GPS SUPERVISION IN CALIFORNIA: ONE TECHNOLOGY, TWO CONTRASTING GOALS

BY **STEPHEN GIES**

Two NIJ-supported studies with very different results show that GPS technology may be used to help prevent crime in various ways.

Example of a one-piece offender tracking device that uses GPS and other technologies to monitor a person's location.*

Using sophisticated technology to control crime generally appeals to both the public and policymakers, because it prompts visions of reduced crime and improved safety. GPS technology can track an offender's movements in real time and is designed to reduce crime by enhancing the likelihood that law enforcement will detect criminal behavior. For the public, this conveys the notion of a virtual prison, in which offenders are prohibited from engaging in any wrongdoing. Critics, on the other hand, maintain that the idea of pervasive and constant surveillance offers a false sense of security and does little to actually prevent crime; they often point to horrific crimes that have occurred while offenders were under GPS supervision.[1]

Despite the absence of solid evidence for either position, the potential benefits outweighed the criticism and spurred many communities across the country to invest in GPS supervision equipment in the mid-to-late 2000s. Among these were two California counties that initiated programs that were structurally similar but conceptually quite different. The California Department of Corrections and Rehabilitation (CDCR) began a pilot program in San Diego in July 2005 to test the use of GPS technology as a deterrent for high-risk sex offenders on parole. Parole agents had generally positive experiences with the sex offender monitoring program, which prompted CDCR to expand the program across the state.

Meanwhile, interest grew in applying the same technology to address the state's serious gang problem. In March 2006, CDCR partnered with the city of San Bernardino to implement a 20-unit pilot project using GPS supervision for gang offenders. In May 2007, then-Gov. Arnold Schwarzenegger expanded the pilot program, adding 20 units each to Fresno, Los Angeles, Riverside and Sacramento.

The growing interest in using GPS technology as a supervision tool, coupled with the dearth of existing research and continued advancements in the technology, prompted NIJ to fund methodologically similar yet distinct evaluations of the two California programs. The goal was to understand whether GPS supervision would work with one or more offender groups and, if not, why not.

The sex offender study[2] used a quasi-experimental design to compare 258 sex offenders receiving traditional parole supervision with 258 sex offenders receiving GPS supervision. The study looked at two main outcomes: noncompliance (measured by violations of parole) and recidivism (measured by re-arrest, reconviction and return to prison). The researchers found that offenders who received traditional parole supervision were three times as likely to commit a sex-related violation as those who received the GPS supervision. In terms of recidivism, offenders who received traditional supervision were twice as likely to be arrested as those who received the GPS monitoring supervision. Overall, these findings were consistent with most of the recent research, which has found the deterrent value of GPS technology.[3]

In a thought-provoking twist, however, the gang study[4] offered very different findings from those of the sex offender study, despite having a geographically similar population and a program that operated under almost parallel procedures with the exact same hardware (see Figure 1). In this study, researchers looked at a group of gang offenders who were released from prison and residing in California: 392 offenders receiving GPS supervision and 392 offenders receiving traditional parole supervision. Again, the researchers examined two main outcomes: noncompliance[5] and recidivism. In contrast to the sex offenders, however, the odds of a technical violation were 36 percent greater among the gang offenders on GPS supervision, and the odds of a nontechnical violation were 20 percent greater. Conversely, the GPS group was less likely than the traditional supervised group to be re-arrested overall (the chance of being re-arrested was 26 percent lower). (CrimeSolutions.gov rates California's GPS supervision program for gangs as "promising." For more information, go to CrimeSolutions.gov, keywords: California gps supervision.)

At first glance, these contradictory findings may confirm many criticisms leveled at GPS and give

Figure 1. Studies of GPS Supervision in California

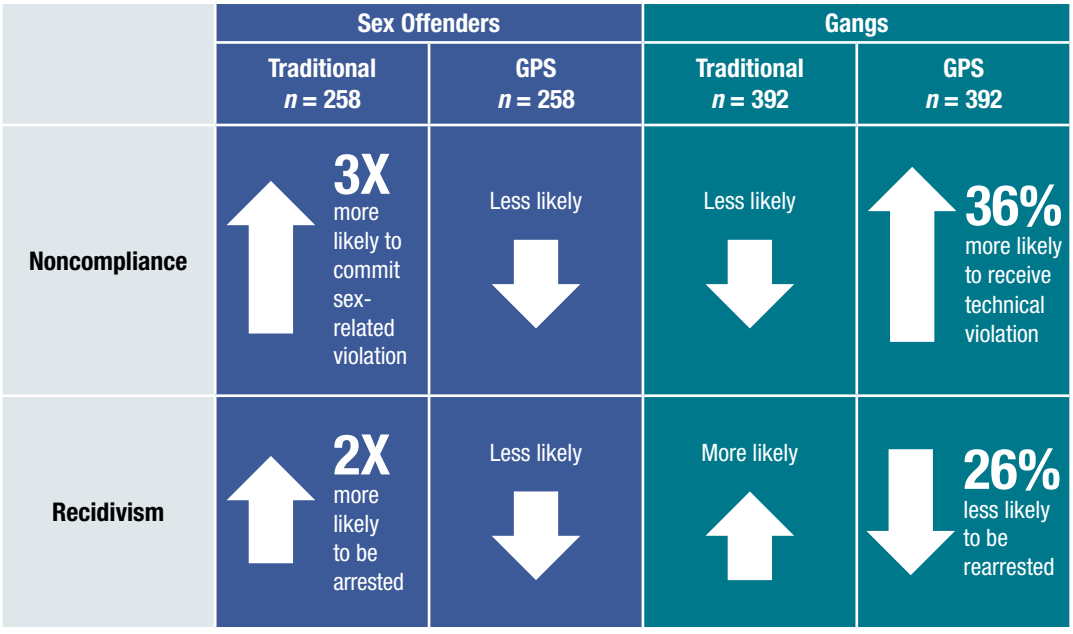

Table 1. Characteristics of Sex Offender and Gang Offender Parole Supervision Programs		
Program Characteristics	**Sex Offender Program**	**Gang Offender Program**
Design		
Strategy	Deterrence/rehabilitation	Focused deterrence
Goal	Return to community	Remove from community
GPS type	Active and passive	Active
Duration	Length of parole period	Intermittent (as needed)
Caseload	20 high/40 passive	20
Eligibility	Static-99 risk assessment instrument	Gang attribute assessment criteria
Infrastructure		
Equipment	Single piece	Single piece
Monitoring model	Vendor operated	Vendor operated
Notification system	Yes	Yes
Supervision Specifications		
Subject matter training	Yes (sex offender)	No
Offender orientation	Yes	Yes
Drug testing	If applicable	Mandatory
Supervision specifications	More contacts per month	Fewer contacts per month
Integrated with traditional parole	Yes	Yes
Treatment option	Yes	No

corrections personnel pause when considering the use of GPS to supervise gang offenders. Moreover, the lack of consistent findings from the two studies draws into question the universal utility of GPS as a supervision tool. However, if we look closely at the purpose, goals and operating procedures of each program, we find quite a different story.

Using GPS in California

GPS technology is a global navigation satellite system that provides location and time information, in all weather, anywhere on or near the Earth. Initially developed in 1973 as a military application, the system today is freely accessible to anyone with a GPS receiver. In corrections, GPS technology is used to track the real-time movement of a wide variety of offenders (e.g., drunk drivers, gang offenders, domestic violence offenders) within different criminal justice contexts (pre-adjudication, dispositional and post-release).[6]

In California, the Department of Adult Parole Operations uses GPS to monitor both paroled high-risk

gang offenders and sex offenders. As shown in Table 1, although the two programs are discrete, they do have some similarities. For instance, rather than offering GPS as a standalone practice, both programs integrate GPS technology into an overall supervision program. As a result, both programs have two distinct components: GPS monitoring and traditional intensive supervision.

The GPS monitoring component uses an active system — meaning that a data point is taken every minute and transmitted nearly in real time — that combines cellular and GPS technology to automatically track a parolee's location. The tracking device is a single-piece GPS unit that weighs about 6 ounces and is roughly the size of a computer mouse. Offenders wear the device flush around the left ankle; specialized screws secure a tamper-resistant, fiber-optic technology strap to the device.

The software system tracks information about parolee activities and transmits it to a monitoring center. The monitoring center then provides the supervising parole agent with information in two basic forms: daily summary reports (DSRs) and immediate alert (IA) notifications. The agent receives an emailed DSR for each parolee every morning detailing all activity recorded by the GPS unit, including charging activity, zone violations, strap tampers and other violations. The agent must review all recorded activity and note any follow-up actions. The DSR also includes a direct link to a Web-based data system, which allows an agent to review an offender's movement patterns. When the GPS unit records specific types of violations, an IA notification is generated automatically and transmitted via text message to the supervising agent. The supervising agent must then analyze and respond appropriately to the information.

The GPS monitoring technology in California's sex and gang offender programs also includes:

- **Inclusion zones:** Locations that an offender must occupy during certain times of the day.
- **Exclusion zones:** Locations that an offender is prohibited from entering at all or during certain times of the day.
- **Crime scene correlation:** The intersection of crime incident data with GPS tracks to determine whether an offender was in the vicinity of a crime.

The intensive supervision component involves more traditional, recurrent physical contact: The agent meets face to face with the parolee and other collateral contacts on a regular basis. It also includes a drug-testing element if applicable.

Several critical differences exist between the two programs, however, and these differences likely drive the divergent outcomes. The first difference is that the sex offender program includes a treatment component, which requires parolees to attend weekly sex offender treatment classes in which clinicians provide psychological evaluations, assessments, and individual and group therapy. Notably, the gang offender program does not include a treatment requirement. The reason for its absence is simple and offers the second major difference between the programs: The operational goals of the two programs differ markedly. The goal of the sex offender program is to use GPS technology to gather information that can enhance supervision, heighten the certainty of treatment and discourage future crime; the goal of the California gang program — as for many other gang programs — is to remove individual gang members from the community by quickly identifying violations, enforcing strict revocation rules and returning the offenders to prison.[7] The findings from the two studies suggest that GPS can be used for either purpose with relatively equal efficiency.

Policy Implications

GPS has garnered an increasing amount of attention in recent years. The use of GPS technology as a supervision tool is in vogue in contemporary criminal justice systems and is still growing in popularity. In fact, most jurisdictions throughout the Western world have some form of electronic monitoring to supervise offenders.[8]

The findings from the California studies are important because they suggest that GPS technology might serve multiple crime prevention purposes, depending

on a program's goals and structural design. Specifically, GPS can be used as a traditional deterrent mechanism, a focused deterrent tactic or a treatment enhancement provision.

Traditional deterrence: Deterrence is based on the notion that all behavior results from rational calculations of cost versus reward and that to prevent crime, the costs must outweigh the expected rewards.[9] In general, deterrence suggests that if we increase the certainty, severity and swiftness of criminal justice sanctions, we could prevent crime.[10] With these principles in mind, it is easy to appreciate how the use of GPS might increase the certainty — and possibly the swiftness — of punishment. GPS's intensified supervision likely enhances the probability that law enforcement will detect parole violations and criminal behavior, and the location data obtained by GPS systems presumably increase the speed in apprehension, which in turn might result in more rapid punishment. The use of GPS also might increase the severity of punishment: It can strengthen confidence in evidence that points to an offender's guilt of a post-release violation or crime, resulting in stricter penalties.

Moreover, GPS monitoring has an advantage over other deterrence-based programs in that it offers much broader supervision. Unlike traditional intensive supervision programs that simply increase contact between the parole agent and the offender, GPS technology offers continuous monitoring, creating an almost omniscient supervision presence that hinders all criminal activity. This type of unyielding supervision, further enhanced by a digital record of the offender's whereabouts, might tip the scale in a criminal's decision of whether to commit an illegal act.

Focused deterrence: Deterrence suggests that we could prevent crime if an offender perceives that the costs of committing the crime outweigh the benefits. Focused deterrence is a similar threat sanction approach used by criminal justice officials, but it differs in that it specifically warns high-risk offenders about the sanctions for re-offense — that is, that police, prosecutors or probation officers will "pull every available lever" to maximize punishment.[11] Thus, again, GPS may be used to increase certainty, swiftness and severity, but parole agents can also closely monitor an offender's movements and strictly enforce any violation through revocation. Moreover, parole agents, in conjunction with law enforcement, can use GPS to disrupt gang activity by holding in violation two or more monitored offenders who come within close proximity of one another and by investigating crimes via crime scene correlation software, which can intersect GPS tracks with location-based crime data and help identify potential suspects or observers. The latter tends to dissuade non-monitored offenders from associating with monitored gang members to avoid being exposed as an associate.

Rehabilitation: Rehabilitation focuses on reintegrating an offender back into society. A central component of the sex offender program is mandated treatment. Numerous treatment options are available for sex offenders, and although research on their effectiveness has produced mixed results, the majority point to positive benefits. For instance, a recent meta-analysis examined 69 outcome evaluations of sexual offender treatment, which comprised 80 independent comparisons between treated and untreated offenders. The analysis found that despite a wide range of positive and negative effects, the majority of studies confirmed the benefits of treatment.[12] Overall, treated offenders demonstrated 37 percent less sexual recidivism than offenders who did not receive treatment. The effects for violent and general recidivism were in a similar range.

Although it is still unclear what type of treatment is most effective,[13] the research seems to agree that sex offenders who leave treatment before completion have an increased risk of recidivism.[14] Given this finding, it is feasible that when integrated into a treatment program, GPS monitoring might support rehabilitation efforts. The sense of omniscience that GPS engenders among offenders might encourage them to continue their specified treatment regimens. Under traditional parole supervision, an offender could haphazardly attend treatment and fabricate stories to explain missed appointments; however, GPS data greatly hinder this potential for subterfuge. In turn, increased

and continued attendance in a treatment program might decrease the likelihood of criminal behavior.

A Multifaceted Tool

This review only touches briefly on how structural design and program goals factor in when bringing a GPS supervision program from conceptualization to reality. But perhaps the best way to think about GPS, given its multidimensional nature, is not as a program at all but as a multifaceted tool that can be configured in a number of ways to support varied criminal justice objectives.

About the Author

Stephen Gies is a senior researcher with Development Services Group, Inc. He conducted the NIJ-funded evaluations of the California Department of Corrections and Rehabilitation's programs for monitoring high-risk gang offenders and high-risk sex offenders using GPS technology.

For More Information

To read more about the California sex offender and gang studies, go to NIJ.gov, keywords: gps community evaluation.

*Photo taken by George Drake, subcontractor working for the University of Denver in support of the NLECTC – Corrections Technology Center of Excellence.

Notes

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5. Parole violations are typically used to measure parolee noncompliance. These violations are divided into two types: technical and nontechnical. A technical violation is when a parolee violates the terms of parole but no new crime occurs. Such a violation may include missing an appointment with a parole office or treatment provider, absconding or traveling outside of the allotted geographic region without permission. A nontechnical or substantive violation occurs when a parolee commits a new crime, which in turn is also a violation, because parolees are prohibited from engaging in criminal activity.
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