

**CELL PHONE TECHNOLOGY AND ITS IMPACT ON LAW  
ENFORCEMENT SURVEILLANCE**

**YOU CAN RUN BUT YOU CANNOT HIDE**

BY

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

## **CELL PHONE TECHNOLOGY AND ITS IMPACT ON LAW ENFORCEMENT SURVEILLANCE**

### **YOU CAN RUN BUT YOU CANNOT HIDE**

Imagine that a Commander on your department arrives home after work and finds two tattooed thugs kicking in his front door. Of course the cowardly criminals flee when confronted. After a short chase one suspect is apprehended and one gets away. As it turns out the suspects are parolee brothers with extensive criminal histories. The next day the suspects have a phone conversation that is intercepted by investigators. During the call they are heard orchestrating a plan to kill the Commander. The outstanding suspect's cell phone number is identified and a "PEN" on the phone is activated. Through GPS pings the suspect's location is identified and he is found to be in the Commanders neighborhood and is arrested. He is in possession of a loaded handgun and a floor plan of the Commanders house that had been downloaded from the Internet.

The scenario illustrates what technology can do for law enforcement today. There are also technologies being introduced all the time that enhance the capabilities of tracking and locating suspects. These enhancements primarily deal with GPS improvements, including more precise coordinates and the user's location. These improvements are a part of the generational enhancement of phone location technologies by service providers, and thus are at no cost to the consumer (or law enforcement agency). For example, in past years, service providers could give you a location of a phone within 500 meters. Today some providers can give you a location of within 2-5 meters. As we move forward, tracking and location technologies will continue to become more precise, with no corresponding increase in costs. To maximize the benefit of these

capabilities, law enforcement leaders must embrace their use to better serve our communities.

### **Overview**

Visualize a society in which Public Safety is the most important function of government. The legislation of laws addressing emerging technologies are comprehensive and free of ambiguity. The use of technology, specifically cell phone technology, is supported by the citizenry as a means of tracking and locating criminals. Cell phone service providers collaborate with law enforcement and are quick to provide information upon lawful requests. The use of technology has provided law enforcement numerous avenues to solve crimes and keep citizens safe. For law enforcement to succeed in creating this future, three main issues impacting investigations and prosecutions must be addressed. They include legislative loopholes, emerging technologies and cost.

### **Legal Issues**

Technology exists today that allows law enforcement to locate and track suspects when they possess a cell phone device. The use of cell phone devices used to be a luxury item utilized by the government and the upper class.<sup>i</sup> On a planet with around 6.8 billion people, we're likely to see 5 billion cell phone subscriptions by the end of 2012 according to the International Telecommunication Union. In third world countries cell phones exist in places where there is no electricity or running water. As the proliferation of cell phones continues to increase law enforcement must exploit the opportunities that now exist to solve crime and identify and locate suspects. After all, most criminals utilize cell phones to organize and plan crimes and to evade arrest when they know they are wanted by law enforcement.

Rather than sit back and allow things to unfold without influence and direction, law enforcement must take a proactive approach now and in the future. It's imperative that a comprehensive plan be developed that includes a strategic direction. It must include the collaboration and influence of elected officials, department managers and community leaders to effect the desired and necessary changes that will prepare public safety agencies for the future. The rapid pace of technology has created a gap in the law that regulates and defines the actions of suspects who use technology to facilitate their crimes. The inability to enact laws to close the gaps created by technology and the failure to mandate cooperation by Service Providers hampers criminal investigations now and into the foreseeable future.

The pace of technology is best described as exponential. This rapid turnover far exceeds the ability of legislators and lawmakers to enact comprehensive laws that will address the loopholes brought about by technology.<sup>ii</sup> APIG (All Party Internet Group) reckons the Computer Misuse Act has stood the test of time pretty well. However the fast moving nature of Internet and mobile technology has created an environment which legislators could never have imagined when the law was drafted, hence the need to review the legislation. Further compounding the issue is a lack of clearly defined jurisdictions, which can create conflicts between agencies in deciding who should investigate a crime and where the case should be prosecuted.<sup>iii</sup> Over our history, federal criminal authority has increasingly overlapped with the authority of the states. And it has done so even in areas where the crime at issue seems to be a crime that falls squarely into the state's bailiwick-and does not affect federal interests at all.

Because every State has its own laws jurisdictional issues more often are found in

cases at the “State” level. Issues like this typically surface when the victim lives in a different region than the suspect. A number of issues can also surface when you are dealing with a Service Provider that does business within the United States but is headquartered in another country. A contributing factor is that many elected officials responsible for drafting and enacting legislation do not have the working knowledge of the problem and how technology has surpassed current law. This is evident in the number of poorly written laws that were supposed to address loopholes in current law but because they lacked relevant information they only compounded the problem.<sup>iv</sup> A precise definition of computer crime is problematic. Adding to this confusion is the fact that computer crimes also can vary depending upon the jurisdiction criminalizing the conduct. Additionally, when laws are written regarding technology they must address current technologies while giving consideration to emerging and future technologies.

This requires that legislation be comprehensive and well thought out so that laws remain relative and current well into the future.<sup>v</sup> A decade ago, the Council of Europe (COE) instituted the Convention on Cybercrime (COC), which is to date “the first and only treaty to deal with breaches of law over the internet and other information networks.” Law Enforcement must collectively petition Elected Officials to garner support and establish a consensus about what laws need to be enacted and assist in the drafting of legislation to ensure they are comprehensive and well written. The San Bernardino County Sheriff’s Department has a Lieutenant assigned full time as a “Legislative Liaison” in Sacramento. Her responsibility is to monitor pending legislation and garner support or opposition for issues that will directly impact the department.

The need for State and Federal regulations for communication service providers is more important now than ever before.<sup>vi</sup> Companies, advocates and policy makers need to resist the imposition of broad and ill-defined technological design mandates on communication services and products. The mandates must also provide a foundation for law enforcement to obtain information pursuant to a lawful order by a member of the Judicial Bench regardless where the Service Providers are located.

### **Technology**

Never before has technology allowed us such access to information as we have today. It impacts much of our personal lives and certainly our professional lives. The benefits to law enforcement are maximizing efficiency while minimizing manpower. Technology allows information to be disseminated at a pace never seen before. Technology including GPS, digital video, and tracking software can act as a force multiplier at a time when many agencies are downsizing because of budget shortfalls. Other issues relevant to cell phone technology are satellite assisted messaging and multi-frequency smart phones. In order to track and locate phones, we must understand the changing trends so we can adapt and transition with new technology rather than lag behind.<sup>vii</sup>

As computers have become more a part of our lives more and more of this technology has transferred itself to our mobile devices. They now perform far more functions than they were ever intended to. This includes digital messaging (texting), Internet access, and numerous applications for business and pleasure. Accessing this information during a criminal investigation can provide numerous investigative leads and in some cases evidence.

Many of the technologies mentioned are already in use but as it is refined, its use will greatly increase. For example some of the latest cell phone tracking technology (Stingray Technology) can isolate a targeted phone by mimicking a cell tower and then provide an exact location of the phone. This technology has been around for about 10 years but recently the improvements have been drastic.<sup>viii</sup> The feds use them hoping to have the phones of people they're tracking connect to the device (instead of a real mobile phone tower), and then using signal strength to figure out how far away they are according to an internet article by Mike Masnick.

Certainly, the military uses a number of highly secret forms of encryption in both cell phone calls as well as the transmission of digital messages and highly sensitive digital data. Jeff Shaner is a Program Manager for E.S.R.I in Southern California and has been a big part of the development of different cellular based communication software for the government as well as the military. According to Shaner this technology will be available to the public for personal and private business and criminals who could use it to facilitate the commission of crimes. When that day comes law enforcement must be prepared. This preparation should include what the current capabilities are and what and how future cell phone technologies will impact the tracking and surveillance of suspects. The use of encryption will impact investigations when a cell phone is being tracked and monitored pursuant to a wiretap if the involved agency does not have current technology to deal with the encrypted data. Because this type of technology is fluid it will be a challenge to keep current.

Other emerging cell phone technologies will include the integration of information from computers including calendared events, weather, and even real time

traffic information.<sup>ix</sup> IBM predicts that commuters will get personalized commuting information, possibly on a cell phone or desktop computer, that combines a person's calendar for a given day with recent traffic reports from multiple sources. The information could come from tracking the speed of cars on a freeway, based on the time it takes for a cell phone to move from one cell tower to the next one. This technology along with GPS would allow investigators to sit behind a computer and track a suspect's movement and location without ever leaving the office. This is a much more efficient way to track a suspect's movements compared to using air and ground personnel.

### **Cost**

The impact of the current economic recession has had a huge impact on law enforcement that has no end in sight. The majority of all public safety agencies have had to reduce staff either through attrition or layoffs. Some agencies have had to reduce staffing levels by 40% while the demand for services stays constant or increases. Because public safety funding has been so drastically cut it's important that managers understand how the technology works and how it's used and more importantly what the on-going costs will be to maintain. This should also include training and the upgrading of equipment as new technology is introduced. A good understanding of cell phone technology and how it can act as a force multiplier by allowing suspects to be tracked without ever leaving the office will allow managers to make sound fiscal decisions on what technologies to invest in currently and in the future.

In California the State Prison System was mandated to reduce overcrowding by releasing prisoners back to the counties where they were arrested and prosecuted. This then created overcrowding in the county jails, necessitating the early release of thousands

of prisoners back into the community. Although this just recently started there is a good probability that crime will increase because fewer criminals will remain in-custody. With this in mind the technology that allows criminal to be located and tracked could be a good alternative to jail.

The series of events just discussed are the “perfect storm” that will change how we live in California. For law enforcement to even the playing field we must work smarter and exploit technology in every way to keep our communities safe. For the past ten years the cost of technologies introduced to the marketplace has decreased. This decrease in cost was caused, in part, by the economy but primarily because of competitive market place and the ability to mass-produce products thereby decreasing the cost of the individual unit. Additionally, technology has allowed manufacturers to produce smaller devices with more capabilities (nano-technology) utilizing less materials. Another aspect is that many corporations have outsourced labor to third-world countries, which greatly reduces labor costs and also lowers the consumer’s purchase price.

Although most law enforcement agencies are financially strapped they must find ways to fund the purchase of technological equipment to fill the gaps in personnel. The personnel that will utilize the technology should have input regarding what equipment will be purchased and what the capabilities will be. This will ensure that the needs and the expectations of the users will be met. This funding must include training relative to current and emerging technologies and a well-conceived plan to ensure the proper technologies are implemented. Another consideration is pooling resources with other agencies to minimize costs and maximize efficiency. It would also be wise to consider what current technologies can be integrated with new technologies when they are

introduced. In some cases it might be wise to outsource some functions to reduce cost and or lease equipment until it becomes antiquated.

### **Challenges**

Maintaining a progressive forward thinking organization that embraces technology is always challenging. In light of the current economic recession and the public's expectation of privacy and distrust of government only adds to the suspicion that the government is over stepping its authority as it relates to how information is collected by law enforcement. A number of privacy advocates including the ACLU are leading the cause. With this in mind, it's imperative that law enforcement not cut corners when conducting investigations utilizing cell phone technology to track and locate suspects. Law enforcement must be transparent and approachable in how they conduct investigations and arrest suspects. Departments should work together with other state and federal agencies and maintain a consistent method of investigation utilizing court orders, search warrants, and subpoenas when accessing information relative to criminal investigations. To enhance and build relationships within the community law enforcement should seek out community groups to explain how technology is utilized to be more efficient and more effective with fewer resources. By fostering trust and relationships with the community and maintaining a transparency the support from the community will be there when it's needed.

### **Conclusion**

The scope of this article was to present a snapshot into the future and how the use of cell phone technology can greatly enhance law enforcements ability to locate criminals

who are trying to elude arrest. Prior to cell phones suspects were tracked down by focusing on criminal associates, family members, girlfriends or information received from an informant. This usually involved hours and sometimes days of surveillance before a suspect was arrested. The cost associated with surveillance (overtime) as well as the drain on personnel resources could impact other operations within a law enforcement agency.

Today most criminals possess cell phones and utilize them to plan their crimes and evade arrest. Once a suspect is identified and their cell phone number is identified they can be tracked and located without ever setting foot on the street. A number of criminals utilize social media sites using smart phones to boast about their activities and to communicate with other criminals. This information is a treasure trove of investigative leads that can assist in locating the suspect. Exploiting this information allows law enforcement to more efficiently utilize resources, cut costs and locate and arrest suspects before they can commit more crimes. Cell phone location technology is a critical tool that law enforcement must exploit to keep communities safe.

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<sup>i</sup> Lance Whitney, CNET Reviews, Cell phone subscriptions to hit 5 billion globally (February 16, 2010) Retrieved from [http://reviews.cnet.com/8301-13970\\_7-10454065-78.html](http://reviews.cnet.com/8301-13970_7-10454065-78.html)

<sup>ii</sup> John Leyden, MPs Hold Inquiry into UK Computer Crime Law, [text on-line] (The Register, biting the Hand that feeds it) March 4, 2004, available from <http://www.the-register.co.uk/2004/03/16/mps>

<sup>iii</sup> Julie Hilden, FindLaw's Writ (The Line Between State and Federal Criminal Jurisdiction). Available at <http://writ.corporate.findlaw.com/hilden/20031015.html>

<sup>iv</sup> Ellen Podgor, Encyclopedia of Crime and Justice (2002). Available at [http://www.encyclopedia.com/topic/computer\\_crime.aspx](http://www.encyclopedia.com/topic/computer_crime.aspx)

<sup>v</sup> Stephen Treglia, Are International Cybercrime Laws a Hopeless Fantasy (American Lawyer.com) Available at <http://www.law.com/jsp/lawtechnologynews/Pub>

<sup>vi</sup> By CDT Staff, UAE, Blackberry Fight Highlights Global Internet Freedom Risks, (International, Global Internet Freedom, More Issues in Security & Surveillance, August 4, 2010), [text on-line]

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- <sup>vii</sup> Future Cell Phone Technology, How Future Cell Phone Technology Might Evolve. Available at <http://futurecellphonetechnology.org/>
- <sup>viii</sup> Mike Masnick, Techdirt, September 27, 2011, (Details Emerging on Stingray Technology, Allowing Feds to Locate People by Pretending to be Cell Towers. Available at <http://www.techdirt.com/articles/20110923/17251716080/details-emerging-stingray-techn...>
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