The Bill Blackwood
Law Enforcement Management Institute of Texas

Adapting to New Technology in Policing

A Leadership White Paper
Submitted in Partial Fulfillment
Required for Graduation from the
Leadership Command College

By
Kirk V Kuykendoll

Caldwell County Sheriff's Office
Lockhart, Texas
June 2019

ABSTRACT

Law enforcement agencies have had to adapt to new technology used in policing over the years and issues that arose from the implements of them. Each new technology that was created to assist the officer inadvertently created a unique problem that was addressed by agencies and then corrected. The back and forth of these examples are easy to recognize when looking back, but law enforcement needs to be focused on them as they look to the future.

From one way radios being replaced by multi-channel digital scanning radios to clunky radio cars being replaced high performance, high tech police cars, the tools used by the police quickly evolved to keep up with the changes around it. This has led to many evolutions of better technological equipment being implemented and replacing the old technology. In Texas in 2016, a patrol car with a vehicle mounted computer system is being operated in 134 of the 254 counties that are in Texas (COPsync, 2016).

Policing has advanced so far over the years with the available technology that is available to officers with the hopes of benefitting the officers with their safety. Each new step forward has inadvertently left a gap that need to be solved by the introduction of more technology. Safety should always be an agency's primary concern when introducing these new technologies.

TABLE OF CONTENTS

Page

INTRODUCTION

Technology has changed policing over the years. Long gone are the days when patrol officers used a pay phone to call their dispatch to find out what calls for service were holding after viewing the blue alert lights from water towers or other tall structures. Pay phones gave way to radios mounted in patrol cars. Patrol officers no longer had to call dispatch from the pay phone, dispatch could now reach the officer inside his patrol vehicle, but this had unintended consequences. Officers from another jurisdiction that did not have a radio in their patrol car were without critical information about a particular call for service. This created unforeseen officer safety issues. Radios in patrol cars evolved into in car computers that provided critical information to patrol officers while they were traveling to a call for service location. This advancement also surfaced unforeseen officer safety issues. Patrol officers from another jurisdiction that did not have in car computers were without critical information regarding a call for service. This, too, surfaced unforeseen officer safety issues. Officers now have multi-channel digital radios and digital video systems mounted in their vehicles that they are required to use each day. Some officers have the ability to work a whole traffic shift in their jurisdictions and never use the radio mounted in their vehicles. The officers have the ability to simply push a button, swipe a driver's license into the computer, print out a citation or warning and then push another button to show the completion of the traffic stop (Takahashi, 2012). Policing technologies continue to advance and with these advances will come more unforeseen officer safety issues.

Officer safety should be an agency's primary concern when introducing new policing technology. If officers with new technology are operating in an area that other

officers are not equipped equally, those officers with the new technology need to be reminded to take steps to insure their safety. Police administrators should implement policies, procedures and training to ensure officer safety when new policing technologies are implemented.

POSITION

In 1899, the first patrol purposed vehicle hit the streets in Ohio, and from there, agencies began to introduce new technology over the years, which developed them to the patrol vehicles that are being used today (Spillman Technologies, n.d.). In 1920, New York introduced one-way radios in the patrol units that were in use at that time (Spillman Technologies, n.d.). This new technology improved the officer's abilities to be able to respond to calls faster because of the timely manor the information about a scene was provided. Looking at the radios used in the patrol cars today versus the one way radio used in the early 1920s, it is clear that technology helped with the officers' ability to communicate with others to make them more efficient.

This piece of technology, now viewed by most officers as the most basic tool used in day to day policing, inadvertently caused officer safety issues in the beginning (BK Technologies, 2016). As with all technology, this new technology cost money. Not all police agencies were able to deploy the "new radios" at the exact same time due to a lack of radio infrastructure and finical issues (Borelli, 2015). This caused a mixture of new radio technologies use in the same jurisdictions that still used the old technology.

The officer safety issues caused by the mixture of radio and different technologies continued on even into the twentieth century. The events of September 9 2001 in New York City brought a large amount of focus to the need for interoperability

between emergency responders (Marks, 2016) due of the large loss of life in the emergency services that had responded to the twin towers. Congress put in to law that all agencies in various areas needed put in place a way they could have the ability to communicate with each other (9/11 Commission Report, 2004). The most important part of that mandate was the officers needed to be able to use the radios that were in their possession at that time, so everyone, regardless of what agency they were from, could come together seamlessly in a time of crisis and be able to communicate with each other. This increased the focus on officer safety with the ability to have clear communications at the scene.

Dispatch consoles across the United States were enabled with the ability to "patch" other agencies radios to a single channel so all responding officers shared the same information about the incident. This lesson was learned in New York in 2001 as a result to the event that did not put officer safety into a good light. These changes were mandated so agencies had no choice but to put officer safety above financial or technological issues (9/11 Commission Report, 2004).

In 1974, 146 police officers lost their lives to gunfire across the United States (The Officer Down Memorial Page (ODMP), 2017a). In 1975, a total of 202 police officers in the United States lost their lives to gunfire (ODMP, 2017b). This was another stage in the history of policing that an officer safety issue was tackled by technology and introduced into law enforcement in the form of bullet resistant material.

In 1976, DuPont scientists created the first bulletproof vest that was designed to be worn full time by police officers (DuPont, 2016). That same year 110 officers were killed by gunfire in the United States (ODMP, 2017c). The following year of 1977, the

number fell once again to 102 (ODMP, 2017d). It is impossible to state that the introduction of the vest alone was the direct reason for the fall in the number of deaths by gun fire in the 1970s, but it is clear less officers died by gunfire in the following years (Gibbs, Ruiz, & Klapper-Lehman, 2014).

The pricing and styles of the bullet proof vests has changed since the 1970s with many different companies making vests and competition in the market. When the vest was first introduced, this new technology was yet another example of new equipment that was available to some agencies but not to others at the time of its invention (Kolb, 2016). For officer safety concerns, a bulletproof vest is issued by most, if not all professional law enforcement agencies in the United States to their officers. This is for the simple fact that this technology is viewed by agencies as one of the items first issued to an officer to be used for that officer's safety.

The introduction of computers in the patrol cars began in the early 1990s as larger agencies sought ways to increase the response time of the officers in their jurisdictions (Dormash, 2006). The computers were mainly used for dispatching purposes to better organize the calls and allow other officers in their jurisdiction to be able to see who was going were along with the types of calls they were being dispatched too. This technology was very basic at the time and now with the expansion of computers and wireless technology, the in-car computer has become a strong tool for the patrol office to utilize in their jobs (Koper, Lum, & Willis, 2014).

Administrators then had to start looking at the patrol car set up with the implementation of these computers. Officers were starting to find problems with the ergonomics of sitting sideways in a car to type on the computers keyboard more

frequently during their shifts (AON, 2012). Steps were then made to make the consoles adjustable and some agencies even adopted a policy of having two officers in a patrol unit to prevent the driver from having to lean over other equipment to work on the computer or being distracted by the computer while they were driving.

Incidents of distracted driving began to surface with the use of these computers as more and more agencies began to utilize them in the patrol cars. In Arlington Texas, it was documented that in 2002 eighteen accidents occurred in a three-year period involving police officers that was attributed to distracted driving as a result of the in-car computers (AON, 2012). Administrators once again had to develop procedures to lessen the amount of distractions in a moving patrol car (Texas Department of Transportation, 2015).

In the last ten years, the technology of the in-car computer has still grown to what a large percentage of police officers use day to day in Texas law enforcement. The computer systems have safety features added so everyone who is using the system knows if another officer is dealing with a wanted subject or is working in the same area. (COPsync,2016). As stated previously in this paper there are issues that being discovered about the slow disbursement of new technology to all law enforcement entities in the state. Now there are many opportunities for a patrol officer that is equipped with and in-car computer, which is used in place of a dispatcher to be operating in a jurisdiction with that new technology that does have any other officers assigned to that area with the same type of technology.

This brings up another serious officer safety concern in the event of an emergency involving either officer in that jurisdiction. If one officer is being monitored

by a dispatch center that is miles away from the jurisdiction in which they are operating, it will take time for that dispatch center to request help if it is needed from the local law enforcement in that area. If the local law enforcement has been in contact with a subject that has manifested a danger to law enforcement, the local dispatch would not have an opportunity to alert the officer working from their computer if that officer should encounter that subject.

Officers in small jurisdictions who are not equipped with in-car computers still use their name recognition as it comes over the radio to recognize usual offenders. The same could be said about addresses of “dangerous locations” that the Officers hear being broadcasted over the radio. Valuable information is not having the opportunity to be passed between jurisdictions because of this flaw in the new technology where the officers with the in-car computers are not broadcasting information over the radio to be heard by all of the officers in that jurisdiction. Administrators need to search for solutions because officer safety issues should be their primary concern.

In August of 2000, Texas State Trooper Randal Wade Vetter was shot while conducting a traffic stop near San Marcos Texas. The suspect made threats to the local law enforcement officers in the past that he would shoot any police officer who tried to give him a ticket for not wearing his seat belt (ODMP, 2017e). Trooper Randal Wade Vetter was new to the area and did not get an opportunity to have the information of the threat relayed to him prior to that day. A memorandum was written by another DPS Trooper that stated the suspect in this shooting was to be considered armed and dangerous which was either not passed on or relayed to the DPS Troopers working in that area(“Suspect in,” 2000). This is one reason why law enforcement officials need to

find more ways to disseminate critical information rather than inadvertently compartmentalize that information by not recognizing the need for interoperability with all forms of technology implemented in policing.

The technology used in patrolling today is an invaluable piece of equipment. The lessons of the past have driven the technology to improve. The implementation of this technology needs to have policies attached to it to maintain a very basic level of communication to insure officer safety.

COUNTER POSITION

Citizens have expressed concerns regarding their privacy and law enforcement use of technology ("The positive," 2017). The computers now have almost unlimited abilities to provide the officer with many different forms of information as they need it. The purpose of providing technology into the police profession is for an officer to use it correctly to increase productivity and safety. But like in any profession the technology could be used the wrong way also which might cause people to believe that the police now have access to more personal information than they truly need in the field. In addition, the use of the computers also eliminates the need for most officers to talk on the radio most of the day which some could argue that the officers do not have enough supervision to insure that they are using the technology correctly.

Officers can become distracted with technology. Officers working on their computer in the field need to exercise officer safety when they have to devote a large amount of time looking at the in-car computer. If possible, officers should try to get into the habit or have a policy of pairing up with another officer in their jurisdiction or district while they work on the computer making it harder for someone to enter into their area

without being detected (Novesky, 2012). For example, if officers are working in an area that prevents them from working in pairs or with a partner in a safe place, that officer should, at a minimum, inform someone of their location. For officer safety, a simple telephone or radio call to inform others that the officer is going to be stationary at a certain location would increase the safety of the officer. Furthermore, this would inform other officers in the district to keep an eye out and lessen the response time if the stationary officer needs assistance.

Law enforcement agencies have failed to reach the goals of interoperability (the ability of field units and agencies to talk and share data in real time). Because of the cost of these systems, if state or federal grants could be used to help the smaller agencies to be able to purchase and use in-car computers that would insure that all officers working in an area would be using the same systems. In addition this could help shore up any “dead spots” with the signals currently used by officers who have in-car computers around the state of Texas and link all of the computers back together to be used as intended by the manufacture of the data system to increase officer safety once more. Furthermore this would go back to the interoperability concept that came from the congressional mandate after the 2001 attack in New York (9/11 Commission Report, 2004).

Finally, the cost to the states or the governments would be quite steep, and the manufacture of the computer systems technology would be forced to compete for the federal or state grants. This would cause a difference in many of the systems that once again could cause the computers from being able to talk to each other once more. That

would put agencies back to square one with trying to identify a fix for officers not being able to share real time information once more.

RECOMMENDATION

Police administrators should implement policies, procedures and training to ensure officer safety when new policing technologies are implemented. Implementation of new policies, procedures and training for new technologies can be expensive for smaller agencies. If an agency cannot afford to develop their own policies, procedures, and training for new technology they should partner with other agencies in the area and share the cost (International Association of Chiefs of Police, 2015). Policies and procedures need to be implemented to prevent this because the lack of interoperability inherently presents an officer safety issue which is completely solvable. The time it would take to correct this issue would not affect the in-car computer officers' production and would better serve them in the end in case of an emergency.

Law enforcement agencies could look to third party policy, procedure, and training development firms like Lexipol. Lexipol is America's leading provider of risk management policies and resources for law enforcement organizations. There is potentially a small glitch in the bridge between the officers who use computers and the ones that have no computers that needs to be addressed by administrators who have in-car computer officers under their command. Policies and procedures need to be implemented to prevent this because the lack of interoperability inherently presents an officer safety issue which is completely solvable. Other officers were able to know what was going on around them so they can strengthened the relationships between agencies in the same jurisdiction (9/11 Commission Report, 2004).

If some simple steps were to be implemented by the administrators through their policies to their computer using officers, it would increase the safety of those officers. The administrators should not ignore that the sole use of the computers in another jurisdiction is potently a bad practice and policy should reflect procedures to keep officers safe in this environment. Safety should always be the priority when implementing new technology in patrol cars.

REFERENCES

Aon Risk/Global Risk Consulting (2012). Roadside Office Ergonomics: Laptop use in Vehicles. Retrieved from https:// http://www.aon.com/attachments/risk-services/Roadside_Office_Ergonomics.pdf

Borelli, Frank(2015). The Evolution of Police Communications (and what is still ahead). Retrieved from https://www.officer.com/command-hq/technology/communications/dispatch-technology/article/12078073/let-magazine-july-2015-the-evolution-of-police-communications-and-whats-ahead.

BK Technologies(2016). The Origin of Two-Way Radio Communication. Retrieved from http:// www.bktechnologies.com/the-origin-of-two-way-police-radio-communication/

COPsync. (2016). *COPsync provides metrics regarding network size and scope.* Retrieved from http://www.copsync.com/news-media/press-releases/detail/222/copsync-provides-metrics-regarding-network-size-and-scope

Domash, Shelly Feur. (2006). Laptops in Patrol Cars Speed up the Process. Retrieved from https://www.nytimes.com/2006/02/26/nyregion/technology/laptops-in-patrol-cars-speed-up-the-process.html

Dupont. (2016). *Kevlar shows the value of constant innovation.* Retrieved from http://www.dupont.com/corporate-functions/media-center/featured-stories/july-2016/kevlar-constant-innovation.html

Gibbs, J. C., Ruiz, J., & Klapper-Lehman, S. A. (2014). Police officers killed on duty: Replicating and extending a unique look at officer deaths. *International Journal of Police Science and Management, 15*(2), 1-11.

International Association of Chiefs of Police. (2015). *The effects of adolescent development on policing*. Retrieved from https://csgjusticecenter.org/law-enforcement/publications/the-effects-of-adolescent-development-on-policing/

Kolb, Joseph J., MA.Body Armor Injuries: Expect the Unexpected. (08/18/16) Retrieved fromhttps://www.emsworld.com/article/12244254/body-armor-injuries-expect-the-unexpected

Koper, C. S., Lum, C., & Willis, J. J. (2014). Optimizing the use of technology in policing: Results and implications from a multi-site study of the social, organizational, and behavioral aspects of implementing police technologies. *Policing: A Journal of Policy and Practice, 8*(2), 212-221. Retrieved from https://academic.oup.com/policing/article-abstract/8/2/212/1510766/Optimizing-the-Use-of-Technology-in-Policing?redirectedFrom=PDF

Novesky, Pat(2012). Rural Policing: In Car Computers and Officer Safety. Retrieved from https://www.policeone.com/police-products/police-technology/mobile-computers/articles/5587174-In-car-computers-and-officer-safety/

Marks, K. (2016). *Interoperability of public safety communications: Are we there yet? Highbeam*. Retrieved from https://www.highbeam.com/doc/1P3-4142406661.html

Spillman Technologies. (n.d.). The history of police cars. Retrieved from https://www.spillman.com/2013/08/04/history-police-cars/

Suspect in shooting of trooper bitter over taxes, seat belt law. (2000). *Lubbock Avalanche Journal.* Retrieved from http://lubbockonline.com/stories/080500/sta_080500108.shtml#.WXlQXU10zSc

Takahashi, D. (2012). *Motorola's futuristic police car is loaded with computers and cameras*. Retrieved from http://venturebeat.com/2012/10/22/motorolas-futuristic-police-car-is-loaded-with-computers-and-cameras/

Texas Department of Transportation. (2015). Highway safety plan FY 2016. Retrieved from https://www.txdot.gov/apps/egrants/eGrantsHelp/Reports/HSP_FY16.pdf

The 9/11 Commission Report. (2004). Retrieved from https://www.9-11commission.gov/report/911Report.pdf

The Officer Down Memorial Page. (2017a). *Honoring officers killed in 1974*. Retrieved from https://www.odmp.org/search/year?year=1974

The Officer Down Memorial Page. (2017b). *Honoring officers killed in 1975*. Retrieved from https://www.odmp.org/search/year?year=1975

The Officer Down Memorial Page. (2017c). *Honoring officers killed in 1976*. Retrieved from https://www.odmp.org/search/year?year=1976

The Officer Down Memorial Page. (2017d). *Honoring officers killed in 1977*. Retrieved from https://www.odmp.org/search/year?year=1977

The Officer Down Memorial Page. (2017e). *Honoring officers killed in 2000*. Retrieved from https://www.odmp.org/search/year?year=2000

The positive and negative effects of technology in law enforcement [weblog]. (2017). Retrieved from https://policetechnology.wordpress.com/the-postive-and-negative-effects-of-technology-in-law-enforcement/