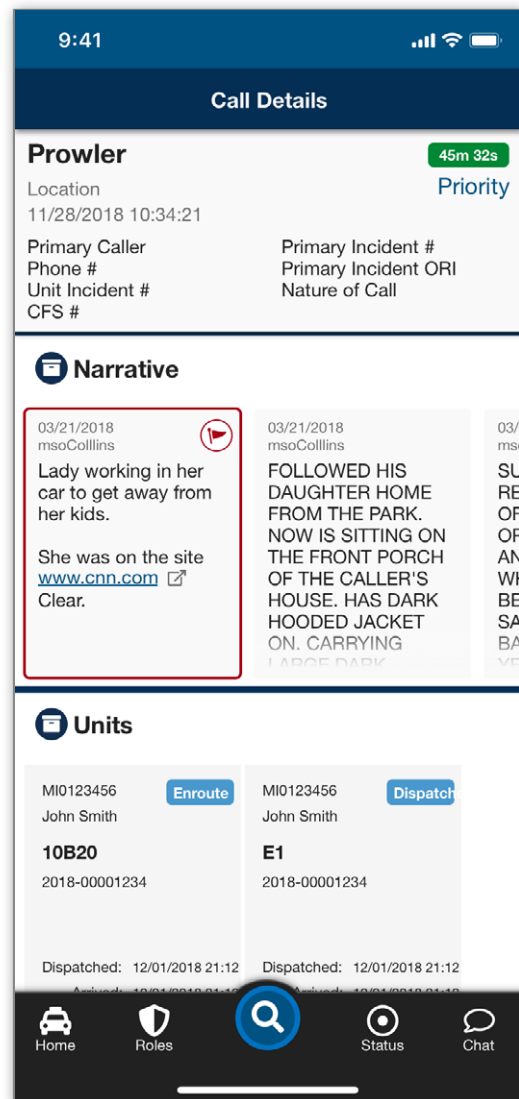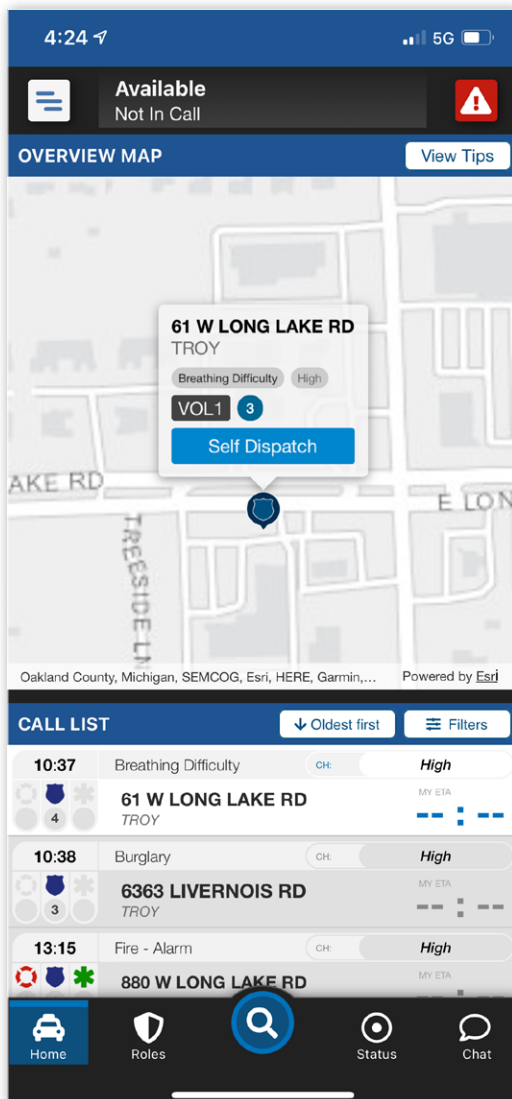
we could click into calls and see where calls were and what the calls were," said Munro. "But it was read-only. Basically, we couldn't send any information back to dispatch — we could just view it."

The department was left high and dry when that analyst left, says Munro.

"We found that it was so valuable in the years that we had it, we couldn't live without it," he said.

Munro went looking for a replacement just about the time that Tyler Technologies was releasing a new mobile app, New World ShieldForce, which

does what the department-created app did, and much more.

ShieldForce provides a vital connection between patrol officers, dispatchers, and command staff, enhancing situational awareness and officer safety by enabling officers to access mission-critical information in the field. Clovis PD, already a Tyler client, was one of the first agencies to fully deploy ShieldForce.

"We are constantly looking for technology that's going to make us faster and more efficient, and that's what this does," said Munro. "It allows us to be more mobile, to be out in the community

more, and to have access to everything we need, literally in the palm of our hand."

TRACKING VEHICLES – AND OFFICERS – FOR ADDED SAFETY

ShieldForce is like taking your CAD or MDT from inside your cruiser and putting it on a smartphone, Munro explains.

Because ShieldForce ties to GPS coordinates from the mobile device — whether a smartphone, tablet, or laptop — it displays not only the exact location of every vehicle on a map, but the exact locations of the officers themselves. If an officer leaves the patrol vehicle to engage in a foot pursuit, for instance, dispatch can easily see on a map where that officer is, thanks to the

embedded GPS on the smartphone in his or her pocket.

"In an emergency, when an officer goes running after somebody, they leave their patrol car," said Munro. "At that point, you don't know where that officer's at, unless they're on the radio and telling you. The neat thing about ShieldForce is, as soon as you leave that patrol car, it starts tracking you as you run. So officer safety-wise, it's huge."

The mobility of ShieldForce also make its capabilities accessible to motorcycle officers, mounted patrols, bicycle cops, undercover officers, and others who operate without traditional access to mission-critical information through in-vehicle data terminals. From the palm of their hand, officers can run a person for

warrants and find out quickly whether someone is dangerous, says Munro.

STAY IN COMMAND, FROM ANYWHERE

In addition to tracking officers for safety, ShieldForce gives command staff visibility into the location of the entire force for tactical awareness and to direct a quick response to critical situations.

This ability to see locations of all units in the force was put to the test when Clovis PD had three pursuits at the same time. Munro was able to monitor and direct all three situations from his iPad. In another instance, Munro was serving as shift supervisor, but got held up on a perimeter position with no other unit available to take his place.

"I couldn't go anywhere, but I'm still responsible for everything going on in our city of 120,000 people," he said. "I felt like had I not had ShieldForce, I would have been blind. I wouldn't have been able to have the information I needed to make the decisions that I made."

Detectives and others who are not at their MDTs can also self-dispatch, which is a huge benefit in a critical situation.

"When the cities fall apart and it's hitting the fan, we don't want our people to get up on the radio and clog radio traffic, because typically there's not enough time for that. We just want them to self-dispatch," said Munro. "If something big happens in Clovis, all the detectives run out of their workspace, throw on their vest, and go, and we can see them on the map where we never were able to before. That's been huge."

Although it's not required that command staff or officers monitor ShieldForce while not on duty, many do out of curiosity to just see what's going on at any given time. During multiple unit response incidents, off-duty officers have monitored ShieldForce and decided to self-dispatch when they see that extra resources are needed.

"It's because of what they're seeing on the app," said Munro. "Situational awareness has been huge, and our department is better connected than it has ever been in the past because of the ShieldForce functionality."

Munro sees mobility as the future of police work. Clovis PD has seen the benefits of mobility with the ShieldForce app in tracking officers and units for enhanced officer safety and reduced response times, in providing access to critical information to officers without MDTs, and in enabling command staff to monitor activity from any device.

"We are always looking to make purchases and investments in technology that's going to make us faster, more efficient, and work smarter, not harder," said Munro. "ShieldForce has helped us do that."

SPRINGFIELD PD
USES TIME MORE EFFICIENTLY
with electronic citation, crash, and stop-data tools

Photos provided by the Springfield, IL Police Department.

Less time on manual processes and reporting means more time out in the community

The 250 sworn officers and 30 civilians of Springfield Police Department in Springfield, Illinois, have their hands full serving approximately 120,000 residents — in addition to the steady stream of tourists who come to learn more about Springfield's most famous former resident, Abraham Lincoln. Like most police departments, Springfield PD has no time to waste.

"Our job revolves around time management," said Assistant Chief Ken Scarlette, who has served on the force for almost 24 years. "Our time can be spent handwriting reports, or our time can be spent patrolling neighborhoods to prevent crime."

Springfield PD uses technology wisely to gain efficiencies that save time. A key investment the department has made is in the Brazos mobile electronic citation solution from Tyler Technologies.

Whether processing citations, collecting traffic stop data, or pulling crash report data for state reporting requirements, Springfield PD's smart usage of technology helps boost efficiency, improve accuracy, and enhance officer safety.

SAVE TIME, MOVE TRAFFIC

Traffic stops are one of the most dangerous tasks officers undertake on any given day. Approximately 41 million speeding tickets are issued every year in the United States, most of which are processed electronically. That adds up to a lot of time law enforcement officers spend on the side of the road, facing potential danger from hostile drivers, inattentive motorists, or individuals with active warrants.

The eCitation module in Brazos allows an officer to complete a traffic stop in as little as 90 seconds. As soon as an officer initiates a stop, Brazos starts capturing data from any internet-enabled device, automating and expediting the citation process by pulling data from a driver's license, VIN, and registration using a built-in or USB scanner. That data auto-populates the

citation form with relevant data from the agency's computer-aided dispatch, mobile, and or records management applications, reducing the need for manual input and helping to eliminate error.

Officers can then have drivers sign the citation on a mobile device, print the driver's copy on a mobile printer, hand the citation to the driver, and complete their part of the citation process. At the same time, the citation records can be transferred to the agency's predefined records or court system.

Accuracy is another benefit of the eCitation function, says Scarlette. One Springfield

PD officer told Scarlette he believed the department's data is far more accurate based on the logic built into not only the Brazos system but the state's system as well. Having an officer write out a long VIN number by hand while trying to remain situationally aware is a recipe for error. With eCitation, that officer can simply copy and paste information from state and department records.

REPORT REAL-TIME DATA WITH LESS BURDEN

Ensuring information flows from a citation report to a crash report is easily done through a simple

paper report to the records section, where it had to be input into a computer database.

"With the eCitation function, officers can pull that form up, populate information after they've ran someone, and automatically send it to the state," said Scarlette. "This is a huge timesaver for everyone involved."

ENHANCE OFFICER AWARENESS AND SAFETY

Besides getting officers off the roadside and out of harm's way faster, the ease with which Brazos enables officers to drag and drop information from one field to another to populate citations or crash reports allows officers to keep their eyes up to focus on their surroundings, which is huge for officer safety, says Scarlette.

drag-and-drop menu. Scarlette estimates the Brazos eCrash function saves officers between 15 and 20 minutes per accident.

Brazos also makes reporting crash data to the Illinois Department of Transportation more efficient, saving time not just for officers on the street, but also for the records personnel that submit the reports electronically. This process eliminates the need for manually creating and mailing crash reports. Tara Sturgeon, a records clerk, says the electronic submissions to the State of Illinois for the report and for the statistical studies are a big timesaver. Another reporting requirement where Brazos saves time is with the collection of stop data. Illinois was one of the first states to require law enforcement to report data for every traffic stop. This data includes information like date, time, location, race, and whether the driver was searched. Prior to implementing Brazos, Springfield PD had to capture this information by hand and send a

Like most police departments, Springfield PD is looking for solutions to reduce paperwork and get officers back into the communities they serve.

"In this day and age of policing, it's important officers use their time and resources effectively and efficiently," said Scarlette. "The eCrash and eCitation function gives back our officers the time they need to patrol proactively."

About Tyler Technologies, Inc.

Tyler Technologies (NYSE: TYL) provides integrated software and technology services to the public sector. Tyler's end-to-end solutions empower local, state, and federal government entities to operate more efficiently and connect more transparently with their constituents and with each other. By connecting data and processes across disparate systems, Tyler's solutions are transforming how clients gain actionable insights that solve problems in their communities. Tyler has more than 37,000 successful installations across more than 12,000 locations, with clients in all 50 states, Canada, the Caribbean, Australia, and other international locations. Tyler was named to Government Technology's GovTech 100 list five times and has been recognized three times on Forbes' "Most Innovative Growth Companies" 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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