GPS Monitoring: A Viable Alternative to the Incarceration of Nonviolent Criminals in the State of Ohio

Matthew K. Kucharson

Follow this and additional works at: https://engagedscholarship.csuohio.edu/clevstlrev
Part of the Criminal Law Commons
How does access to this work benefit you? Let us know!

Recommended Citation

This Note is brought to you for free and open access by the Law Journals at EngagedScholarship@CSU. It has been accepted for inclusion in Cleveland State Law Review by an authorized editor of EngagedScholarship@CSU. For more information, please contact libraries@csuohio.edu.
NOTES

GPS MONITORING:
A VIABLE ALTERNATIVE TO THE INCARCERATION OF NONVIOLENT CRIMINALS IN THE STATE OF OHIO

MATTHEW J. KUCHARSON

I. INTRODUCTION .............................................................. 638

II. HISTORICAL OVERVIEW OF GPS
TECHNOLOGY AND ITS USE IN THE FIELD
OF LAW ENFORCEMENT .................................................. 640
   A. Origin of GPS Technology ....................................... 640
   B. GPS as a Tool for Monitoring Criminal
      Offenders ................................................................... 642
      1. Components of a GPS Offender Monitoring System ........ 642
      2. Imposing Restrictions with Inclusion and Exclusion Zones .... 645

III. OHIO’S PRISON SYSTEM AND THE IMPACT
     OF RECENT LEGISLATION ON CRIMINAL
     SENTENCING STATUTES .............................................. 646
   A. Portrait of the State Prison System Over the
      Past Three Decades .................................................. 646
      1. Incarceration Explosion Between 1978 and 1998 .............. 646
      2. Current Status of Ohio’s Prison System ................. 648
   B. Impact of Ohio Senate Bill 2 and House Bill 490 .............. 649
      1. Ohio Senate Bill 2 ............................................. 649
      2. Ohio House Bill 490 .......................................... 650

IV. ANALYSIS: GPS MONITORING AS A
    CONSTITUTIONAL, COST-EFFECTIVE, AND
    COMMUNITY-FRIENDLY ALTERNATIVE TO
    INCARCERATION ............................................................ 651
   A. Constitutional Challenges to the Use of GPS
      Monitoring Technology .............................................. 652
      1. Fourth Amendment Challenges .............................. 652

*J.D. expected, May 2007, Cleveland-Marshall College of Law, Cleveland State
University. This Note received the Cleveland State Law Review Best Note Award for the
2005-06 academic year.
I. INTRODUCTION

[The] Eye of Sauron now turns to Gondor, the last free kingdom of men . . . [He] did not feel invisible at all, but horribly and uniquely visible; and he knew that somewhere an Eye was searching for him. [He] wish[ed] the ring had never come to [him]. [He] wish[ed] none of this had happened.¹

Although this situation appears to be very unique to the character Frodo in J.R.R. Tolkien’s trilogy, The Lord of the Rings,² it is actually becoming a much more common phenomenon in today’s society. In reality, the Eye of Sauron is not some mysterious and evil power scouring the earth for a single ring; it is a series of twenty-eight satellites orbiting 12,500 miles above the earth, tracking the location of several individuals who possess specific ankle bracelets.³ Furthermore, the bearers of these bracelets are not innocent hobbits, but convicted criminals who have been sentenced to global positioning system (GPS) monitoring as an alternative to incarceration.⁴

The use of GPS monitoring as an alternative to incarceration is becoming an increasingly important topic of consideration by state rehabilitation and correction


²Id.


Location tracking systems, such as GPS, have customarily been used solely to track higher-risk offenders. However, many states are beginning to consider using the technology as a primary sentencing option for select groups of nonviolent offenders. GPS monitoring can effectively enforce many of the very same restrictions on the liberty of a nonviolent offender that are present with physical incarceration, while at the same time avoiding the negative physical and psychological impacts that imprisonment can have on the individual, the basic family structure, and the workforce. Most importantly, several states are realizing that GPS monitoring is an effective means to combat the skyrocketing costs associated with the explosion in the prison population over the last three decades.

Ohio is now among this large number of states seeking to devise alternatives to incarceration in order to reduce the heavy public tax burden created by prison overcrowding, especially for nonviolent offenders. GPS monitoring of offenders not only comports with constitutional requirements, but it is also permitted under Ohio law.

Sections 2929.17 and 2929.27 of the Ohio Revised Code provide the authority for a court to impose nonresidential sanctions, such as a term of monitored time, upon both misdemeanor and felony offenders who are not required to serve

---


6 See CROWE ET AL., supra note 4, at 67. In the past, GPS monitoring has been used primarily to track sex offenders, domestic violence offenders, and pretrial releases in high-profile cases. Id. The emerging technology’s limited use was substantially due to the relatively high cost of the newly developed equipment. Id.


8 See id.; see also Matt Black & Russell G. Smith, Electronic Monitoring in the Criminal Justice System, TRENDS & ISSUES IN CRIME AND CRIM. JUST., May 1, 2003, at 1.


10 See CROWE ET AL., supra note 4, at 44. See generally James Austin et al., It’s About Time: America’s Imprisonment Binge, in PUNISHMENT AND SOCIAL CONTROL 433, 433-34 (Thomas G. Blomberg & Stanley Cohen eds., enl. 2d ed. 2003) (illustrating the unprecedented rise in the prison population between 1980 and 2000).

11 See Mark Puente, COUNTIES OVERWHELMED BY INMATES: FRUSTRATED OFFICIALS STRUGGLE TO CAPE WITH NUMBERS, PLAIN DEALER (Clev.), Sept. 26, 2005, at B1; see also Perry Schaible, Tracking Device Considered to Enforce Protective Orders, CINCINNATI ENQUIRER, May 11, 2005, at 2C.

12 See United States v. Knights, 534 U.S. 112, 119 (2001) (holding that a court may impose reasonable conditions depriving the offender of some freedoms enjoyed by law-abiding citizens); Katz v. United States, 389 U.S. 347, 351 (1967) (holding that what a person knowingly exposes to the public is not subject to Fourth Amendment protection); see also CROWE ET AL., supra note 4, at 23.

13 OHIO REV. CODE ANN. §§ 2929.17, .27 (LexisNexis 2006) (permitting Ohio courts to impose alternatives to incarceration upon certain misdemeanor and felony offenders).
mandatory prison terms. With both constitutional and statutory authority, GPS technology can provide an effective means for the state of Ohio to combat the rising costs of incarceration without sacrificing the public’s safety.

This article will discuss the emergence of GPS technology in the field of criminal law and propose that Ohio embrace GPS monitoring as an alternative to the incarceration of nonviolent offenders. Part II will begin by briefly outlining the history of GPS technology. Part II will then discuss the use of GPS monitoring in the field of law enforcement. Specifically, this Part will illustrate the different components necessary for the implementation of an effective GPS monitoring program and explain the use of inclusion and exclusion zones. Part III will examine the status of Ohio’s state prison system and will focus on the historical costs associated with housing prisoners. Part III will also briefly discuss recent changes to Ohio’s criminal sentencing laws that positively impact and encourage the use of new offender monitoring technology, such as GPS. Part IV will reveal how a properly executed GPS monitoring program can be a constitutional, cost-effective, and community-friendly alternative to the incarceration of nonviolent criminals. Part V will conclude by recommending that Ohio implement a GPS offender monitoring program to be used as an alternative to the incarceration of nonviolent offenders within the state.

II. HISTORICAL OVERVIEW OF GPS TECHNOLOGY AND ITS USE IN THE FIELD OF LAW ENFORCEMENT

Although GPS technology was originally developed by the United States Department of Defense for military use only, its application has been greatly expanded over the past two decades. Among the most surprising and unintended beneficiaries of the new technology are law enforcement agencies seeking to discover an effective alternative to the incarceration of criminal offenders. With several companies now willing to supply both the equipment and personnel necessary to place offenders under GPS surveillance, this nonmilitary application of GPS is becoming a reality in today’s criminal justice system.

A. Origin of GPS Technology

The roots of GPS technology can be traced back to the “race to space” in the 1950s, which began with the launch of Sputnik 1, a low-Earth orbit satellite, by the U.S.S.R in 1957. Scientists observing this satellite recognized that its position

14 Id.
15 See Scheeres, supra note 7.
19 Id. at 10.
20 See Kumar & Moore, supra note 16, at 59.
could effectively be monitored by focusing on the relative strength of its radio signal.21 Further research demonstrated that if the position of a satellite in space could accurately be obtained from Earth, then the position of a physical object on the Earth’s surface could also be determined by focusing on the relative strength of the signal from that satellite.22

With this new technology, the U.S. Department of Defense quickly developed the first satellite-based radio positioning system.23 The primitive system’s purpose was to provide both the Navy and Air Force with extremely accurate positioning and navigational support for the guiding of missiles during combat.24 In 1973, the U.S. military aggressively implemented a program known as “NAVSTAR GPS” in order to initiate the development of a much more advanced satellite-positioning system.25 Within five years after the program’s commencement, the first four satellites were launched into space to provide accurate data on position, velocity, and time to military personnel.26 The use of multiple satellites as opposed to a single satellite not only increased signal availability, but also produced much more timely information as to a mobile object’s relative position on the Earth’s surface.27 This newly developed GPS technology was used solely for military purposes and was unavailable to the general public for several years after the program’s initial implementation.28

In 1983, the narrow military use of GPS was finally expanded, and the technology was made available to the civilian population.29 Although civil application of GPS quickly became widespread, the military still constrained its use for over a decade by intentionally introducing an error into the system, impairing the accuracy of its readings.30 Due to the increased public use and reliance upon accurate GPS information, Congress eventually enacted legislation mandating that

---

21 Id.
22 Id.
23 See Spencer et al., supra note 3, at 26.
24 Id.
25 See Kumar & Moore, supra note 16, at 61.
26 Id.
27 Id.
29 Id. GPS was made available to the civilian population by President Ronald Reagan as a direct response to the Korea Air Lines incident, which involved an airliner that was shot down after the pilot accidentally strayed off course and violated Soviet Union airspace. See Brandon E. Ehrhart, A Technological Dream Turned Legal Nightmare: Potential Liability of the United States Under the Federal Tort Claims Act for Operating the Global Positioning System, 33 Vand. J. Transnat’l L. 371, 379 (2000).
30 See Lever, supra note 28, at 219. The military’s conscious decision to introduce an error into the GPS system available to the civilian population was known as “selective availability.” Id. With selective availability, the accuracy of location information was limited to one hundred meters of the physical object’s actual location. Id.
the Secretary of Defense allow all users access to the full capabilities of the GPS technology. The NAVSTAR system, now simply known as the “Global Positioning System,” presently contains twenty-eight satellites that orbit the earth for the use and benefit of both military and non-military users.

B. GPS as a Tool for Monitoring Criminal Offenders

Shortly after Congress enacted legislation allowing all users to access the full capabilities of GPS technology, two companies quickly responded by introducing the first GPS-based continuous monitoring systems for criminal offenders. Several other companies have since joined the pool of competitors, and the market for GPS products has rapidly spread to many states. The ability to provide accurate, twenty-four hour surveillance of an offender creates a whole new realm of opportunities for electronic monitoring that has commanded the attention of law enforcement agencies throughout the country. This section will illustrate the different components involved in GPS monitoring and explain the use of inclusion and exclusion zones.

1. Components of a GPS Offender Monitoring System

There are four main components necessary for the implementation and maintenance of an effective GPS monitoring program. The first component is a


32See SPENCER ET AL., supra note 3, at 27.


35Industry leaders among the long list of firms manufacturing GPS offender monitoring equipment currently include iSECUREtrac Corporation, Pro Tech Monitoring, BI Incorporated, Criminal Justice Solutions, Satellite Tracking of People LLC, and Strategic Technologies Incorporated. See Walker & Goren, supra note 18, at 26.

36See Axtman, supra note 5, at 2.

37“Electronic monitoring” is simply one of the multiple terms used to describe a form of electronic supervision generally associated with “technologies that determine whether an offender is at home (or other locations) as stipulated by his or her conditions of supervision.” See CROWE ET AL., supra note 4, at 1. The term is also broad enough to encompass location tracking technology, such as GPS, in which an offender’s location can be determined in real time. Id.

38See KEEPING TRACK, supra note 4, at 5.

39See CROWE ET AL., supra note 4, at 66. See generally HOSHEN & DRAKE, supra note 34, at 8 (outlining the general components historically used in GPS monitoring).
battery-operated transmitter that is typically placed around an offender’s ankle. Since the device must be worn by an offender at all times, it is tamper-resistant, highly durable, and usually only weighs a few ounces. The most modern transmitters generally emit a radio signal every twenty to thirty seconds that is encoded with both a serial number and transmitter for health information.

The second component, a portable tracking unit (PTU), receives the signals from the transmitter and is generally worn around an offender’s waist. If the PTU fails to receive the signal, an alert is instantly sent to notify the monitoring center of a violation. The interaction between the two system components is for the sole purpose of preventing an offender from simply discarding the PTU and evading supervision. In addition to the receiver used to detect signals from the transmitter, the PTU is equipped with a GPS signal receiver, a computer, and cellular telephone circuits. The GPS feature continuously receives signals from several of the twenty-eight satellites orbiting the Earth, while simultaneously capturing the exact time the signal is sent and the identity of the satellite transmitting each signal. The information is then processed by the GPS receiver to determine an offender’s location and is continually stored in the computer located within the PTU itself.

The cellular telephone unit in the PTU communicates all of the newly acquired location-related information to the third component, a central monitoring system. This system is responsible for tracking an offender’s actual movements throughout the day by utilizing advanced mapping technology to process the information received. Central monitoring systems are usually located within a data center, which is the facility where all of the primary GPS communications equipment is safely stored.

---

40 See CROWE ET AL., supra note 4, at 66.
41 Id.
43 See CROWE ET AL., supra note 4, at 66.
44 Id.
45 Id.
46 Id.
47 Id.
48 Id.
49 Id.
50 Id.
The fourth and final component that is indispensible to the operation of a successful GPS monitoring program is the charging unit for the PTU.52 The most modern PTUs typically have a battery life of twenty hours or less,53 and offenders are responsible for ensuring that the batteries remain charged at all times.54 For the PTU to be fully charged, an offender must rest it on the charging unit for a period of no less than five hours.55 During the recharging period, the PTU still maintains continuous contact with the central monitoring system.56 An offender must remain within a specified distance from the unit while recharging, or it will fail to detect the transmitter’s radio signals, and notice of a violation will be sent to law enforcement officials.57

When all of the system’s components are functioning properly, an offender’s movements can be monitored twenty-four hours a day regardless of location.58 GPS monitoring enables law enforcement agencies to collect continuous, real-time location information so that officers can be dispatched to an offender’s exact location if necessary.59 With the more primitive forms of electronic monitoring, such as continuous signaling devices60 and field monitoring devices,61 supervising agencies

52See CROWE ET AL., supra note 4, at 66.
54See CROWE ET AL., supra note 4, at 67.
55Id.
56See HOSHEN & DRAKE, supra note 34, at 10.
57See CROWE ET AL., supra note 4, at 66.
58See Keeping Track, supra note 4, at 2; see also iSECURETrac Corporation, Active GPS Tracking, http://www.isecuretrac.com/activeGPS.asp (last visited Dec. 26, 2005).
59See April A. Otterberg, Note, GPS Tracking Technology: The Case for Revisiting Knotts and Shifting the Supreme Court’s Theory of the Public Space Under the Fourth Amendment, 46 B.C. L. REV. 661, 663-64 (2005) (discussing the extent to which GPS monitoring invades an offender’s privacy by continuously tracking every movement in real time).
60See CROWE ET AL., supra note 4, at 63. Continuous signaling devices operate by the interaction of three distinct components. Id. The first component, called a “transmitter,” is a tamper-resistant device that is generally worn around the offender’s wrist or ankle. Id. The transmitter, which is powered by battery, transmits a radio frequency signal multiple times per minute. Id. This signal is detected by a corresponding component known as the “receiver,” which is attached to the offender’s telephone at his or her residence. Id. The range by which the receiver can detect the transmissions is programmed at a specified distance from the offender’s home, and this can vary from as little as thirty-five feet to more that five hundred feet. Id. If an offender ventures beyond the permitted distance from the residence, the receiver will fail to detect the signal and automatically convey a message to the third component, which is a central computer monitored by supervision officers. Id. at 64.
61Id. at 65. Field monitoring devices, which are often referred to as “drive by” units, are primarily used in conjunction with continuous signaling devices. Id. Supervision officers using the device can conduct surveillance of an offender by driving past locations where the individual is scheduled to be present, such as work, school, or rehabilitation clinics. Id. The
were often unaware of an offender’s location at various points throughout the day.\footnote{62}{See Steve Mainprize, Elective Affinities in the Engineering of Social Control: The Evolution of Electronic Monitoring, ELEC. J. SOC., Nov. 1996, http://www.sociology.org/content/vol002.002/mainprize.html.} GPS monitoring essentially fills in these gaps, and offenders are cognizant that law enforcement officials are monitoring their every movement.\footnote{63}{See Axtman, supra note 5, at 2.}

2. Imposing Restrictions with Inclusion and Exclusion Zones

An important element of GPS monitoring is a law enforcement agency’s ability to isolate specific monitoring areas in which offenders are either permitted or restricted from entering.\footnote{64}{See Hoshen & Drake, supra note 34, at 13.} These areas have been labeled “inclusion” and “exclusion” zones and are typically programmed into a GPS monitoring system with advanced mapping software.\footnote{65}{See Crowe et al., supra note 4, at 67; see also iSECUREtrac Corporation, Establishing Electronic Boundaries, http://www.isecuretrac.com/tn24_g.asp (last visited Dec. 27, 2005). Mapping software enables inclusion and exclusion zones to be entered into the system by either manually imputing an address or physically pointing to a location on a computerized map. Crowe et al., supra note 4, at 67. Multiple zones can be created and edited, applied to one or more offenders, and re-sized larger or smaller to best fit the needs of the particular agency. Id.} Exclusion zones are areas where an offender is strictly prohibited from entering, such as public parks, school zones, and high crime areas.\footnote{66}{Id.} They can range anywhere from a three-hundred to two-thousand foot radius, and a multiple number of zones may be selected for each individual offender.\footnote{67}{Id.} If an offender ventures into a prohibited area, an alert is immediately triggered, and real-time monitoring enables law enforcement agents to be dispatched to the offender’s precise location.\footnote{68}{Id.}

Conversely, inclusion zones refer to areas where an offender is expected to be present at various points throughout the day, such as work, school, drug treatment programs, or home.\footnote{69}{Id.} Multiple inclusion zones can be established to fit the particular needs of each individual offender, and the size of an inclusion zone is generally without limitation.\footnote{70}{Id.} Similar to exclusion zones, if an offender fails to arrive at an inclusion zone or prematurely departs from the zone, an alert is immediately triggered notifying an appropriate officer.\footnote{71}{Id.} Both inclusion and exclusion zones are vital to the efficient operation of a GPS monitoring program because they provide a field monitoring device is able to detect the radio signals emanating from the transmitter worn by the offender to determine if the offender is present at the specified location. \textit{Id.}
means for less labor-intensive supervision. Correctional officers are no longer required to sit in front of computer monitors twenty-four hours per day and can now simply respond to the various alerts triggered by offender violations.

III. OHIO’S PRISON SYSTEM AND THE IMPACT OF RECENT LEGISLATION ON CRIMINAL SENTENCING STATUTES

The United States prides itself on valuing liberty and proudly accepts the title “the land of the free.” However, it is difficult to imagine that a nation with the highest incarceration rate on Earth could possibly carry such a label. Several states, including Ohio, are still experiencing the repercussions of the incarceration binge that began in the country only a few decades ago. The staggering cost of maintaining such a large prison population and its burden on the local economy remain painfully apparent in Ohio. Fortunately, the State has recently enacted legislation that encourages the use of electronic monitoring technology, such as GPS tracking, as an alternative to the incarceration of nonviolent offenders. With this statutory authority in place, Ohio courts may now assist in decreasing correctional spending by reducing the number of nonviolent criminals serving time behind bars.

A. Portrait of the State Prison System Over the Past Three Decades

1. Incarceration Explosion Between 1978 and 1998

Between the years 1978 and 1998, the United States experienced an unprecedented explosion in its adult prison population. Unfortunately, many states were not financially prepared to cope with the overwhelming flood of new prisoners.
and the skyrocketing increases in correctional expenditures that ensued.\textsuperscript{81} Ohio was among this numerous list of states, as its prison population more than tripled between 1978 and 1998.\textsuperscript{82} In order to accommodate the dramatic increase in the number of inmates, the State was forced to build twenty-four new penal institutions.\textsuperscript{83} By 1998, annual corrections program spending in Ohio had ballooned from approximately one-hundred fifty million to over one billion dollars.\textsuperscript{84}

Although several factors may have contributed to the dramatic increase in the prison population,\textsuperscript{85} the three factors having the greatest impact were stricter sentencing laws, tougher sanctions imposed by judges, and declining parole rates.\textsuperscript{86} Senate Bill 199, which implemented reform in Ohio sentencing laws in 1983, created mandatory minimum prison terms for many crimes and introduced two non-mandatory prison sentence ranges for low-level, nonviolent felons.\textsuperscript{87} In a five-year period, the average time served by first-degree and second-degree felons increased from 3.2 to 5.3 years and 2.1 to 3.6 years respectively.\textsuperscript{88} Judges also began issuing tougher sanctions to nonviolent drug offenders. This class of offenders constituted almost fifty percent of the increase in new commitments between 1987 and 1992.\textsuperscript{89} Finally, the declining parole rates were partially attributable to the thirty-six percent increase in violent crime between 1986 and 1991.\textsuperscript{90} Offenders convicted of violent


\textsuperscript{82}See \textit{Ohio Dep’t of Rehab. and Corr., Yearly Intake and Population on January 1, by Sex, with Percentage Change from Preceding Year}, 1972-2006, http://www.drc.state.oh.us/web/Reports/reports18.asp (follow “Yearly Intake and Population on Jan. 1 (1972-2006)” hyperlink) [hereinafter \textit{Yearly Intake}] (last visited Mar. 10, 2006). In 1978, the prison population in Ohio was estimated at 12,846 inmates. \textit{Id.} By 1998, this number had experienced such a dramatic increase that the population was estimated at a staggering 47,808. \textit{Id}.

\textsuperscript{83}See \textit{Ohio Legislative Serv. Comm’n}, supra note 77, at 54. In 1978, Ohio’s state prison system utilized a total of eight correctional institutions. \textit{Id.} By 2004, the number of institutions had shockingly increased to thirty-two placing a heavy burden upon state correctional resources. \textit{Id}.

\textsuperscript{84}Id.


\textsuperscript{86}See \textit{Ohio Legislative Serv. Comm’n}, supra note 77, at 55.


\textsuperscript{88}See La Vigne et al., supra note 85, at 20.

\textsuperscript{89}Id. at 16.

\textsuperscript{90}Id. at 17. “Violent offenders are persons convicted of homicide, kidnapping, forcible rape, sexual assault, robbery, assault, or other crimes involving the threat or imposition of harm upon the victim, including extortion, intimidation, reckless endangerment, hit-and-run
crimes are generally less likely to be paroled and are often forced to endure longer prison sentences. By the late 1990s, all of these factors contributed to Ohio having the sixth largest prison population in the entire country.

2. Current Status of Ohio’s Prison System

After experiencing dramatic increases over the prior two decades, Ohio’s prison population finally peaked in 1998 and slowly began to decline over the next three years. Between 2001 and 2005, the total number of prisoners remained relatively stable even though the total intake of new inmates continued to rise. Despite Ohio’s stabilization efforts, actual expenditures by the Department of Rehabilitation and Corrections (DRC) exhibited an average annual increase of more than twenty-three million dollars each year over that four-year period. This alarming trend appears to continue into 2006, as close to $1.7 billion dollars is budgeted for DRC expenditures in Ohio.

The fluctuation in DRC expenditures between years is the direct result of increases or decreases in several individual DRC departmental and program expenses. However, the aggregate change in all expenses can be best analyzed as one single unit: the average cost per inmate. The average cost per inmate encompasses the costs of prison administration, security guards, mental health services, medical services, education of inmates, and every other cost necessary to properly manage and rehabilitate prisoners. At the end of the DRC’s fiscal year

---

91 See generally Greenfeld, supra note 90, at 1.


93 See La Vigne et al., supra note 85, at 21. Between the years 1998 and 2001, the total inmate population decreased from 49,029 to 44,868. Id. The marked decline was due to a 28% increase in the number of releases. Id. It is important to note that during this period, the number of admissions still increased by 17%. Id.

94 See Yearly Intake, supra note 82.


97 See generally 2005 Annual Report, supra note 95, at 36.

98 Id. at 29.

99 Id.
2005, the average cost to house each inmate was estimated at $68.76 per day, which equates to an astonishing annual cost per inmate of $25,097.\textsuperscript{100} This cost has steadily increased each year since 2001,\textsuperscript{101} and only a relatively small portion can be attributed to yearly inflation.\textsuperscript{102}

To combat the high cost of incarceration, Ohio has recently focused on improving community sanctions for low-level, nonviolent offenders in an effort to avoid issuing nonessential terms of imprisonment.\textsuperscript{103} The DRC has also aggressively devoted substantial resources toward the creation of prisoner re-entry programs in order to reduce the rate of recidivism among offenders released into the community.\textsuperscript{104} A few of the federal and state-funded re-entry and community sanction projects currently implemented in Ohio include Offender Workforce Development, Protecting Inmates and Safeguarding Communities, Returning Home: Re-entry In Ohio, and Temporary Assistance to Needy Families.\textsuperscript{105}

**B. Impact of Ohio Senate Bill 2 and House Bill 490**

1. **Ohio Senate Bill 2**

The legislature enacted Ohio Senate Bill 2 (SB2) on July 1, 1996 as the result of adult felony sentencing reform recommendations proposed to the General Assembly by the Criminal Sentencing Commission.\textsuperscript{106} One of the many goals of SB2 was to divert a greater number of nonviolent offenders from prison to various community-based sanctions in an effort to reduce unnecessary burdens upon correctional resources.\textsuperscript{107} The legislation not only modified several provisions in Ohio’s criminal code, but it also changed the way in which judges sentenced convicted felons.\textsuperscript{108}

\textsuperscript{100}The daily cost per inmate in 2005 of $68.76 multiplied by a 365-day period results in a yearly cost per inmate of approximately $25,097. \textit{Id.} This result is astonishing considering that the 2006 poverty threshold for a family of five is estimated at $23,400, which is $1,697 less that what Ohio is currently spending to house each inmate per year. See Annual Update of the HHS Poverty Guidelines, 71 Fed. Reg. 3848, 3848 (Jan 24, 2006), available at http://aspe.hhs.gov/poverty/06fedreg.pdf.

\textsuperscript{101}See 2005 ANNUAL REPORT, supra note 95, at 29.


\textsuperscript{103}See LA VIGNE ET AL., supra note 85, at 21.

\textsuperscript{104}At the end of fiscal year 2005, the Ohio Department of Rehabilitation and Correction had created over ninety-seven thousand offender re-entry plans. See generally 2005 ANNUAL REPORT, supra note 95, at 5-12. The focal point of the plans is to provide proper education and skill training to offenders while strengthening their family units and helping them to develop a strong pool of community resources. \textit{Id.}

\textsuperscript{105}\textit{Id.} at 15.

\textsuperscript{106}See HARRIS & DIBOLL, supra note 78, at 4.

\textsuperscript{107}\textit{Id.} at 10.

\textsuperscript{108}\textit{Id.} at 4.
Arguably one the most influential changes brought about by the enactment of SB2 was the introduction of the term “community-control sanction” into the Ohio Revised Code.\textsuperscript{109} The term was broadly defined under SB2 as “a sanction that is not a prison term and that is described in section 2929.16, 2929.17, or 2929.18.”\textsuperscript{110} Under section 2929.17, which was also a product of SB2,\textsuperscript{111} a court was generously given the option of issuing felony offenders several different nonresidential sanctions as opposed to house arrest or imprisonment.\textsuperscript{112} The term “electronic monitoring” was included in this expansive list of sanctions.\textsuperscript{113} To further achieve its goal of reducing the population of nonviolent felons in State prisons,\textsuperscript{114} SB2 actually created a preference that certain fourth-degree and fifth-degree felons be given community-control sanctions, as opposed to terms of incarceration.\textsuperscript{115} When all of the stated provisions are considered, SB2 appears to have paved the road for the use of electronic monitoring and other community-based sanctions in Ohio sentencing law.\textsuperscript{116}

2. Ohio House Bill 490

Ohio House Bill 490 (HB490), which took effect on January 1, 2004,\textsuperscript{117} changed several provisions in Ohio’s criminal code in an effort to guide courts in the sentencing of misdemeanants.\textsuperscript{118} One of the main goals of the legislation was to encourage greater use of both community service and new monitoring technologies for the purpose of punishing offenders and protecting the public from future crime.\textsuperscript{119} Among other modifications, HB490 had the effect of substantially expanding the availability of nonresidential sanctions to misdemeanants while broadening the definition of “electronic monitoring device.”\textsuperscript{120}

Prior to the enactment of HB490, a court could not impose a community-control sanction upon an offender convicted of a misdemeanor and could only impose terms

\textsuperscript{109}See OHIO REV. CODE ANN. § 2929.01(F) (West 2006); see also BURT W. GRIFFIN & LEWIS R. KATZ, OHIO FELONY SENTENCING LAW 624 (2004).
\textsuperscript{110}See § 2929.01(F); see also 1995 Ohio Legis. Serv. Ann. L-2663 (West).
\textsuperscript{112}See OHIO REV. CODE ANN. § 2929.17 (West 2006).
\textsuperscript{113}Id.
\textsuperscript{114}See HARRIS & DIROLL, supra note 78, at 4.
\textsuperscript{115}See OHIO REV. CODE ANN. § 2929.13(B)(2)(b) (West 2006).
\textsuperscript{116}See generally HARRIS & DIROLL, supra note 78, at 3.
\textsuperscript{118}Id. at 4.
\textsuperscript{119}Id.
\textsuperscript{120}See DIROLL, supra note 117, at 11-12.
of probation. Further, a term of probationary electronic monitoring could only be issued if it was accompanied by house arrest. HB490 removed a court’s authority to impose probation altogether, and granted broad authority to directly sentence a misdemeanor offender to one or more community-control sanctions. The new legislation also removed the requirement that electronic monitoring be partnered with house arrest, making electronic monitoring a solitary nonresidential sanction. Finally, HB490 expanded the definition of “electronic monitoring device” to include any technology that can adequately track the location of either a misdemeanor or felony offender at any time, which includes satellite technology. The provisions of HB490 not only made it possible for misdemeanants to receive community-control sanctions as opposed to imprisonment, but also increased Ohio courts’ awareness of modern technologies that will greatly improve nonresidential primary sentencing options.

IV. ANALYSIS: GPS MONITORING AS A CONSTITUTIONAL, COST-EFFECTIVE, AND COMMUNITY-FRIENDLY ALTERNATIVE TO INCARCERATION

When planning the implementation of any electronic offender monitoring program, a state must consider several important variables. Among the most crucial factors to consider include the possible constitutional challenges to the program, the tangible and intangible costs and the source of funding, and the effects that the program will have on the community. Although a state agency may be confronted with difficult constitutional issues at the inception of a GPS monitoring program, proper planning, accompanied by the development of strict administrative guidelines, will suffice to eliminate virtually any meritorious constitutional claims brought by disgruntled offenders.

---


122 Id. at 11.

123 See id. at 2; see also Ohio Rev. Code Ann. § 2929.25(A)(1)(a) (West 2006).

124 See H.B. 490 Final Analysis, supra note 121, at 53; see also Ohio Rev. Code Ann. § 2929.27(A)(2) (West 2006).

125 See Diroll, supra note 117, at 12; see also Ohio Rev. Code Ann. § 2929.01(VV)(3) (West 2006).

126 See H.B. 490 Final Analysis, supra note 121, at 2.

127 See Harris & Diroll, supra note 78, at 7.

128 See Crowe et al., supra note 4, at 8.

129 Id. at 21-23.

130 Id. at 41.

131 Id. at 33.

132 Id. at 21-23.

133 Id.
criminals to terms of monitored supervision can also lead to substantial cost savings,\textsuperscript{134} especially if the program requires eligible offenders to contribute to the costs of their supervision.\textsuperscript{135} Finally, a properly run GPS offender monitoring program will not only eliminate most serious threats to the general public,\textsuperscript{136} but will actually benefit a community by preventing the negative effects of incarceration, such as loss of employment, increases in correctional spending, increases in offender recidivism, and deterioration of the family structure.\textsuperscript{137}

A. Constitutional Challenges to the Use of GPS Monitoring Technology

When the concept of electronic monitoring was first introduced in the 1960s by Dr. Robert Schweitzgebel, an American psychologist, the general public quickly expressed strong concerns about possible violations of offenders’ constitutional rights.\textsuperscript{138} The rights in controversy included an offender’s right to privacy, right to due process, freedom from cruel and unusual punishment, and equal protection under the law.\textsuperscript{139} The use of GPS technology to track an offender’s movements is the most modern form of electronic monitoring,\textsuperscript{140} and the identical constitutional issues previously debated several decades ago may once again fall under public scrutiny.\textsuperscript{141} However, with proper planning and adequate safeguards, a well devised GPS monitoring program is more than certain to pass constitutional muster in the state of Ohio.\textsuperscript{142}

1. Fourth Amendment Challenges

The Fourth Amendment to the U.S. Constitution broadly guarantees freedom from government intrusion into a citizen’s privacy.\textsuperscript{143} In \textit{Katz v. United States}, the

\begin{itemize}
  \item \textsuperscript{135}\textsuperscript{135}See Scheeres, \textit{supra} note 7; see also BI INCORPORATED, BI CASE STUDY: ALASKA DEPARTMENT OF CORRECTIONS (2004), http://www.bi.com/pdfs/BI_CS_Alaska.pdf.
  \item \textsuperscript{136}\textsuperscript{136}See generally iSECUREtrac Corporation, Recidivism, Compliance, and Reentry into Communities, http://www.isecuretrac.com/sa_cr.asp (last visited Jan. 19, 2006).
  \item \textsuperscript{139}\textsuperscript{139}See CROWE ET AL., \textit{supra} note 4, at 21-23; see also U.S. CONST. amend. IV, V, VIII, XIV, § 1.
  \item \textsuperscript{141}\textsuperscript{141}See CROWE ET AL., \textit{supra} note 4, at 21; see also Stark, \textit{supra} note 17.
  \item \textsuperscript{142}\textsuperscript{142}See \textit{id.} at 21-23. See generally \textit{JOHN HOWARD SOC’Y OF ALTA.}, \textit{supra} note 138, at 8.
  \item \textsuperscript{143}\textsuperscript{143}The Amendment provides the following:
The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants
\end{itemize}
Supreme Court held that “[w]hat a person knowingly exposes to the public . . . is not a subject of Fourth Amendment protection” and “what he seeks to preserve as private . . . may be constitutionally protected.”\(^{144}\) Since GPS technology has the capability of tracking an offender’s every movement,\(^{145}\) its effect upon the privacy rights of both offenders and their families may raise public concern over the use of the new technology in an offender monitoring program.\(^{146}\) By obtaining knowledge of an offender’s precise locations twenty-four hours a day,\(^{147}\) a correctional agency has a front row seat into a program participant’s habits, personal affairs, and relationships.\(^{148}\) Conclusions subsequently formulated about such private relations may appear to invade an offender’s sense of autonomy and privacy, subjecting the offender to a high degree of ridicule and humiliation.\(^{149}\)

Although Fourth Amendment issues presented a substantial impediment to the implementation of offender monitoring programs when electronic monitoring technology was first introduced,\(^{150}\) it is now widely accepted that monitored offenders are afforded a lower degree of constitutional protection than the ordinary law-abiding citizen.\(^{151}\) The primary reason why such monitoring has been determined not to constitute an unlawful invasion of privacy is because the sanction is usually imposed only with the full consent of an offender.\(^{152}\) With this consent, an offender is considered to have knowingly exposed all facets of his private life to the correctional agency and is no longer entitled to a high degree of Fourth Amendment protection under \textit{Katz}.\(^{153}\) Therefore, if the administrator of a GPS monitoring program adequately ensures that all participants fully understand the terms of monitored release and willfully accept all conditions imposed, the offenders will be

\begin{quote}
shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.
\end{quote}

U.S. CONST. amend. IV.

\(^{144}\) \textit{Katz} v. United States, 389 U.S. 347, 351 (1967)

\(^{145}\) \textit{See Keeping Track, supra} note 4, at 2.

\(^{146}\) \textit{See John Howard Soc’y of Alta., supra} note 138, at 8-10; \textit{see also} Otterberg, \textit{supra} note 59, at 670.

\(^{147}\) \textit{See Keeping Track, supra} note 4, at 5.


\(^{149}\) \textit{Id.}

\(^{150}\) \textit{See John Howard Soc’y of Alta., supra} note 138, at 8.

\(^{151}\) \textit{See id.; see also} United States v. Knights, 534 U.S. 112, 119 (2001) (stating that a court may impose reasonable conditions depriving the offender of some freedoms enjoyed by law-abiding citizens).


deemed to have substantially waived their expectations of privacy protected by the Fourth Amendment.\textsuperscript{154}

2. Eighth Amendment Challenges

The Eighth Amendment to the U.S. Constitution unconditionally guarantees all people the right to be free from “cruel and unusual punishments.”\textsuperscript{155} In \textit{Furman v. Georgia},\textsuperscript{156} the Supreme Court set forth a series of principles used to determine whether a particular punishment is cruel or unusual.\textsuperscript{157} Among these principles, the severity of the punishment must not be “patently unnecessary,” inflicted in a “wholly arbitrary fashion,” or “degrading to human dignity.”\textsuperscript{158} One of the primary public concerns with GPS tracking is that certain offenders will be sanctioned to a term of monitoring when they may have otherwise received a less punitive sanction if GPS technology had been unavailable.\textsuperscript{159} An additional Eighth Amendment concern is that compliance with the terms associated with GPS monitoring may prove to be impossible for an offender.\textsuperscript{160} Finally, the general public has expressed Eighth Amendment concerns that the requirements of GPS monitoring, such as the requirement of having to wear the tracking equipment in public, can be viewed as oppressive or humiliating to an offender.\textsuperscript{161}

When conducting research into possible Eighth Amendment challenges, the American Probation and Parole Association concluded that the use of electronic monitoring technology generally does not constitute cruel and unusual punishment.\textsuperscript{162} The principle rationale for this decision is that an offender’s compliance with the terms of a monitoring program can ultimately be considered

\textsuperscript{154}See \textit{John Howard Soc’y of Alta.}, supra note 138, at 9; see also Minnesota v. Carter, 525 U.S. 83, 88 (1998) (asserting that a person’s capacity to claim the protection of the Fourth Amendment depends upon whether the person had a legitimate expectation of privacy); Hudson v. Palmer, 468 U.S. 517, 527-28 (1984) (holding that loss of privacy is an inherent consequence of incarceration).

\textsuperscript{155}U.S. Const. amend. VIII.

\textsuperscript{156}Furman v. Georgia, 408 U.S. 238 (1972).

\textsuperscript{157}Id. at 281.

\textsuperscript{158}Id. The principals consisted of the following: the severity of the punishment must not be “degrading to human dignity”; the punishment must not be inflicted in a “wholly arbitrary fashion”; the punishment must not be “clearly and totally rejected throughout society”; and the punishment must not be “patently unnecessary.” Id. These standards are still considered by courts today when determining whether a particular sentence is “cruel and unusual.” See, e.g., Atkins v. Virginia, 536 U.S. 304, 323 (2002); Simmons v. South Carolina, 512 U.S. 154, 173 (1994); Wilson v. State, 830 So. 2d 765, 782 (Ala. Crim. App. 2001).

\textsuperscript{159}See Axtman, supra note 5, at 3. Although the American Civil Liberties Union (ACLU) feels that GPS technology is a good alternative to incarceration, it also has expressed general concern that people will be unnecessarily placed into GPS monitoring programs as opposed to less punitive sanctions. See id.; see also Scheeres, supra note 7.

\textsuperscript{160}See Crowe et al., supra note 4, at 23.

\textsuperscript{161}See id.; see also \textit{John Howard Soc’y of Alta.}, supra note 138, at 9-10.

\textsuperscript{162}See Crowe et al., supra note 4, at 23.
voluntary because the offender always possesses the option to remain incarcerated.\textsuperscript{163} Further, although the use of an ankle device may at times be embarrassing or uncomfortable for an offender,\textsuperscript{164} it is undisputedly less restrictive and more humane than physical incarceration.\textsuperscript{165} Correctional agencies also possess a strong financial incentive to impose a less restrictive sanction upon an offender, such as house arrest, as opposed to GPS monitoring, because the cost is substantially less.\textsuperscript{166} A state will only plan to allocate GPS monitoring resources to offenders who pose a general risk to the public or who are likely to disobey less restrictive sanctions.\textsuperscript{167} All of the evidence taken together indicates that the use of GPS technology in an offender monitoring program will not violate the principles underlying the Eighth Amendment.\textsuperscript{168}

3. Fourteenth Amendment Challenges

The Fourteenth Amendment to the U.S. Constitution declares that no state shall “deprive any person of life, liberty, or property, without due process of law.”\textsuperscript{169} Under \textit{Goldberg v. Kelly},\textsuperscript{170} procedural due process includes an offender’s right not only to be adequately notified of proceedings but also to have the opportunity to be heard at those proceedings.\textsuperscript{171} An alleged violation of procedural due process rights may occur in a GPS monitoring program when an offender disobeys specific terms of a sanction and is consequently forced to serve the remaining time in prison.\textsuperscript{172} This situation occurred in \textit{Long v. State},\textsuperscript{173} where the State sought to remove an offender from his electronic monitoring program and place him in prison for

\textsuperscript{163}Id.  Research has shown that offenders unanimously prefer electronic monitoring as opposed to physical incarceration.  \textit{See} Brian K. Payne & Randy R. Gainey, \textit{The Electronic Monitoring of Offenders Released From Jail or Prison: Safety, Control, and Comparisons to the Incarceration Experience}, 84 Prison J. 413, 428-29 (2004).  The ability to maintain family ties, continue employment, and reflect upon the future, represented just a few of the reasons why offenders favored such a sanction.  \textit{Id.}

\textsuperscript{164}See e.g., Gersh Kuntzman, \textit{Martha Gripe About Bracelet in E-Chat}, N.Y. Post, March 15, 2005, (Late City Final Section), at 15.

\textsuperscript{165}See \textit{Crowe et al.}, \textit{supra} note 4, at 23; \textit{see also} \textit{John Howard Soc’y of Alta.}, \textit{supra} note 138, at 10.

\textsuperscript{166}See Office of Program Policy Analysis & Government Accountability, \textit{Electronic Monitoring Should Be Better Targeted to the Most Dangerous Offenders} 5 (April 2005), available at http://www.oppaga.state.fl.us/reports/pdf/0519rpt.pdf (Report No. 05-19) [hereinafter OPPAGA].  Radio Frequency, which is often used to enforce house arrest curfews, is estimated to cost $2.34 per day.  \textit{Id.}  In comparison, active GPS monitoring is estimated to cost $8.97 per day.  \textit{Id.}

\textsuperscript{167}Id.

\textsuperscript{168}See generally \textit{Crowe et al.}, \textit{supra} note 4, at 23.

\textsuperscript{169}U.S. Const. amend. V.


\textsuperscript{171}Id. at 267-68.

\textsuperscript{172}See generally \textit{Crowe et al.}, \textit{supra} note 4, at 23.

allegedly tampering with his ankle transmitter.\footnote{Id. at 1240.} The court held that the State’s failure to notify the offender in writing of its intention to seek revocation of the monitoring program violated his right to due process.\footnote{Id.}

\textit{Long} does not imply that the use of GPS technology in a carefully administered offender monitoring program is likely to create an abundance of nonfrivolous litigation against a state correctional agency.\footnote{See Crowe et al., supra note 4, at 22.} However, an agency must diligently establish adequate policies and procedures to safeguard an offender’s due process rights.\footnote{Id. at 23.} This may include ensuring that the GPS equipment contains an accurate mechanism for detecting violations and recording them as evidence in a manner acceptable to courts.\footnote{See Long, 717 N.E.2d at 1241.} Further, the agency must also develop a routine for promptly notifying offenders of violations in order to afford them a fair opportunity to present contradicting evidence.\footnote{Id.} With these two security measures properly in place, a state correctional agency can comfortably avoid burdensome procedural due process lawsuits.\footnote{See Crowe et al., supra note 4, at 22.}

The Fourteenth Amendment also states, in pertinent part, that no state shall “deny to any person within its jurisdiction the equal protection of the laws.”\footnote{See U.S. Const. amend. XIV, § 1.} Under \textit{Griffin v. Illinois},\footnote{See Griffin v. Illinois, 351 U.S. 12 (1956).} the Supreme Court interpreted this clause to hold that “a State can no more discriminate on account of poverty than on account of religion, race, or color.”\footnote{Id. at 17-18.} The danger of violating an offender’s constitutional right to equal protection may arise in two seemingly similar situations.\footnote{See Crowe et al., supra note 4, at 23.} In both scenarios, the GPS monitoring program requires offenders to contribute to the cost of their supervision.\footnote{Id. It is becoming increasingly more common for state correctional agencies to require offenders to pay all or a portion of the cost of expenses related to their supervision. \textit{Id. at 47; see also} National Association of Pretrial Services Agencies, 33rd Annual Conference and Training Institute, 2005 Exhibitors, Sentinel Offender Services, LLC, http://www.napsa-acti.org/expages/sentinel.htm (last visited Dec. 29, 2005).} The first situation occurs when an offender, who is otherwise qualified for an electronic monitoring program, is incarcerated solely due to insolvency.\footnote{See Crowe et al., supra note 4, at 23; see also Bearden v. Georgia, 461 U.S. 660, 674 (1983) (holding that a defendant cannot be imprisoned for failure to pay a fine due to insolvency).} The other problematic situation transpires when an offender becomes
insolvent while on a GPS monitoring program and can no longer afford to pay the costs necessary to maintain the monitoring equipment.  

Fourteenth Amendment challenges under the Equal Protections Clause will be completely avoided by selecting GPS monitoring program participants based on factors other than offenders’ financial resources.  

Mechanisms such as “sliding fee scales” provide effective tools for ensuring that offenders from all different income levels have the same opportunity to be considered for a term of monitored supervision.  

Further, state funds should be available to cover the cost of monitoring in situations where offenders, through no fault of their own, become indigent while on monitored supervision.  

A state should also consider the possibility of requiring insolvent offenders to perform community service as a method of paying their way through the program.  

If an offender monitoring program selects participants based on criteria other than ability to pay and adequately provides a means for insolvent offenders to participate, a state agency will not be overburdened with legitimate Fourteenth Amendment claims based on the Equal Protection Clause.

### B. Cost Saving Potential of a GPS Monitoring Program

#### 1. Declining Price of GPS Technology

When GPS offender monitoring technology was first introduced in 1997, the newly developed equipment was significantly more expensive than other more primitive forms of electronic monitoring. The steep price was a direct consequence of the various manufacturers’ attempts at recovering research and development expenses, which can generally be expected with the introduction of

---

187See CROWE ET AL., supra note 4, at 23; see also United States v. Stevens, 986 F.2d 283, 284 (8th Cir. 1993) (holding that if an offender cannot pay despite sufficient bona fide efforts to acquire the resources to do so, the court must consider alternative measures of punishment other than imprisonment).

188See CROWE ET AL., supra note 4, at 23.

189Id. A sliding fee scale will determine the amount that an offender is required to contribute to the cost of electronic monitoring based on the individual’s income level. Id. Under this mechanism, offenders with lower income levels will be required to contribute less than offenders with higher income levels. Id. Agencies may even require wealthier offenders to pay more than the actual costs of their electronic supervision in order to compensate for indigent offenders who wish to participate in the GPS monitoring program. Id.

190Id.

191Id. at 47.

192Id.

193Id. at 23.

194See HOSHEN & DRAKE, supra note 34, at 8.


196Id. With GPS offender monitoring companies, research and development costs generally include the “cost of outside contracted engineering and design, staffing expenses . . .
any new technology.\footnote{197} In addition to staffing expenses, the equipment once cost a state agency between thirty and forty dollars per day for the monitoring of each individual offender.\footnote{198} Due to state budget restraints, the use of GPS technology was initially targeted at higher-risk offenders, such as sex offenders, domestic violence offenders, pretrial releasees in high-profile cases, and parolees with histories of violent crime.\footnote{199}

As predicted,\footnote{200} equipment costs have been declining dramatically in recent years, making the use of GPS monitoring a more attractive option for other types of offenders.\footnote{201} The least dangerous nonviolent offenders are slowly becoming the primary focus of GPS monitoring programs, and the more dangerous criminals are being denied the opportunity to participate.\footnote{202} Further, GPS firms are currently advertising prices that are less than ten dollars per day for the use of their equipment.\footnote{203} For example, a recent report issued by the Florida Office of Program Policy Analysis & Government Accountability found that tracking offenders in real time with GPS equipment costs the State an average of less than nine dollars per day for each offender.\footnote{204} The dramatic decrease in price has closed the gap between the costs of GPS supervision and the costs of other less restrictive forms of electronic monitoring,\footnote{205} and correctional agencies are becoming increasingly willing to pay for the additional layer of protection that GPS technology can provide.\footnote{206}

2. GPS as a Proven Means for Reducing Correctional Expenditures

Many states, such as Ohio, are still experiencing difficulty with reducing DRC expenditures and are continuing to encounter highly undesirable annual budget

\begin{footnotesize}
\begin{enumerate}[\footnotesize{197}]

\item See \textit{Keeping Track}, supra note 4, at 5.

\item See \textit{Crowe et al.}, supra note 4, at 67.

\item Id.

\item See \textit{Stark}, supra note 17.

\item See \textit{Saletan}, supra note 140.


\item See \textit{OPPAGA}, supra note 166, at 4-5.

\item See \textit{Walker & Goren}, supra note 18, at 10.

\item See \textit{Hyde & DeFarnatt}, supra note 137.
\end{enumerate}
\end{footnotesize}
Prisons are generally overcrowded, often creating uncontrollable caseloads for officers. One of the most alarming statistics is that a number of states are burdened with an average annual cost per inmate of over twenty-three thousand dollars. Further, recent reports illustrate that only approximately one-half of all male and one-third of all female state prisoners are incarcerated for violent crimes. With heightened financial and political pressure bearing down upon them, some state and local correctional agencies have begun piloting GPS offender monitoring programs in an effort to integrate nonviolent offenders back into the community. Current results indicate that these programs have been extremely successful, and other agencies are wisely beginning to follow this trend.

---


211 See HARRISON & BECK, supra note 208, at 1.

212 See Axtman, supra note 5, at 2; see also Hyde & DeJarnatt, supra note 137.

Oakland County, a prominent community located in the state of Michigan, is among the list of states and localities piloting GPS offender monitoring programs. The county first began launching the program in May 2001, and the majority of the original thirty-two participants were nonviolent felony offenders who had already served a portion of their jail terms. Participating offenders were not only required to maintain employment, but were also expected to contribute ten dollars per day to take part in the program. These modest contributions were used to pay for the GPS monitoring equipment, which cost substantially less than the eighty dollars per day incurred by the County to physically incarcerate each offender. With an average jail term between two and four months for each participant, the estimated savings were substantial. After evaluating the program’s success, Oakland County is aggressively considering expanding its use of GPS monitoring to further reduce correctional expenditures and alleviate jail overcrowding.

Another county that has recently piloted a GPS offender monitoring program is Sullivan County, which is considered to have one of the smallest populations in all of New Hampshire. In 2003, after experiencing dramatic increases in its adult correctional population, the County began implementing an inmate transition program with the goal of releasing certain nonviolent offenders back into the

---


216 See Crumm, supra note 203.

217 Id.

218 Id.


220 See Crumm, supra note 203.

221 Id.

222 With the average jail term of a program participant ranging between two and four months, the potential savings to the County could have approximated up to $9,600 per offender (120 days (four months) multiplied by eighty dollars per day). Id.

223 See Lynch, supra note 219.

224 Id.


Eligible offenders must have been serving sentences of no less than three months in duration and were carefully selected based upon good behavior. Similar to the Oakland County program, offenders were required to pay the full cost of their monitoring by personally contributing ten dollars per day. By avoiding the high cost of incarcerating each program participant, Sullivan County has successfully reduced its correctional expenditures by more than one-hundred and thirty thousand dollars. The County has also been able to substantially reduce the number of inmates, alleviating much of the pressure placed upon its sole correctional facility. Due to the program’s prosperity, other counties within the state of New Hampshire are strongly considering the use of GPS technology to monitor offenders within their own jurisdictions.

A third GPS offender monitoring program was successfully piloted in Roanoke County, Virginia in 2002. After reaching more than double its intended capacity, the County jail, acting in concert with the sheriff’s department, developed a community release program aimed specifically at low-level, nonviolent offenders. Each participant was not only required to wear a GPS tracking unit to ensure compliance with terms of release, but was also expected to live within one mile of the monitoring center. Like most other GPS pilot programs, offenders contributed eleven dollars per day towards the cost of their supervision. By permitting the participants to live at home and maintain employment, Roanoke County was able to save local taxpayers approximately two-hundred seventy thousand dollars. The most astonishing detail about this result is that it was

228 Id.
229 Id.
230 See Crumm, supra note 203.
231 See Sullivan County Case Study, supra note 213, at 2.
232 Id.
233 Id.
234 Id.
235 See Roanoke County Case Study, supra note 213, at 2.
236 Id. Most of the offenders permitted to participate in the program were convicted of either petty larceny or alcohol-related offenses. Id.
238 See Roanoke County Case Study, supra note 213, at 2.
239 See, e.g., Crumm, supra note 203; Sullivan County Case Study, supra note 213; Hamilton County Case Study, supra note 213.
240 See Roanoke County Case Study, supra note 213, at 2.
241 Id.
achieved while consistently maintaining a maximum of only twenty-five participants in the program throughout the entire year. After thoroughly assessing the program, the County determined that it had achieved several of its original goals and decided to continue the use of GPS monitoring technology in subsequent years.

Although the correctional department savings generated by the three offender monitoring programs illustrated above may not initially appear significant on a state level, this observation is clearly erroneous. In Ohio, current statistics indicate that, on average, there are approximately 7,500 “Truly Non-violent” (TNV) offenders occupying a costly prison bed during any period throughout the year. A TNV offender is “one who has no violent current conviction or indictment offense, no prior felony conviction for a violent or sex offense, no gun time, and no weapon involvement in the current offense.” With an average cost of $68.76 per day to house each offender in an Ohio state prison, a GPS monitoring program requiring each offender to pay for equipment expenses may result in correctional savings of several hundred thousand dollars per day. Further, the total annual savings could be astronomical since the average time being served in prison for many of the offenses qualifying as TNV is generally greater than six months. When

\[242^{242}\textit{Id.} \]
\[243^{243}\textit{Id.} \]
\[244^{244}\textit{See Walsh, supra note 237.} \]
\[245^{245}\textit{See Crumm, supra note 203; Sullivan County Case Study, supra note 213; Roanoke County Case Study, supra note 213.} \]
\[246^{246}\textit{In 2005, total Ohio DRC expenditures were estimated to be $1,599,851,177. See 2005 Annual Report, supra note 95, at 30. Therefore, the cost savings reported by Oakland, Sullivan, and Roanoke Counties would all result in a very insignificant decrease in state correctional expenditures. See Crumm, supra note 203; Sullivan County Case Study, supra note 213; Roanoke County Case Study, supra note 213.} \]
\[248^{248}\textit{See Ohio Cmty. Corr. Assoc., supra note 247, at 3.} \]
\[250^{250}\textit{See 2005 Annual Report, supra note 95, at 29.} \]
\[251^{251}\textit{The number of TNV offenders (7,500) multiplied by the daily cost of housing each offender ($68.76) results in total correctional savings of approximately $515,700 per day. The savings may be inflated due to unascertainable fixed costs associated with prison maintenance.} \]
\[252^{252}\textit{See generally Ohio Dep’t of Rehab. and Corr., Calendar Year 2004 Time Served Summary Data 1, http://www.drc.state.oh.us/web/Reports/reports15.asp (follow “Time Served 2004” hyperlink) [hereinafter Time Served Summary] (last visited Jan. 27, 2006). The average time served for the TNV fourth and fifth-degree felonies of forgery, receipt of stolen property, bad checks and credit card fraud, and theft/theft in office were all greater than} \]
considering the total number of TNV offenders currently housed in Ohio prisons, the average daily cost per inmate, and the average time served by TNV offenders, Ohio would experience significant cost savings by employing GPS monitoring technology as an alternative to the incarceration of such nonviolent criminals.

C. GPS Monitoring Programs and the Community

The decision to monitor offenders electronically within the community is often extremely controversial and may be met with a high degree of public resistance. One of the primary concerns expressed by state correctional agencies when considering the implementation of a GPS monitoring program is whether the program will impair public safety or diminish the public’s confidence in the criminal justice system. Fortunately, recent statistics indicate that offenders who are released into the community under GPS supervision have a much lower rate of recidivism than offenders who have been released from terms of incarceration. This result is not surprising considering the negative impact that imprisonment can have on an offender’s family support structure and ability to obtain meaningful employment. Further, many of the commonly perceived limitations as to the overall effectiveness of the GPS monitoring equipment are no longer valid due to recent technological advancements. Educating the public on all aspects of an electronic monitoring program, including the equipment’s capabilities, will clarify many of the misconceptions held by members within the community. Finally, current surveys illustrate that the public’s perception of appropriate sanctions for

253 See OHIO CMTY. CORR. ASSOC., supra note 247, at 3.
254 See JANUARY 2006 FACTS, supra note 209, at 1.
255 See TIME SERVED SUMMARY, supra note 252, at 1.
256 See CROWE ET AL., supra note 4, at 33.
257 See GPS CHANGES FACE OF CORRECTIONS FOR NONVIOLENT OFFENDERS, supra note 208, at 1.
259 See TRAVIS ET AL., supra note 9, at 1.
260 See generally Walker & Goren, supra note 18, at 10.
261 See CROWE ET AL., supra note 4, at 121.
nonviolent offenders is no longer balanced in favor of harsh prison sentences.\textsuperscript{263} The attitude reflects the philosophy that purely punitive sanctions have failed to reduce crime rates, while endorsing a movement toward more preventative and rehabilitative solutions.\textsuperscript{264}

1. Reducing Rates of Offender Recidivism

When considering the fact that the United States currently has the highest prison population in the world,\textsuperscript{265} it should not be surprising to discover that many offenders released from incarceration are quickly finding themselves back behind bars.\textsuperscript{266} The results of a recent research study tracking several offenders released from prisons in fifteen different states, including Ohio, indicated that approximately 67.5\% of all releases were ultimately rearrested within three years.\textsuperscript{267} Further, approximately 44\% of the re-arrests were documented as occurring within only one year of obtaining freedom.\textsuperscript{268} Among the categories of released prisoners with the highest rearrest rates were several classes of nonviolent offenders.\textsuperscript{269}

Conversely, several pilot offender monitoring programs utilizing GPS technology have produced results indicating much lower rates of recidivism among nonviolent participants.\textsuperscript{270} The program piloted in Roanoke County, Virginia has reported that, on average, less than 10\% of all participants violate their terms of monitored release.\textsuperscript{271} Similarly, over 80\% of offenders who participated in pilot programs that were implemented in Sullivan County, New Hampshire and Hamilton County, Indiana have successfully completed their transitions into the community.\textsuperscript{272} Although the three county programs monitored a relatively low number of


\textsuperscript{265}The United States is currently imprisoning approximately 2,135,901 people, which is over 500,000 more individuals than the country housing the next highest total number of prisoners (China). See International Center for Prison Studies, supra note 75.

\textsuperscript{266}See generally Langan & Levin, supra note 259, at 1.

\textsuperscript{267}Id.

\textsuperscript{268}Id. at 3.

\textsuperscript{269}Id. at 8. The classes of nonviolent offenders with the highest recidivism rates were the following: motor vehicle thieves (78\%); stolen property (77.4\%); burglary (74\%); possession (67.5\%); and fraud (66.3\%). Id.

\textsuperscript{270}See, e.g., Roanoke County Case Study, supra note 213, at 2; Sullivan County Case Study, supra note 213, at 2; Hamilton County Case Study, supra note 213, at 2.

\textsuperscript{271}See Roanoke County Case Study, supra note 213, at 2.

\textsuperscript{272}See Sullivan County Case Study, supra note 213, at 2; Hamilton County Case Study, supra note 213, at 2.
participants, the results appear to indicate that GPS monitoring is an effective tool for reducing offender recidivism.\textsuperscript{273}

Perhaps the most compelling evidence that GPS technology can reduce recidivism rates is captured in a recent large-scale study conducted in part by the Florida Department of Corrections.\textsuperscript{274} This study, which tracked data on the activity of over seventy-five thousand offenders released into Florida’s communities, revealed that offenders who had been placed under GPS supervision were approximately 94.7\% less likely to commit new crimes than offenders who were not electronically monitored.\textsuperscript{275} Further, less than 6\% of all nonviolent offenders placed in a GPS monitoring program during 2001 or 2002 committed a new offense.\textsuperscript{276} Based on its findings, the study concluded that the use of GPS technology appears to materially decrease the rates of recidivism for both violent and nonviolent offenders.\textsuperscript{277} However, this conclusion refrained from offering any further insight into the possible reasons why GPS monitoring is able to successfully deter program participants from re-offending.\textsuperscript{278}

When offenders are initially released from prison, they are forced to immediately transition from a very controlled environment with few personal responsibilities to one of complete freedom and total responsibility.\textsuperscript{279} Two of the overwhelming pressures that such individuals report experiencing at the moment of release are the necessity of having to locate employment and the difficulty of repairing shattered family ties.\textsuperscript{280} Offenders have often responded to the situation by employing destructive coping mechanisms that result in re-incarceration and increased rates of recidivism.\textsuperscript{281} Fortunately, research has demonstrated that sanctioning offenders to terms of electronic supervision, such as a term of GPS monitoring, effectively alleviates these pressures.\textsuperscript{282} In a recent study, over 95\% of offenders who had been sentenced to a term of electronic monitoring agreed that the sanction is more effective than incarceration because they were able to remain employed and preserve

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{273} See Roanoke County Case Study, supra note 213, at 2; Sullivan County Case Study, supra note 213, at 2; Hamilton County Case Study, supra note 213, at 2.
\item \textsuperscript{275} Id. at 79.
\item \textsuperscript{277} See Padgett et al., supra note 274, at 24.
\item \textsuperscript{278} See generally id. at 25-31.
\item \textsuperscript{279} See La Vigne et al., supra note 85, at 18.
\item \textsuperscript{280} Id. The majority of offenders are released with no more that a bus ticket and a small amount of cash, and very few resources are made available to assist them in securing employment or re-establishing critical family ties. Id at 19.
\item \textsuperscript{281} Id. at 19.
\item \textsuperscript{282} See Payne & Gainey, supra note 163, at 423.
\end{enumerate}
\end{footnotesize}
vital family relationships.\textsuperscript{283} Some offenders indicated that the relationships with their families had actually improved while on electronic monitoring and that the ability to maintain one’s wealth was very significant.\textsuperscript{284} Therefore, the opportunity to maintain close family relationships and to avoid the loss of employment appear to represent plausible explanations as to why GPS monitoring is able to successfully reduce recidivism rates among offenders released into the community.\textsuperscript{285}

2. Commonly Perceived Limitations of GPS Monitoring Technology

The introduction of GPS monitoring as an alternative to incarceration has been met with an anticipated level of public resistance and genuine concerns related to the overall effectiveness of the new technology.\textsuperscript{286} However, most of the limitations commonly perceived by the general public are currently no longer valid due to recent technological advancements.\textsuperscript{287} Providing educational seminars on all aspects of GPS supervision will clarify many of these misconceptions entertained by members of the community.\textsuperscript{288} The three primary limitations that are often cited by opponents of GPS monitoring programs are the occurrence of satellite signal interruptions, the presence of “dead spots” in cellular telephone networks, and the burden of reviewing unmanageable quantities of information.\textsuperscript{289}

Certain geographic conditions have been documented to temporarily create difficulties with a GPS receiver’s ability to detect satellite signals.\textsuperscript{290} Examples of such conditions include deep canyons, dense vegetation, large buildings grouped closely together, enclosed means of transportation, and weather conditions including rainfall, deep fog, or snowfall.\textsuperscript{291} If a satellite signal is no longer detected, a correctional agency will momentarily lose the ability to track an offender’s movements in real time.\textsuperscript{292} Although this situation may still occur, most PTUs worn by offenders immediately transmit an alert to the central monitoring system notifying authorities of the problem.\textsuperscript{293} The most modern systems have further reduced this shortcoming by incorporating omni-directional antennas into the PTUs, enabling them to receive GPS coverage under almost any circumstances.\textsuperscript{294} Even in the absence of GPS signal availability, these devices retain the capability to detect

\begin{footnotesize}
\begin{itemize}
  \item \textsuperscript{283} Id.
  \item \textsuperscript{284} Id. at 429.
  \item \textsuperscript{285} See generally id. at 428-29.
  \item \textsuperscript{286} See Stark, supra note 17; see also Crowe et al., supra note 4, at 118.
  \item \textsuperscript{287} See generally Walker & Goren, supra note 18, at 10.
  \item \textsuperscript{288} See Crowe et al., supra note 4, at 121.
  \item \textsuperscript{289} See generally id. at 66-67.
  \item \textsuperscript{290} Id. at 66.
  \item \textsuperscript{291} See BI Incorporated, supra note 53.
  \item \textsuperscript{292} Id.
  \item \textsuperscript{293} See Crowe et al., supra note 4, at 66.
\end{itemize}
\end{footnotesize}
motion in order to determine whether an offender is attempting to escape.\textsuperscript{295} As proof of the modern PTUs' effectiveness, the Florida Department of Corrections recently reported that, over a two-year period, the rate of absconding\textsuperscript{296} was less than 1% for offenders placed in a GPS monitoring program.\textsuperscript{297}

Another commonly perceived limitation inherent with GPS monitoring is the possibility of encountering “dead spots” in cellular telephone networks.\textsuperscript{298} Because most PTUs communicate location-related information through cellular telephone units,\textsuperscript{299} the device may momentarily fail to track an offender in real time when a cellular signal is weak or unavailable.\textsuperscript{300} The computer located within the PTU will continue to store an offender’s location-related information, but this information will not be relayed to the central monitoring system until the device is removed from the problem area.\textsuperscript{301} State correctional agencies can substantially eliminate the limitation created by “dead spots” with proper planning.\textsuperscript{302} Prior testing of the GPS equipment will ultimately reveal the areas within a community where cellular signals are weak or unavailable.\textsuperscript{303} An agency can then program these specific locations as exclusion zones within the system, strictly prohibiting an offender from entering the area and avoiding any possible loss of cellular signal.\textsuperscript{304}

The final limitation that skeptics of GPS monitoring often advance in opposition to the new technology is that the system produces an unmanageable amount of information and is, thus, too labor intensive.\textsuperscript{305} This assertion is perhaps one of the greatest indications of a lack of understanding as to how the technology is used by law enforcement officials.\textsuperscript{306} The primary function of GPS monitoring is not to actively scrutinize an offender’s every movement by placing a correctional officer in


\textsuperscript{296}An offender absconds from supervision when his or her whereabouts are unknown and the court is forced to issue a warrant for violation of supervision. \textit{See} Fla. DEP’T OF CORR., \textit{supra} note 276, at 3 (Glossary of Terms).

\textsuperscript{297}See \textit{id.} at 20 (Outcomes, Executive Summary).

\textsuperscript{298}See CROWE ET AL., \textit{supra} note 4, at 66.


\textsuperscript{300}See CROWE ET AL., \textit{supra} note 4, at 66.

\textsuperscript{301}\textit{id.}

\textsuperscript{302}\textit{id.} at 67.

\textsuperscript{303}\textit{id.}

\textsuperscript{304}\textit{id.}

\textsuperscript{305}See Walker & Goren, \textit{supra} note 18, at 10.

\textsuperscript{306}\textit{id.}
front of a computer screen twenty-four hours per day. The central focus of the system is actually on the alerts that are transmitted when an offender enters an exclusion zone, fails to enter an inclusion zone, or when the equipment is malfunctioning. If an alert is received, a correctional agency is able to pinpoint the offender’s precise location and react according to a set of detailed response procedures. Further, if the GPS equipment malfunctions, most of the vendors will send their own employees out into the field to correct the problem at no additional charge. Similar to the other perceived limitations, the presumption that GPS monitoring produces an unmanageable amount of information and is too labor intensive is without merit.

3. Public’s Changing Attitude Toward Punishment

Over the past few years, the United States has been experiencing a significant shift in the general public’s attitude towards crime and appropriate prison sentences. The majority of citizens now appear to be in favor of abandoning the purely punitive approach to punishment that has dominated for several decades and adopting alternative sanctions that focus primarily on crime prevention and offender rehabilitation. Many Americans are also beginning to realize that most offenders will eventually be released from prison and reintegrate into their communities. With a lack of marketable skills and employment opportunities, offenders will be forced to obtain income by illegal means. This changing philosophy of punishment has been especially apparent toward nonviolent offenders, who have arguably been receiving excessively harsh prison sentences for their crimes.

The most persuasive evidence that the general public no longer prefers physical incarceration as the appropriate sanction for nonviolent offenders is captured within a series of nationwide surveys published by esteemed research institutes. In each survey, the majority of participants, who were drawn from the general public,

307 Id.
308 Id. at 10-11.
309 Id. at 11.
310 Id. at 11.
311 Id.
312 See Peter D. Hart Research Assoc., supra note 263, at 1.
313 See id.; see also Belden Russenello & Stewart Research & Commcn., supra note 264, at 3.
314 See Peter D. Hart Research Assoc., supra note 263, at 4.
315 Id. at 4-5.
316 See id. at 5; see also Belden Russenello & Stewart Research & Commcn., supra note 264; Peter D. Hart Research Assoc., supra note 263.

The three most influential surveys were published by the U.S. Department of Justice, the ACLU, and The Open Society Institute. See Mark A. Cohen et al., Measuring Public Perceptions of Appropriate Prison Sentences (2002), available at http://www.ncjrs.gov/pdffiles1/nij/grants/199365.pdf; Belden Russenello & Stewart Research & Commcn., supra note 264; Peter D. Hart Research Assoc., supra note 263.
favored alternative non-prison sanctions over incarceration for nonviolent offenders. Most participants were also unwilling to allocate additional tax dollars toward the prison budget, and many even felt that reducing prison expenditures provided the best opportunity to curtail state spending. Additionally, the survey results indicated that more focus should be placed upon rehabilitating nonviolent offenders and preventing future crime than on improving prisons. When reducing participant responses into their basic conclusions, two of the overriding themes in each survey were: (1) fewer nonviolent offenders should be placed behind bars, and (2) public support for purely punitive sanctions is weakening.

V. CONCLUSION

Ohio, like many other states, is engaging in a seemingly endless battle between reducing correctional expenditures and maintaining a high level of safety within its communities. Fortunately, Congress has generously provided a solution to this dilemma by bestowing upon the public access to the full capabilities of the most powerful offender-monitoring technology ever created: GPS tracking. Offender monitoring programs utilizing GPS technology have consistently proven to be a constitutional means for decreasing correctional expenditures without impairing public safety. Equally encouraging is the fact that modern society appears to favor such alternative non-prison sanctions, and support for the prior regime of purely punitive sentencing is dwindling.

Although Ohio has wisely enacted legislation paving the road for the use of GPS monitoring as a primary sentencing option for offenders, the State appears to be somewhat reluctant to venture down this new path. Ohio should take a closer look at GPS offender monitoring programs implemented in other states, which would quickly demonstrate that the benefits of such programs greatly outweigh any possible risks.

318 See COHEN ET AL., supra note 317, at 34; Belden Russonello & Stewart Research & Commc’n., supra note 264, at 9; Peter D. Hart Research Assoc., supra note 263, at 4.

319 See COHEN ET AL., supra note 317, at 53; Belden Russonello & Stewart Research & Commc’n., supra note 264, at 5; Peter D. Hart Research Assoc., supra note 263, at 15-16.

320 See Peter D. Hart Research Assoc., supra note 263, at 15-16.

321 See generally COHEN ET AL., supra note 317, at 79; Belden Russonello & Stewart Research & Commc’n., supra note 264, at 9; Peter D. Hart Research Assoc., supra note 263, at 5.

322 See Puente, supra note 11, at B1; see also Schäible, supra note 11, at 2C.


324 See, e.g., Crumm, supra note 203; Sullivan County Case Study, supra note 213; Hamilton County Case Study, supra note 213.

325 See Peter D. Hart Research Assoc., supra note 263, at 1.

costs. In order to increase public acceptance of the new technology, Ohio should also offer educational programs explaining the capabilities of the GPS monitoring equipment to all interested parties. By reserving valuable prison space for the truly violent criminals, the State would experience substantial savings that could then be passed on to the taxpayers. Further, releasing TNV offenders into the community under GPS surveillance would not pose a threat to the general public and would only serve to prevent the negative effects of incarceration. With the State’s best interest at heart, this article adamantly proposes that Ohio implement a GPS offender monitoring program to be used as an alternative to the incarceration of nonviolent criminals.