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Use of Electronic Offender-Tracking Devices Expands Sharply

Number of monitored individuals more than doubled in 10 years

Overview

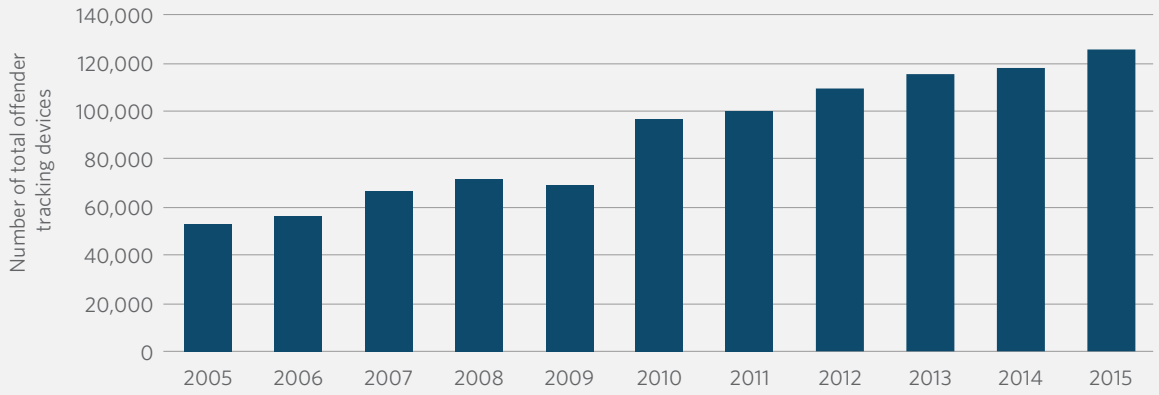
The number of accused and convicted criminal offenders in the United States who are monitored with ankle bracelets and other electronic tracking devices rose nearly 140 percent over 10 years, according to a survey conducted in December 2015 by The Pew Charitable Trusts. More than 125,000 people were supervised with the devices in 2015, up from 53,000 in 2005. (See Figure 1.)

All 50 states, the District of Columbia, and the federal government use electronic devices to monitor the movements and activities of pretrial defendants or convicted offenders on probation or parole. The survey counted the number of active GPS and radio-frequency (RF) units reported by the companies that manufacture and operate them, providing the most complete picture to date of the prevalence of these technologies in the nation's criminal justice system.

Figure 1

Number of Active Electronic Offender-Tracking Devices Rose Nearly 140%

Manufacturers report steady increase between 2005 and 2015



Note: The survey counted active GPS and radio frequency devices, except those used in immigration-related cases, every Oct. 31 in the years studied. The count does not include information from manufacturers that went out of business or were acquired by other companies between 2005 and 2015, so the actual numbers for each year may be higher than reported.

How electronic tracking works

Correctional authorities use ankle bracelets and other electronic tracking devices to increase compliance with the conditions of pretrial release, probation, or parole among accused and convicted offenders residing in the community. Although some electronic monitoring technology is intended to manage individuals' behavior—automobile ignition interlock devices, for example, can prevent those convicted of driving under the influence from starting a car when intoxicated—tracking devices are used to monitor the movements or location of those being supervised. The two dominant forms of tracking devices use GPS and RF technology.

- GPS systems can continuously track offenders in real time, identifying their movements and whereabouts by transmitting location information to monitoring centers and triangulating signals from satellites and cellular towers.[1] The devices are typically ankle bracelets worn by those whose movements are restricted by court or parole board orders; however, some jurisdictions have replaced ankle bracelets with smartphones equipped with GPS tracking capabilities.[2] Convicted sex offenders, for example, may be barred from schools or playgrounds, while those convicted of domestic violence crimes are commonly prohibited from approaching their victims' homes or places of employment.[3] When monitored offenders enter such exclusion zones, GPS devices alert supervising agencies, which can then take action.
- RF devices monitor offenders' presence in or absence from a fixed location. They are most commonly used to supervise those on house arrest or confinement and to enforce curfews by monitoring an offender's presence either continuously or during specified times.[4] RF systems consist of battery-powered transmitters, typically worn around ankles or wrists, and home-based receivers that can verify whether offenders are within a certain distance and alert monitoring centers of violations, allowing correctional authorities to take action.[5]

A new approach to measuring use of electronic tracking devices

Establishing the exact number of offenders under electronic supervision is difficult, given the decentralized nature of the criminal justice system. Earlier approximations have varied widely. For example, one study estimated that more than 90,000 GPS units were in use nationwide in 2009,[6] while the federal Bureau of Justice Statistics reported that the figure was about 25,000 the same year.[7] Both studies, however, were incomplete. The former did not include a detailed methodology and did not indicate whether it counted only active monitoring devices or inactive ones as well; the latter did not count defendants on pretrial release and relied on the voluntary participation of state and local court and supervision agencies, many of which did not submit information.[8]

To provide a more up-to-date and comprehensive picture, Pew developed a survey of the 11 companies known to manufacture, sell, or operate GPS and RF devices in the United States, including U.S. territories. Seven of the largest companies responded, representing an estimated 96 percent of the market.[9]

Pew designed the survey to capture data on all active electronic tracking devices nationwide, including those monitoring pretrial defendants or convicted offenders under federal, state, or local jurisdiction. The survey excluded devices used in immigration cases because those offenses are generally considered civil in nature and Pew sought instead to measure electronic tracking in the criminal justice system.[10]

To encourage greater participation, the survey granted confidentiality to all responding firms. To avoid double-counting people who may have been tracked electronically at multiple points in one year, it asked companies to count the number of devices in use on a single day—Oct. 31—from 2005 through 2015.[11]

The survey uses the number of active devices as a proxy for individuals. Manufacturers do not have access to information about the accused and convicted offenders supervised by their products.

GPS drove the increase in electronic tracking

The number of accused and convicted criminal offenders monitored with electronic tracking devices in the United States increased 140 percent between 2005 and 2015, from approximately 53,000 to more than 125,000. Extrapolating from the 96 percent market share of the companies that participated in the survey, the 2015 total probably exceeded 131,000.

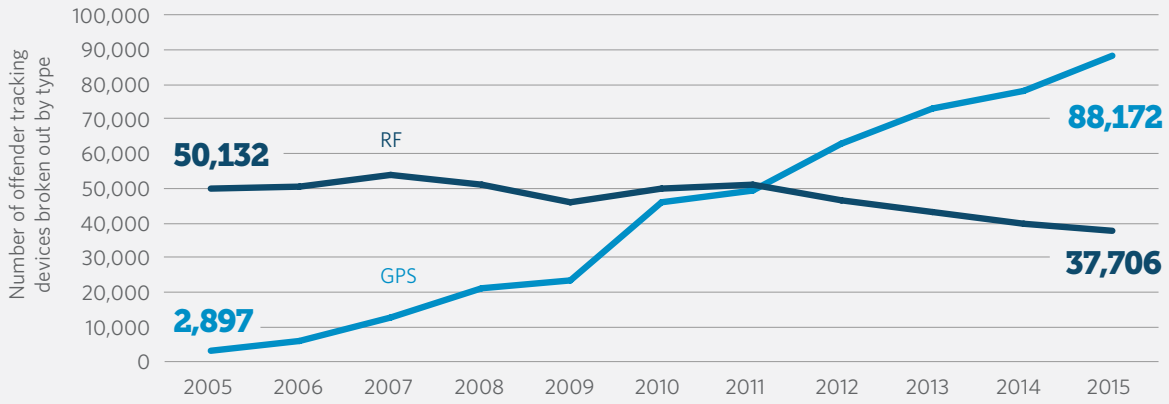
The survey also shows that a sharp increase in the use of GPS technology accounted for all of the 10-year growth in electronic tracking, more than offsetting a decline in the use of RF devices. In 2015, manufacturers reported that about 88,000 GPS units were being used for supervision of accused and convicted offenders, a thirtyfold increase from the roughly 2,900 reported a decade earlier. By contrast, the number of active RF units fell 25 percent, from more than 50,000 to below 38,000. (See Figure 2.) These findings are consistent with published studies that suggest RF devices are giving way to technology that can track offenders in real time.[12]

Despite the substantial growth of electronic tracking during the study period, it remains relatively rare in the context of the U.S. corrections system. Nationally, nearly 7 million people were in prison or jail or on probation or parole at the end of 2014, but individuals tracked using electronic devices in 2015 represented less than 2 percent of that total.[13] Although some research suggests that electronic monitoring can help reduce reoffending rates, the expanded use of these technologies has occurred largely in the absence of data demonstrating their effectiveness for various types of offenders at different stages of the criminal justice process.[14]

Figure 2

GPS Is Leading Electronic Offender-Tracking Technology

Number of active RF units fell 25%, 2005-15



Note: The survey counts active GPS and RF devices on Oct. 31 of each year, excluding those used in immigration-related cases. It does not include information from manufacturers that went out of business or were acquired by other companies between 2005 and 2015, so the actual numbers for each year may be higher than reported.

Conclusion

Pew's survey of electronic tracking devices provides the first valid, comprehensive count of the number of accused and convicted criminal offenders monitored with GPS and RF technologies in the United States. More than 125,000 people were tracked with the devices on a single day in 2015, up nearly 140 percent from the 53,000 reported on the same day in 2005. A sharp increase in the use of GPS technology accounted for all of the growth, more than offsetting a 25 percent decline in the use of RF systems. Despite the overall expansion of electronic tracking, however, the technology remains relatively rare in U.S. corrections, and additional growth should be guided by rigorous research.

Acknowledgments

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Endnotes

1 Tracy M.L. Brown, Steven A. McCabe, and Charles Wellford, Global Positioning System (GPS) Technology for Community Supervision: Lessons Learned (August 2007), 1-1, http://www.in.gov/idoc/files/B_M_W_2007_GPS1.pdf.

2 The manufacturers selected for participation in this survey produce devices that comply with the National Institute of Justice's published standards for offender tracking systems, which require that devices be physically secured to the person to ensure that his or her location is being tracked. Manufacturers of smartphone technologies that are not physically secured to the individual under supervision were not asked to participate in this survey because their products do not comply with the "body-attached" requirement.

3 Matthew DeMichele and Brian Payne, Offender Supervision With Electronic Technology: Community Corrections Resource (2009), 33, https://www.appa-net.org/eweb/docs/APPA/pubs/OSET_2.pdf.

4 Ibid.

5 Dennis Doffing, "BLU+ RF Monitoring," The Journal of Offender Monitoring 25, no. 2 (June 2014), 19–21, http://www.utterbacksutterings.com/wp-content/uploads/2014/06/JOM-2502-19-21-Doffing-STOP-Reprint.pdf.

6 DeMichele and Payne, Offender Supervision, Table 1a. The authors attribute the estimate to Peggy Conway, former editor of The Journal of Offender Monitoring.

7 Bureau of Justice Statistics, Probation and Parole in the United States, 2009 (December 2010), Appendix Tables 11 and 22, http://www.bjs.gov/content/pub/pdf/ppus09.pdf. Total includes offenders on probation and parole.

8 DeMichele and Payne, Offender Supervision; and Bureau of Justice Statistics, Probation and Parole.

9 To determine the market share captured by the survey, Pew consulted George Drake, an expert on offender-tracking technology, who estimated that the four manufacturers that did not participate each accounted for less than 1 percent of the total number of devices in use.

10 One of the participating manufacturers had a contract with the Department of Homeland Security's Immigration and Customs Enforcement division (ICE) to provide monitoring for individuals involved in immigration proceedings. That manufacturer received a separate survey with instructions to exclude numbers for individuals monitored for immigration-related proceedings or violations, or any numbers associated with its ICE contract.

11 Pew selected Oct. 31 to capture the most recent available data before distributing the survey to manufacturers.

12 Doffing, "BLU+ RF Monitoring," 19.

13 Bureau of Justice Statistics, Correctional Populations in the United States, 2014 (December 2015), 1, http://www.bjs.gov/content/pub/pdf/cpus14.pdf. Figure does not include pretrial defendants who are released from custody while awaiting trial.

14 William Bales et al., A Quantitative and Qualitative Assessment of Electronic Monitoring (May 2010), https://www.ncjrs.gov/pdffiles1/nij/grants/230530.pdf; Washington State Institute for Public Policy, "Electronic Monitoring (Probation)" (June 2016), http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/437/Electronic-monitoring-probation; and Marc Renzema and Evan Mayo-Wilson, "Can Electronic Monitoring Reduce Crime for Moderate to High-Risk Offenders?" Journal of Experimental Criminology, 1, no. 2 (2005), 215–237, http://link.springer.com/article/10.1007/s11292-005-1615-1#/page-1. Bales et al. found that electronic monitoring reduced the risk of failure among medium- to high-risk offenders by 31 percent as measured by revocations for a new offense or a technical violation and those resulting in a jail or prison sentence, and absconding; the Washington State Institute for Public Policy found that the benefits of electronic monitoring for probationers exceeded the costs by nearly $27,000; and Renzema and Mayo-Wilson found that "applications of electronic monitoring as a tool for reducing crime are not supported by existing data."

This issue brief was updated Sept. 30, 2016, to more accurately explain why smartphone technologies were not included as a means of electronic monitoring in this report.

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