



National Resource and Technical Assistance Center for Improving Law Enforcement Investigations

Using GPS Technology to Investigate Crime Trends

Commander Travis Martinez | Redlands Police Department | November 2017

Introduction

As police departments across the nation are focused on searching for methods to strengthen and promote public trust, law enforcement leaders recognize that they must also continue to effectively respond to and investigate crime. Most communities appreciate the effort law enforcement agencies have put forward as they strive to enhance police legitimacy, but many citizens and business owners are understandably concerned as some agencies struggle to find the resources to investigate property crime.

In 2011, the Redlands Police Department (RPD), located 60 miles east of Los Angeles, faced a similar predicament. The fiscal climate at the time mandated a 26.5% reduction in the number of sworn officers, forcing the department to decrease their ranks from 98 officers down to 72. Paid overtime was limited to only the most egregious of crimes. With a strong history of allocating the resources needed to investigate every type of crime, the Redlands Police Department was growing increasingly frustrated as property crime was starting to climb at an alarming rate.

An Innovative Solution

In response to a high number of vehicle burglaries at a local fitness center parking lot, a patrol lieutenant was convinced that technology was the key to balancing exceptional police work with the current budget crisis. He believed the GPS technology that banks were using to protect their assets could also be utilized by law enforcement agencies to essentially create an electronic stakeout, where one simple device took the place of a surveillance team. A simple Google search put him in touch with a Law Enforcement Division member of one of the leading GPS tracking companies, who agreed to test the product to address hot spot crime. During the initial test, a bait vehicle containing a laptop computer equipped with a motion-activated GPS device was left secure in the parking lot of the fitness center at 6:30 a.m. Within 45 minutes, officers and dispatchers were alerted that the computer was on the move. Responding officers quickly confirmed that somebody had smashed the passenger's side window and stole the laptop. Within 15 minutes, two suspects were in custody and detectives were able to clear 10 other previous vehicle burglaries.

Investigative Success

The success of utilizing GPS technology to investigate the vehicle burglary crime trend at the fitness center created a new strategy, giving detectives tools to conduct electronic stakeouts. The examples

below demonstrate how the technology has helped RPD detectives recover stolen property, make arrests, and quickly close cases.

• **Pharmacy Burglary** Detectives installed a GPS tracker inside a promethazine bottle and deployed it behind the counter at a local pharmacy. Two months later, the device activated and responding officers took four gang members into custody as they fled with the bottle and other narcotic medications. These same subjects matched the descriptions of previous burglars who had hit multiple pharmacy locations during the previous six months in Southern California.

• **Serial Armed Robbery** A suspect who was appropriately named the Construction Bandit due to the attire he would wear when he committed the robberies had struck 12 stores in the Inland Empire. Armed with a revolver, the suspect would accost the store manager at gunpoint and force her to open the safe while threatening to kill a clerk. Detectives worked with the store's corporate security and deployed trackers in cash packs at stores in the area. Within three weeks, the suspect struck again, but this time, with the aid of the tracker, he was taken into custody 15 minutes after the robbery.

• **Construction Site Theft** Detectives installed a tracker on a donated chop saw and placed it at a construction site that was experiencing theft in the middle of the night. Four separate arrests were made during a three-week span.

• **Vending Machine Theft** Several local vending machines were being broken into during the night. Video surveillance cameras had captured images of the suspect, but investigators were not able to identify the subject. Detectives sewed trackers into the cloth money collection bags at several vending machines around town. Four nights later, the tracker activated and within minutes, the detectives had apprehended the prolific thief.

• **Cemetery Theft** A group of mothers who placed items at their children's gravesites complained that some of the items were being stolen. One of the moms sewed a GPS device into a girl's purse and placed it near her daughter's grave. That same night, the device activated, and police took two females into custody for stealing items from multiple gravesites. During a search of the suspects' house, police recovered more than 30 items that had been previously stolen from the cemetery.

• Appliance Theft Thieves were targeting appliances that had been installed in a newly built housing development prior to the new homeowners moving in. Police gave four GPS devices to the foreman who self-deployed the devices on the bottom of several refrigerators. That same week, one of the devices activated. Police took two people into custody.

The simple adaptation of existing technology, coupled with the initiative of one patrol lieutenant who was intent on addressing a community's theft problem, has helped create a new crime fighting strategy for the 21st century— a strategy that not only puts officers in direct contact with career criminals, but one that also helps law enforcement leaders strengthen public trust, enhance community policing, and give their detectives a tool for solving crime sprees. When community members are offered an opportunity to partner with law enforcement in an effort to apprehend criminals, they feel encouraged, valued, and protected.

About the Technology

The specialized GPS tracking devices utilized by the RPD are only available to law enforcement and corporate security teams. They cost approximately \$450 with an \$18 per-month cell service fee. The most important component of the device is the built-in radio frequency transmitter, which enables law enforcement to precisely locate the device in any location. Additional capabilities include:

- Ability for any web-connected device to modify the programmable features and monitor any activation of the GPS device.
- Ability to be used without downloading software onto department computers.
- Rechargeable batteries that give authorities 3-16 hours to locate the device once it is activated. (However, most apprehensions take place in less than 15 minutes, and none of the previous activations at RPD took longer than 60 minutes.)
- Ability to be programmed to provide location updates from every 6 seconds to 60 minutes and to automatically check in with computer servers anywhere from 5 minutes to 24 hours.
- Ability to be deployed in the field for up to two years before the device needs to be recharged.
- “Pinging” feature that forces the device to come alive.
- Hibernate feature that allows the device to be deactivated until a certain time. This enables law enforcement to allow their community partners to self-deploy the devices, making most deployments a mere 15-minute time commitment for law enforcement.
- No-motion reset feature that enables the device to automatically reset itself after a set amount of stationary time. This ensures the battery is not drained if an accidental activation occurs.

Impact

RPD appears to have discovered an affordable and effective method of addressing crime trends as they arise. Shortly after RPD began deploying the devices in 2011, the vehicle burglary rate in Redlands began to steadily decline. From 2010 to 2011, the vehicle burglary rate decreased 12.3%. From 2011 to 2012, the rate decreased another 3.4%. Between January and May 2015, the vehicle burglary rate decreased 12% compared to the same time period in 2014. Although it is difficult to pinpoint the exact causes for fluctuations in the crime rate, the GPS tracking program was the sole program implemented during those years to address the crime of vehicle burglary. What makes this even more compelling is that these decreases occurred during periods when the national property crime rate increased by 11%.¹

The goal of RPD’s GPS tracking program is to apprehend those who are directly driving up the crime rate.

Several criminology studies have found that the 80-20 rule applies to crime rates— 80% of crimes are committed by 20% of the criminals.² RPD’s GPS program is designed to put officers in direct contact with the 20% of people who are intent on repeatedly committing crime. Policy guidelines adopted by RPD prohibit the practice of simply deploying an attractive item in a lower socioeconomic area and hoping somebody will take it, in order to drive up apprehension rates. All of RPD’s deployments are geared toward addressing current crime trends in the community. If the local shopping center is experiencing thefts from unlocked vehicles, officers will deploy the devices in an unlocked vehicle. However, if the data does not support deploying unlocked vehicles, the vehicles remain locked with the windows rolled up.

Most all of the deployments at businesses and residences require some form of partnership with the community. Victims are more than eager to allow the police to “bait” their property with a GPS device. Similar to LoJack, courts have repeatedly ruled that people have the right to protect their own assets using GPS technology. RPD has purchased 20 GPS devices using asset forfeiture funds, allowing RPD to help residents and business owners protect their property free of charge, while giving police the venue to catch the thieves. Once stolen, police have the authority to track the property in real time per People v. Barnes (there is no Fourth Amendment violation when the information generated by the GPS, with the owner’s consent, is only a part of the objective reasons leading to the decision to detain).³

The concept of going after criminals repeatedly committing these crimes has been effective in Redlands. As part of a 2013 California POST Command College project that studied the impacts of GPS technology on police departments,⁴ the author researched the criminal histories of the first 89 arrests by the RPD. Out of those first arrests, 79 of the subjects were adults, and 77 out of the 79 had previous arrests in California. Those 77 people were arrested 1262 times for an average of 16.3 arrests per

individual. Other significant facts learned from the study include: 22 of the subjects were on some sort of supervised release at the time of arrest; 19 of the subjects had warrants out for their arrest; and 12 of the subjects were in possession of other stolen property taken from other thefts.⁵ These staggering statistics suggest that GPS tracking programs have the capability of putting police officers in direct contact with the career criminals who prey on people in a community. With such a tremendous impact, it is no wonder that law enforcement agencies across the United States have begun deploying a similar strategy to address crime trends.

RPD has now made 289 arrests using the devices that were deployed in hot spot crime areas. These include robbery and burglary of convenience and pharmaceutical stores, theft from construction sites and cemeteries, and theft of delivered packages, laptops, bikes, and metal. The devices have also been used to apprehend subjects who were placing skimming devices on gas station pumps.

Countless other partnerships with community members have been forged that have not resulted in an arrest. Even in those cases, however, the partnership itself has strengthened police legitimacy. Residents and business owners are highly appreciative of the efforts made to address these crime trends.

RPD has recently taken the use of GPS tracking technology to protect the public a step further. In response to a rise in residential burglaries where residents were away on vacation, RPD created the While You're Away program. If residents are planning a vacation, they can submit an application via the department's website and pick up a laptop equipped with one of the hi-tech GPS devices at the police department. The resident will then deploy the laptop on the kitchen table prior to leaving for vacation. If somebody breaks into the house while they are gone, they would most likely steal the laptop, or at least move it, causing immediate notification to the dispatch center. If the homeowner wishes to protect something else in the house like a flat screen television or jewelry box, he can even borrow a device from RPD and self-install it. The homeowners now have peace of mind that their residence is virtually protected by an electronic surveillance 24 hours a day, seven days a week. Participants have expressed a great deal of satisfaction with the police department, knowing that if somebody were to break in, the department would respond immediately.

Although this service is free of charge, residents have donated up to \$200 to help sustain the program and purchase additional devices. This program is also being replicated at police departments across the nation. The success experienced by the Redlands Police Department, coupled with all of the other arrests by law enforcement agencies nationwide, suggests that the future for law enforcement in

combating property crime lies with specialized GPS tracking technology. Limited only by the initiative, imagination, and creativity of the person deploying the tracking mechanisms, the devices can be utilized to address numerous types of crime trends. They have proven to be a game changer in those agencies that have already implemented the program. For a few hundred dollars, police departments can start providing 24/7 electronic surveillance in hot spot areas. This low-cost, high-tech tool has proven to be essential for catching thieves and enhancing police legitimacy at law enforcement agencies throughout the country. The only question law enforcement agencies will be asking is, "Why didn't we do this sooner?"

About the Author

Travis Martinez is currently a commander with the Redlands Police Department overseeing the Operations Division. During the fiscal crisis of 2011, Lt. Martinez sought an innovative and affordable strategy to address crime trends occurring in the community. RPD began deploying specialized GPS technology to apprehend those that were driving up the crime rates. Experiencing immediate results with arrests for crimes such as vehicle burglary, armed robbery, and commercial burglary, Lt. Martinez focused his California Command College project on how GPS technology could be used to address all crime trends and wrote an article on the Redlands program that was published in the January 2014 edition of Police Chief Magazine. The facilitators of Command College selected Lt. Martinez's project to be presented at the Command College graduation attended by several law enforcement executives from across California.

Lt. Martinez holds a Master's Degree in Public Administration and has presented at several international, national, and state conferences on how to address crime trends utilizing GPS tracking devices. He has also taught POST-approved classes on the topic in several states.

Lt. Martinez created the While You're Away program, which was highlighted in the February 2014 COPS Community Policing E-Newsletter and is now being replicated by other police departments throughout the United States. Throughout his career he has received numerous awards including being named the 2012 City of Redlands Safety Manager of the Year. For its efforts in helping the community address crime trends, the Redlands Police Department received the RISE Award as the 2015 Law Enforcement Agency of the Year at the International Association of Chiefs of Police Conference.

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Project Websites
centerforimprovinginvestigations.org
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