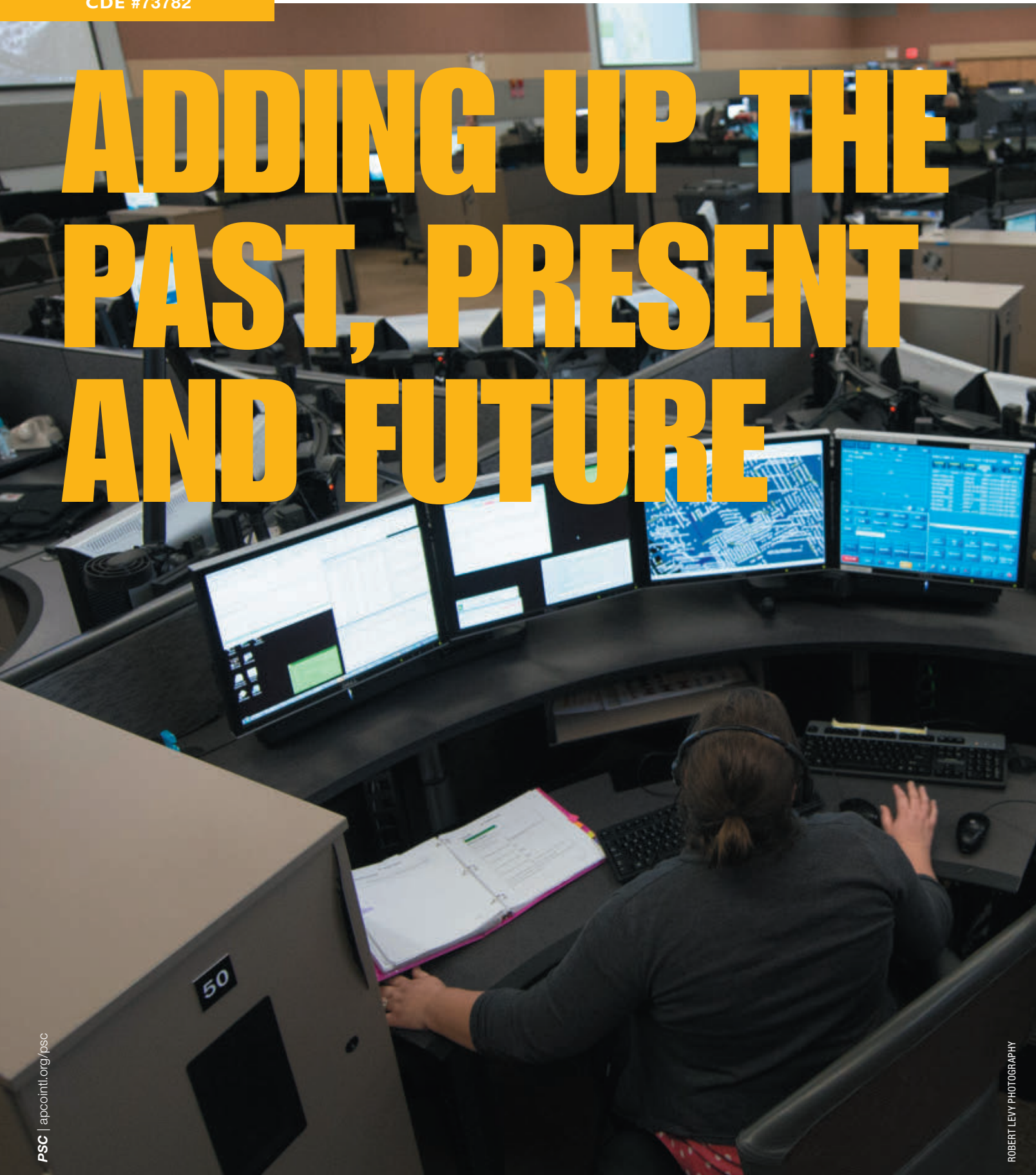


ADDING UP THE PAST, PRESENT AND FUTURE





A ride on the public safety communications timeline demonstrates the promise and perils of its rapidly changing landscape.

By Christine Massengale

Recently, I walked down memory lane and the good old days in dispatch. I talked with a former colleague about the archaic practices of manually changing reel-to-reel recording tapes, paper logging and activity reports, preparing court jackets (by typing the case information on the envelope in an actual typewriter), tearing the border off dot-matrix printouts, using MS DOS code to perform National Crime Information Center (NCIC) functions, and relying on large (very outdated) map boards on wheels.

Obviously, almost all facets of technology have eclipsed the good old days. While we may fondly recall these “simpler” times, we don’t really want to return to them. Aside from technology, we have also made great strides in training, recruiting, self-care, the evolution of job duties and efforts at reclassification.

This article is part history lesson, part progress report and part futuristic projection of how we are already beginning to implement artificial intelligence, advanced location data and third-party solutions to enhance emergency communications. Let's look at where we started, where we are and where we want to go.

WHERE WE STARTED

From the beginning of time, humans have been innovating ways to report, receive and disseminate important, life-critical information and coordinate resources for an appropriate response. The evolution of emergency reporting and response goes back as far as organized civilizations and record-keeping. Even our primitive ancestors devised methods to alert one another to dangers, such as natural disasters or fire, to communicate urgent news, such as the movement of prey animals, disease outbreaks or encroaching enemies from neighboring tribes. One could argue that the modern public safety telecommunicator can trace their origins back as far as the most ancient, documented methods of long-distance alerting and one-to-many communication — from smoke signals, horns and whistles to town criers, call boxes and telegraphs.

In 1935, a group of police communications professionals and representatives from the Federal Communications Commission and the U.S. Department of Justice Bureau of Investigations came together in St. Louis to form the Association of Police Communications Officials (APCO). Their early focus was on radio communications, and they recommended efforts to create an inter-city radio network for communicating all-points bulletins on criminal activity.

The organization quickly developed into an information-sharing network of professionals dedicated to discussing the challenges of communicating across both distance and jurisdiction, precursor to the ongoing challenges of achieving interoperability that still exist today. A bulletin was established and published, as well as the regular annual meetings we now know as the APCO Annual Conference & Expo. The organization would later change its name to the Association of Public-Safety Communications Officials, International. While it is not possible to

outline the entire timeline of APCO in this article, its rich and diverse history, inaugural members and long line of leaders can be discovered in the APCO Historical Collection (apcohistory.org/).

Long after the invention of the telephone, people were still reporting emergencies by dialing the local number for a police precinct, fire hall or medical facility or by requesting the operator to make the correct connection. The concept of a standard emergency number did not come until much later, at the behest of the National Association of Fire Chiefs as a means of reporting fires.¹ AT&T established the three-digit calling code and began initiating the configurations to enable the number. The first 9-1-1 call was made on

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February 16, 1968, in Haleyville, Alabama, by Alabama Speaker of the House Rankin Fite to U.S. Rep. Tom Bevill. Implementation was not immediate. It would be another three decades of gradual adoption before most of the U.S. could boast some form of 9-1-1 service coverage. In fact, the three-digit number was not officially designated the nation's emergency calling number until the Public Safety Act of 1999.²

In the meantime, individuals tasked with answering these early calls for service were often field personnel rotated into the role and assigned to desk duty. Sometimes it was those working light duty or simply whoever happened to be available. There were no national standards for processing emergency calls and often no standards within individual

departments. Questions asked and instructions provided were inconsistent, unscripted and relied on the level of expertise of the individual answering the call and managing the response.

With the ability to route calls via a standard number, agencies began to see a need to develop the role of the emergency call taker — to provide additional training, staffing and job descriptions for the tasks of answering, triaging, prioritizing and dispatching those calls for service. In the late 1970's, Jeff Clawson, medical director for the Salt Lake City (Utah) Fire Department, developed medical call taking protocols for the department, which became the Medical Dispatch Priority System.³ Protocols for other call types would eventually incorporate police and fire responses.

Recognizing the call taker as the first point of contact for citizens, many agencies developed more consistent customer-service models and addressed liability concerns by incorporating these call-processing protocols and medical pre-arrival instructions into the training process.

In the early 1990s, we saw the implementation of enhanced 9-1-1 (E9-1-1), which provided an address and callback number — a fantastic advantage for the telecommunicator until wide use of cell phones came onto the scene. A good percentage of the population does not even remember a time before cell phones. Our digital natives today would no sooner think of leaving home without their cell phones than they would leave without getting dressed. What we did initially leave behind when travelling with our cell phones, was the certainty of our landline locations.

From the mid-1990s to the early 2000s, cell phone adoption became challenging for the 9-1-1 system due to the limited location technology and the suddenly increasing emergency call volume. Everyone was eager to have emergency services at their fingertips, calling in emergencies in real-time and often creating duplicate calls for service.

Between 1998 and 2001, Wireless Phase I would introduce the cell caller number and location of transmitting cell tower site, and then Wireless Phase II pulled the callers latitude/longitude within 50 to 100 meters.⁴ While somewhat helpful, ECCs in urban areas were particularly challenged to locate

callers in densely populated areas, especially among numerous high-rise and multi-home buildings where location data did not provide altitude. Another challenge that compounded pinpointing the caller's location was the fact that they were often moving. The initial location was not always static, especially for callers reporting emergencies while driving. It felt as if the industry had taken many small steps forward and one giant leap backward.

WHERE WE ARE NOW

Almost 57 years after that first 9-1-1 call, the role of the telecommunicator continues to evolve in both the technology used to do the job and the public's expectations for emergency response. Yet at the federal level, the job is still classified as clerical in nature. While there are standards for certain performance aspects, there is no standard definition of the telecommunicator's role and the expected duties performed at any given agency.

We can broadly describe the profession's development in two categories: the work performed and the management of the people performing the work. When we look at all the influences surrounding these two factors — from the technology and tools used to the human resources issues, qualifications, training, and local, state, and federal legislation — progress lanes emerge that can be used to gauge where we are in the timeline of advancements within our own agencies.

Today's telecommunicators gather and prioritize information, render verbal aid and instruction, summarize, document, and maintain the incident record, coordinate the appropriate response, disseminate important updates, and finalize the record of interactions between citizens and responders. In fact, they have been performing those tasks from the beginning. What has changed are the tools they use, the qualifications and training, and the perception of the role from their home agency and by the personnel they serve, the expectations of the citizens, legislation and governing bodies, health insurance companies, unions, and standards-writing organizations.

One aspect of telecommunicator duties often under appreciated is how citizens and first responders expect and rely on the telecommunicator to be always present. Implementation of a single number to

instantly reach emergency resources helped define a certain level of care. We educated the public on how to call 9-1-1, including outreach in communities and instruction for school-age children. Coupled with the need to manage resource allocation and monitor a multitude of radio frequencies (and other duties as assigned), we seemingly locked these employees into their seats in perpetuity.

With the expectation of 24/7/365 attendance, came the over-utilization of personnel who were conveniently "already there" and able to fulfill "other duties as required." Telecommunicators have traditionally been used for other tasks due in part to their fixed, secure locations; sometimes occupying a public-facing station or window, and constantly available. Hence, the role may have included things like checking in property turned in after-hours, handing out spare equipment to first responders, assisting with court clerk duties by typing reports or preparing tickets, data entry of criminal records, verifying warrants, and in some cases even serving as jailers or assisting in monitoring prisoners in holding cells or managing closed-circuit TVs and alarm systems.

The need for vigilance and the importance of being ever-present and able to answer both the phone and the radio within seconds, while deeply understood, has become problematic. The challenge is that we have developed and refined the role in such a specialized way that only those trained to do it, can do it. While that is a good thing, it is also one of the reasons staffing is so difficult to maintain. As the saying goes, if it were easy, anyone could do it. And it is not easy. APCO developed the 9-1-1 Staffing Crisis Summit, one of several events that have been held aside from the Annual Conference, to address how agencies can begin to reconcile staffing issues.

At times, budget constraints have also led agencies to prioritize resources for field responders over the needs of telecommunicators. Greater understanding of the critical role along with public awareness has helped agencies begin to consider the needs of the telecommunicators more fully, but awareness does not create more money in the budget. APCO produced another tool, APCO Project RETAINS, which provides agencies with a formula for calculating real staffing minimums, based on the actual workload and

requirements of an individual agency. This can give an agency proof in hard numbers, for requesting additional staffing or resources. More information on this valuable resource is at appointl.org/retains.

Unfortunately, it often takes a seminal event to highlight the struggles of an agency facing critical staffing shortages, employee wellness or issues of failing technology. News events that focus on failures within this industry have included instances of telecommunicators displaying extreme rudeness, gross lack of training and even criminal negligence. Lapses in technology have included 9-1-1 network connectivity issues, service outages, outdated CAD systems (or no computerized systems at all), and the ever-persistent challenges for achieving radio interoperability, sometimes even within the same jurisdiction. Another complaint that underlines persistent staffing issues is long call answer and hold times, which has in some instances been blamed for loss of life or property.

Before addressing the underlying issues, it is important to understand how intricately these issues are tied to one another. Ensuring adequate staffing, providing the necessary tools to perform the job, and supporting employee wellness and work-life balance cannot be fully realized without proper funding, defined standards and a job classification that reflects the nature of the work being performed.

Fortunately for many agencies, especially in larger urban areas, the partnership between 9-1-1 and 311 services has helped reduce public reliance on the emergency communications center for answering non-emergency calls. Telecommunicators can either refer or transfer these routine callers to 311 services. Some agencies accomplish the same goal with auto-attendant call-processing with options for callers before reaching the telecommunicator. These efforts, coupled with public service campaigns, have helped many agencies reduce call load and refocus their telecommunicators on handling true emergencies.

WHERE WE ARE HEADED

The implementation and adoption of NG9-1-1 has been excruciatingly slow compared to the speed with which new technologies are developed. In the last 10 years,

a flurry of apps, third-party solutions and innovative services have flooded the industry in efforts to improve the emergency response and ease the telecommunicator's workload. While many agencies have implemented pieces of NG9-1-1 and have been receiving text to 9-1-1 for several years now, others are struggling to make this transition.

CAD and telephony products have developed solutions to help streamline some of the tasks that were traditionally handled as phone calls for service, such as ASAP to PSAP for automatically fielding alarm calls and auto-texting abandoned 9-1-1 callers. While these solutions have been available for a while, they may require implementation of products from vendors or costly updates to existing systems. Other technologies developed in parallel with NG9-1-1 include application programming interfaces (APIs) for both Android and Apple devices to provide advanced location data from callers and the ability for callers to share video during emergency calls.

The ability to hear and see the emergency has raised concerns for the

telecommunicator's emotional health, and presented the question of whether they could become witnesses to criminal activities. Many agencies provide protective measures to help telecommunicators limit how they receive visual information from callers. Anecdotally, some agencies report that their telecommunicators find it less stressful to handle calls they can also see rather than only hear. Presumably, their imagination is worse than the reality of many calls, and there is some limited level of closure in being able to see certain aspects of the scene, as opposed to simply hearing and imagining what is happening.

AI is the new kid on the block, and it is winding its way into the emergency response scene, despite any misgivings or reluctance to adopt. What is cutting edge now will likely be commonplace within the next few years. While many agencies have adopted auto-attendants for phone-call triage and automated dispatching for initial page-outs, the refinement and continual development of voice to text

and AI-generated summaries of calls will become more common as well.

As we look back at where we've been, where we are and where we are headed, we begin to recognize that industry standards and best practices provide a measuring stick of an agency's success in meeting expectations for public safety communications. Rather than comparing one agency's progress to another, we can look at how we measure up to a widely established norm or published standard. In much the way we conduct quality assurance, by measuring how well an individual performs according to defined benchmarks, we can also use the interoperability continuum to see how far we've come and how much farther we have to go.⁵ ●

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CDE EXAM #73782

1. The first 9-1-1 call was made in:
 - a. St. Louis
 - b. New York
 - c. Daytona Beach, Florida
 - d. Haleyville, Alabama
2. APCO was first formed in:
 - a. 1968
 - b. 1935
 - c. 1999
 - d. 1926
3. The introduction of enhanced 9-1-1 (E9-1-1) was most beneficial for providing additional information from callers on:
 - a. Landlines
 - b. Cell phones
 - c. VoIP
 - d. Private branch exchange (PBX)
4. Telecommunicators have traditionally been tasked with a wide range of duties in the past due in part to:
 - a. Their 24/7 availability
 - b. Being located within a secure facility
 - c. Their expertise in legal matters
 - d. Their extensive training and qualifications
 - e. Both b and d
 - f. Both a and b
 - g. None of the above
5. Wireless Phase I provided what information for the telecommunicator:
 - a. Latitude/longitude
 - b. Caller name/location
 - c. Caller number/cell tower location
 - d. Cell tower location/cell carrier
6. Wireless Phase II was an improvement, but also still challenging for pinpointing a location, especially when callers were:
 - a. Moving around or driving
 - b. In densely populated urban areas
 - c. In areas with multiple high-rise buildings
 - d. All of the above
 - e. None of the above
7. The rapid adoption of NG9-1-1 has greatly assisted telecommunicators in performing their duties.
 - a. True
 - b. False
8. One of the concerns that has been voiced about telecommunicators being able to view caller videos is:
 - a. That they will save the videos and share them with friends
 - b. That they may become witness to a crime
 - c. That they will laugh at callers
 - d. That they will be confused about what is being reported
9. Some agencies have implemented solutions to help reduce call load in their ECCs, such as:
 - a. Holding calls in a queue before answering right away
 - b. Partnering with 311 services to handle non-emergency calls
 - c. Disconnecting non-emergency numbers
 - d. Public service campaigns asking people not to call 9-1-1
10. Agencies can gauge how well their centers are performing by:
 - a. Comparing themselves to neighboring centers in another county
 - b. Comparing themselves to existing industry standards and defined best practices
 - c. Whether or not they have ever been sued for negligence
 - d. How often their employees file complaints

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