

How 9-1-1 Has Changed in Thirty Years

The work performed by Public Safety Telecommunicators has completely changed over the last thirty years. The way people communicate – and thus the way they reach 9-1-1 – has changed dramatically, from wired telephones limited to homes and offices, to multi-featured smartphones. At the same time, policies and procedures in the law enforcement, fire, and emergency medical services (EMS) fields have evolved. Both of these trends have led to new capabilities and responsibilities for Public Safety Telecommunicators to protect the public and first responders.

When 9-1-1 first began, it was accurate to characterize the officials answering calls and dispatching first responders as office and administrative support. Calls were answered by secretaries, jailers, or whoever was closest to the phone, and they wrote brief notes on cards to keep a record of calls for service. For dispatching, it wasn't common for every police officer to have a handheld radio until the end of the 1980s.¹ Before that, dispatch involved tools like one-way AM radio broadcasts for law enforcement response or community fire horns that used codes to inform firefighters of the location of the fire. Because communications were so limited, early 9-1-1 professionals simply collected and relayed basic information for a response. Thus, thirty years ago, the job was fairly similar to being a taxicab dispatcher.

Today, working as a Public Safety Telecommunicator requires a completely different professional skillset. As noted above, this is partially attributable to advancements in the other public safety disciplines. For example, the development of EMS and hostage negotiation teams did not take place until after 9-1-1 began.² Over the past thirty years, training and certification standards for Public Safety Telecommunicators have been established in areas such as emergency medical dispatch, active shooter scenarios, and crisis negotiation to reflect the ability and expectation for these professionals to perform more advanced protective work.³

The primary driver of the change in Public Safety Telecommunicators' work has been the technology revolution. Cellphones, multi-band and encrypted first responder radios, vehicle telematics (i.e., data provided by a service such as OnStar for an accident about the speed, impact, number of passengers, potential injuries, etc.), text messaging, and public alerting – just to name a few – have significantly changed the way these professionals communicate with the public and first responders. Reflecting

¹ "The Evolution of Police Communications (and what's still ahead)," Frank Broelli, Officer.com (Jul. 23, 2015).

² The first 9-1-1 call was made in 1968. Consider that for EMS, advanced life support training didn't exist until 1979 and wasn't required for paramedics until the mid-1980s. "Birth of EMS: The History of the Paramedic," Dennis Edgerly, *Journal of Emergency Medical Services*, Oct. 8, 2013. The first hostage negotiation team was created in the 1970s by the New York Police Department. "'Crisis' or 'Hostage' Negotiation? The Distinction Between Two Important Terms," Jeff Thompson, *Federal Bureau of Investigation Law Enforcement Bulletin*, Mar. 5, 2014.

³ By way of further example, the first program to provide CPR instructions by telephone was introduced in the 80s. And it wasn't until the 90s that Early Public Access Defibrillation programs were developed, which increased the complexity and importance of having well-trained Public Safety Telecommunicators who could instruct 9-1-1 callers in how to resuscitate a victim of cardiac arrest. American Heart Association, "History of CPR."

these changes, 9-1-1 operations have also shifted over time into specialized communications centers or units within sheriffs, fire, EMS, or police offices.⁴

When 9-1-1 began, not only did many people lack a phone in their housing unit, 13% reported that no telephone was available to them at all.⁵ Approximately 10 years ago, cellphones became more used than landlines to call 9-1-1,⁶ and now more than 90% of adults have a phone in their pocket.⁷ The rapid growth of mobile services and modern professional training gave Public Safety Telecommunicators both the ability and responsibility to play a greater role during emergencies by gathering information and giving advice that can make the difference between life and death.

Public Safety Telecommunicators can give medical instructions for first aid, which was not possible before unless the victim happened to be within arm's reach of a landline phone. When there's an automobile accident, they can analyze vital information directly from the scene through bystanders and vehicle telematics to determine whether extrication and advanced life support resources are needed. During major incidents such as natural disasters, terrorist attacks, and active shooters, Public Safety Telecommunicators can receive an overwhelming influx of reports (including from the perpetrator of an attack) and must quickly triage and analyze calls to prevent further harm and protect field responders. When someone is being abducted, Public Safety Telecommunicators can remain in contact with them to detect threat-related information and use increasingly sophisticated tools for tracking the device's location.⁸ The personal connection made possible by cellphones has increased the frequency with which Public Safety Telecommunicators counsel suicidal persons, domestic violence victims, and children, or serve as the primary contact with a hostage taker. And within the last five years, the FCC adopted rules for text-to-911 from cellular phones which, in addition to serving as a vital tool for the deaf and hard of hearing community to get help, has become an important alternative for victims of domestic violence and suicidal persons who are not comfortable making a voice call to connect with Public Safety Telecommunicators. All of these developments have occurred since the early days of 9-1-1.

Public Safety Telecommunicators' work with first responders has also changed. For example, whereas thirty years ago the 9-1-1 center might only know an officer was in trouble if a bystander used a landline to call them, today the Public Safety Telecommunicator can know when a vehicle stop has been made, if the officer's weapon is drawn, and may even have access to live video from the scene. This empowers them to better protect first responders. Further, advanced technologies such as body cameras, gunshot detection, and real-time location tracking are already being deployed that will increase Public Safety

⁴ The importance of the work performed by Public Safety Telecommunicators and risks inherent to these operations is further reflected in the steps taken to protect the physical security of these locations, for example, by restricting access and installing bulletproof windows.

⁵ The number of households with telephones "available" is from the 1970 Census. See, *Historic Census of Housing Tables*. United States Census Bureau.

⁶ "FCC Seeks to Reform 911 Call Tracking," John Dunbar, *The Associated Press* (Apr. 5, 2007).

⁷ "Technology Device Ownership: 2015," Monica Anderson, *Pew Research Center* (Oct. 29, 2015).

⁸ In 1996 the Federal Communications Commission first established rules for location information from wireless calls to 9-1-1, and the rules were substantially enhanced in 2015.

Telecommunicators' ability to identify when first responders are in danger and take steps to protect their lives.

Technology has also made it more practical for Public Safety Telecommunicators to operate alongside police, fire, and EMS officials in the field. Wireless broadband, particularly in recent years, has empowered Public Safety Telecommunicators to not only assist with voice communications, but to leverage tools such as video shared from mobile devices and real-time location tracking for deployed units in order to improve situational awareness and assist incident commanders on-scene.

These changes have not been without challenges. As the nature of the work performed transitioned from clerical to protective, Public Safety Telecommunicators have had to develop a more advanced skillset and endure vastly different stress levels. For example, because location technology is imperfect and callers are mobile, Public Safety Telecommunicators often must use information about the caller's surroundings, background noises, and other information to find the caller, knowing that the slightest lapse in focus could make the difference between life and death.

In sum, over the last thirty years the work performed by 9-1-1 officials has transformed from a clerical role to the lifesaving and increasingly complex tasks required of Public Safety Telecommunicators. Furthermore, ongoing enhancements to public safety communications technology such as Next Generation 9-1-1 and public safety broadband will produce even more dramatic changes to the way these professionals communicate with the public and first responders. The protective nature of their work will continue to rapidly grow going forward.