



Law Enforcement Use of Global Positioning (GPS) Devices to Monitor Motor Vehicles: Fourth Amendment Considerations

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Summary

As technology continues to advance, what was once thought novel, even a luxury, quickly becomes commonplace, even a necessity. Global Positioning System (GPS) technology is one such example. Generally, GPS is a satellite-based technology that discloses the location of a given object. This technology is used in automobiles and cell phones to provide individual drivers with directional assistance. Just as individuals are finding increasing applications for GPS technology, state and federal governments are as well. State and federal law enforcement use various forms of GPS technology to obtain evidence in criminal investigations. For example, federal prosecutors have used information from cellular phone service providers that allows real-time tracking of the locations of customers' cellular phones. Title III of the Omnibus Crime Control and Safe Streets Act of 1958 (P.L. 90-351) regulates the interception of wire, oral, and electronic communications. As such, it does not regulate the use of GPS technology affixed to vehicles and is beyond the scope of this report.

The increased reliance on GPS technology raises important societal and legal considerations. Some contend that law enforcement's use of such technology to track motor vehicles' movements provides for a safer society. Conversely, others have voiced concerns that GPS technology could be used to reveal information inherently private. Defendants on both the state and federal levels are raising Fourth Amendment constitutional challenges, asking the courts to require law enforcement to first obtain a warrant before using GPS technology.

Subject to a few exceptions, the Fourth Amendment of the U.S. Constitution requires law enforcement to obtain a warrant before conducting a search or making a seizure. Courts continue to grapple with the specific issue of whether law enforcement's use of GPS technology constitutes a search or seizure, as well as the broader question of how the Constitution should address advancing technology in general. The Supreme Court has not directly addressed the issue of whether law enforcement's use of GPS technology in connection with motor vehicles falls within the Fourth Amendment's purview. Lower federal courts have relied on Supreme Court precedent to arrive at arguably varying conclusions. For example, several district and circuit courts of appeals have concluded that law enforcement's current use of GPS technology does not constitute a search, and is thus permissible, under the Constitution. To date, while the U.S. Supreme Court has not provided a definitive answer regarding law enforcement's use of GPS technology, state legislatures and courts have approached the issue in various ways. Some states have enacted laws requiring law enforcement to obtain a warrant before using GPS technology. Some state courts have resolved the question under their own constitutions. Although they have reached somewhat differing conclusions, other state courts have relied on Supreme Court precedent, such as *United States v. Knotts*, 460 U.S. 276 (1983), to derive an answer.

This report discusses the basics of GPS technology, society's reliance on it, and some of the related legal and privacy implications. In addition, the report examines legislative and judicial responses on both federal and state levels.

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Global Positioning System (GPS) Technology

GPS “is a satellite-based technology that reveals information about the location, speed, and direction of a targeted subject. While it was initially developed for the U.S. military, countless civilian applications of GPS appear in the marketplace.”¹ For example, many people rely on an automotive GPS device when they travel,² for navigational directions, or even to find dining options. Similarly, some companies equip their vehicles with built-in GPS devices that allow a command center to know the vehicle’s location upon its involvement in an accident or track it if it is stolen.³ Pet collars have been outfitted with GPS devices to enable owners to locate their lost pets.⁴ Campers and hikers use portable GPS devices to determine their location and map out their journey.⁵ Cellular phones are embedded with GPS devices to synchronize time changes when a person leaves a certain time zone.⁶ Cartographers use GPS devices to make maps and surveyors to determine property boundaries.⁷ Airlines use them to pilot and locate planes.⁸ In short, not only are Americans finding an increased interest in GPS technology, but it is arguably becoming an essential aspect of many Americans’ day-to-day lives.⁹

Law Enforcement’s Uses of GPS Technology

The military and private sector are not alone in their interests and reliance on GPS technology. Federal and state governments have also incorporated it into many of their domestic activities. Examples include tracking stranded motorists and predicting natural disasters such as earthquakes, tsunamis, hurricanes, etc. Such tracking allows for more effective emergency relief to victims.¹⁰

¹ Renee McDonald Hutchins, *Tied Up in Knotts? GPS Technology and the Fourth Amendment*, 55 UCLA L. Rev. 409, 414 (2007); *see also* the Global Positioning System, <http://www.gps.gov> (last visited November 2, 2010).

² *See* Global Positioning System, Roads & Highways, <http://www.gps.gov/applications/roads> (last visited November 2, 2010). One brand name example is a TomTom. The individual can enter into the device an address, and an automated voice, along with interactive maps, will guide the driver. *See* TomTom, *How Does GPS Work?*, <http://www.tomtom.com/howdoesitwork/index.php?Language=1> (last visited November 2, 2010).

³ *See, e.g.*, OnStar, *Our Privacy Practices, Notice of Privacy Statement*, July 2010, <https://www.onstar.com/web/portal/privacystatement#otherInfo1> (last visited October 26, 2010). OnStar provides other limited circumstances when it will track the location of the vehicle, such as an in-car request for service, or when OnStar needs to conduct research or troubleshooting, it is delivering enhanced services, it is protecting its rights or the safety of the owner or others, or it is required to by law. *Id.*

⁴ Adam Koppel, Note, *Warranting a Warrant: Fourth Amendment Concerns Raised by Law Enforcement’s Warrantless Use of GPS and Cellular Tracking*, 64 U. Miami L. Rev. 1061, 1064 (2010).

⁵ Joyce Priddy, *Different Uses of GPS Devices*, associatedcontent.com, (September 22, 2007), http://www.associatedcontent.com/article/389315/different_uses_of_gps_devices.html?cat=15; *see also* the Global Positioning System, Recreation, <http://www.gps.gov/applications/recreation> (last visited November 2, 2010).

⁶ The Global Positioning System, Timing, <http://www.gps.gov/applications/timing>, (last visited November 2, 2010).

⁷ The Global Positioning System, Surveying & Mapping, <http://www.gps.gov/applications/survey> (last visited November 2, 2010).

⁸ The Global Positioning System, Aviation, <http://www.gps.gov/applications/aviation> (last visited November 2, 2010).

⁹ Koppel, *supra* note 4, at 1064 (providing statistics on the growing trends in GPS technology).

¹⁰ The Global Positioning System, Public Safety & Disaster Relief, <http://www.gps.gov/applications/safety> (last visited November 2, 2010).

Increasingly, law enforcement relies on and finds new uses for GPS technology to assist in monitoring and gathering evidence.¹¹ For example, sex offenders are outfitted with ankle monitors to track their movements 24 hours a day. Also, consider the following examples, taken by various state law enforcement authorities:

- After 11 attacks on women were reported during a six-month period in two Virginia counties, police installed a GPS device on the van owned by a man who lived near the crime scenes. The suspect was a convicted rapist who had served 17 years in prison. By tracking his movements with the device, police were able to intercept him in Falls Church, VA, where he was dragging a woman to a remote area. The series of assaults ceased after his arrest.¹²
- Wisconsin police, acting on a tip about a former methamphetamine manufacturer, attached a GPS device to the suspect's car without first obtaining a warrant. Information recorded on the device led them to a large tract of land visited by the suspect. With the consent of the landowner, they searched the property and found paraphernalia used to manufacture methamphetamines. The suspect was subsequently arrested.¹³
- Police in New York used evidence acquired from a GPS device (attached without first obtaining a warrant) that had been attached to a burglary suspect's car a year earlier. The device, which monitored the suspect's movement without interruption for more than two months, showed that the suspect had driven by a burglarized store. This evidence was used to corroborate a witness's testimony that the suspect had been observing the store to determine its vulnerable points.¹⁴
- In California, the Los Angeles Police Department "outfit[ed] its cruisers with air guns that can launch GPS-enabled 'darts' at passing cars."¹⁵ Once affixed to a vehicle, police can track it in real time from police headquarters. The air guns are generally used in situations requiring immediate action such as a high-speed chase.¹⁶

Most new cellular phones include GPS capabilities.¹⁷ As a result, federal prosecutors have been known to get information from cellular phone service providers that allows real time tracking of the locations of customers' cellular phones.¹⁸ In one case, information obtained from a cellular

¹¹ To illustrate the government's growing use of GPS technology in the area of criminal investigation, consider that "[i]n response to a Freedom of Information Act request, police in one Virginia locality reported that they used GPS devices in nearly 160 cases from 2005 to 2007." *Id.*

¹² Ben Hubbard, *Police Turn to Secret Weapon: GPS Device*, Wash. Post, A1 (August 13, 2008), available at http://www.washingtonpost.com/wpdyn/content/article/2008/08/12/AR2008081203275.html?nav=rss_metro/va; see also Ramya Shah, *From Beepers to GPS: Can the Fourth Amendment Keep Up with Electronic Tracking Technology?*, 2009 U. Ill. J.L. Tech. & Pol'y 281, 281 (Spring 2009) (providing an example of law enforcement's use of a GPS device to tie a suspect to the murder).

¹³ *United States v. Garcia*, 474 F.3d 994, 995 (7th Cir. 2007).

¹⁴ *People v. Weaver*, 909 N.E.2d 1195, 1195-96 (N.Y. 2009).

¹⁵ Hutchins, *supra* note 1, at 418-19. The darts consist of a miniaturized GPS receiver, radio transmitter, and battery embedded in a sticky compound material.

¹⁶ *Id.* at 419-20 (internal citations omitted).

¹⁷ *Id.* at 419.

¹⁸ Michael Isikoff, *The Snitch in Your Pocket*, Newsweek (February 19, 2010), <http://www.newsweek.com/2010/02/18/the-snitch-in-your-pocket.html>.

phone's GPS helped prove that a key suspect had been within a mile of a murder scene. In another case, a Mexican drug-cartel truck was tracked. The truck was carrying over two tons of cocaine.¹⁹ Title III of the Omnibus Crime Control and Safe Streets Act of 1958 (P.L. 90-351) regulates the interception of wire, oral, and electronic communications. As such, it does not regulate the use of GPS technology affixed to vehicles and is beyond the scope of this report.²⁰

While there are many substantial benefits to the use of GPS technology, some have voiced concerns. Many of these concerns arise from the fact that law enforcement has used GPS technology without first obtaining a warrant to either attach the device or to monitor the suspect after the device has been attached. Some have argued that the warrantless use of GPS technology has the potential of interfering with individual privacy, protected by the Fourth Amendment to the United States Constitution.²¹ Legal scholars assert that a warrant ensures that the police have probable cause to believe that criminal activity is taking place or is imminent, thus preventing unwarranted intrusion into a person's freedom and private life.²² Others contend that GPS tracking is analogous to law enforcement conducting surveillance with its own eyes or with surveillance cameras or radio transmitting beepers. Therefore, some courts and legal scholars believe a warrant is unnecessary and the Fourth Amendment does not apply.²³

The Fourth Amendment

The Fourth Amendment to the United States Constitution, which protects “[t]he right of the people to be secure ... against unreasonable searches and seizures,”²⁴ governs and circumscribes searches and seizures²⁵ made by the federal and the state governments.²⁶ The Amendment's operative text can be divided into two clauses. The first clause forbids the government from conducting any search or seizure that is “unreasonable.” The second clause prohibits the

¹⁹ *Id.*

²⁰ For a discussion of wiretapping or electronic eavesdropping, refer to CRS Report 98-326, *Privacy: An Overview of Federal Statutes Governing Wiretapping and Electronic Eavesdropping*, by Gina Stevens and Charles Doyle.

²¹ For example, in *Lopez v. United States*, 373 U.S. 427, 442 (1963), Chief Justice Warren remarked:

That the fantastic advances in the field of electronic communication constitute a great danger to the privacy of an individual; that indiscriminate use of such devices in law enforcement raises grave constitutional questions under the Fourth and Fifth Amendment;...

²² See, e.g., Hutchins, *supra* note 1, at 464-65; Koppel, *supra* note 4, at 1089; Maynard, 615 F.3d at 564; Weaver, 909 N.E.2d at 1201-02; Kip F. Wainscott, *Unwarranted Intrusion: GPS and the Fourth Amendment*, ACSblog (May 19, 2009, 11:52 AM), <http://acslaw.org/node/13444?gclid=CLD254CK56QCFvFM5QodvBbU2A>.

²³ See, e.g., Pineda-Moreno, 591 F.3d at 1214-16; Tarik N. Jallad, Recent Development, *Old Answers to New Questions: GPS Surveillance and the Unwarranted Need for Warrants*, 11 N.C. J. L. & Tech. 351, 374-75 (Spring 2010); Orin Kerr, Does the Fourth Amendment Prohibit Warrantless GPS Surveillance?, *The Volokh Conspiracy* (December 13, 2009), <http://volokh.com/2009/12/13/does-the-fourth-amendment-prohibit-warrantless-gps-surveillance/>.

²⁴ “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 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.” U.S. Const. amend. IV.

²⁵ This protection even includes searches and seizures conducted “beyond the sphere of criminal investigations.” *City of Ontario v. Quon*, 130 S.Ct. 2619, 2627 (2010).

²⁶ Although the Fourth Amendment, like the Fifth Amendment, was originally understood to apply only to federal government action, see *Barron v. City of Baltimore*, 32 U.S. 243, 247-51 (1833), the Supreme Court later found that it became applicable to the states through the Due Process Clause of the Fourteenth Amendment. *Mapp v. Ohio*, 367 U.S. 643, 660 (1961).

government from issuing a warrant unless it is obtained based “upon probable cause,” is “supported by Oath,” and contains particularized descriptions of the “place to be searched” and what is “to be seized.” Although “[t]here is nothing in the amendment’s text to suggest that a warrant is required to make a search or seizure reasonable,”²⁷ the U.S. Supreme Court has long since read these two clauses together, generally holding that a warrantless search or seizure is presumptively (if not per se) unreasonable.²⁸ The Fourth Amendment does not apply, however, unless the government’s conduct constitutes a search or seizure within the meaning of the Amendment, that is, where there is a justifiable expectation of privacy. In addition, even when the Amendment does apply, “because the ultimate touchstone of the Fourth Amendment is ‘reasonableness,’ the warrant requirement is subject to certain exceptions.”²⁹

At one time, the purpose of the Fourth Amendment was seen as a protection of people’s property rights against unlawful physical trespasses.³⁰ However, it gradually came to be seen as a protection of something more.³¹ “[T]he principal object of the Fourth Amendment,” the Court has explained, “is the protection of privacy rather than property.”³² In addition, “the Fourth Amendment protects people—and not simply ‘areas’—against unreasonable searches and seizures.”³³ Thus, in its seminal decision in *Katz v. United States*,³⁴ the Court held that police officers violated the Fourth Amendment when they conducted a warrantless search using a listening and recording device placed on the outside of a public phone booth to eavesdrop on the conversation of a suspect who had “‘justifiably relied’ upon ... [the privacy of the] telephone booth.”³⁵ The Court concluded that the Fourth Amendment protects both a person and that person’s expectation of privacy from warrantless searches or seizures in places which are justifiably believed to be private.

It is not enough, however, for a person to have a subjective “expectation of privacy,” for any person might claim that she expected privacy at any time and in any place. Indeed, many might argue that the police conducted a search by simply watching them. Therefore, they will reason, because the police did not have a warrant, they violated the Constitution and the evidence

²⁷ *Garcia*, 474 F.3d at 996.

²⁸ See, e.g., *City of Ontario*, 130 S.Ct. at 2630; *Brigham City v. Stuart*, 547 U.S. 398, 403 (2006); *Groh v. Ramirez*, 540 U.S. 551, 559 (2004); *United States v. Ross*, 456 U.S. 798, 824-25 (1982); *Mincey v. Arizona*, 437 U.S. 385, 390 (1978); *Katz v. United States*, 389 U.S. 347, 357 (1967). The Court has gone back and forth on whether warrantless searches or seizures are presumptively unreasonable or per se unreasonable. It is unclear which approach the Court currently follows.

²⁹ *Brigham City*, 547 U.S. at 403. As the Court in *Brigham City* outlined, some of these exceptions include law enforcement’s engaging “in hot pursuit of a fleeing suspect,” preventing “the imminent destruction of evidence,” extinguishing a fire on private property and investigating its cause, or assisting “persons who are seriously injured or threatened with such injury.” *Id.* (internal quotations and citations omitted).

³⁰ See, e.g., *Boyd v. United States*, 116 U.S. 616, 627 (1886); *Adams v. New York*, 192 U.S. 585, 598 (1904); *Olmstead v. United States*, 277 U.S. 438, 464-66 (1928); *Goldman v. United States*, 316 U.S. 129, 134-36 (1942); see also *Kyllo v. United States*, 533 U.S. 27, 31-33 (2001) (discussing the historical evolving emphasis of Fourth Amendment protection).

³¹ See, e.g., *Silverthorne Lumber Co. v. United States*, 251 U.S. 385 (1920); *Jones v. United States*, 362 U.S. 257, 266 (1960), overruled on other grounds by *United States v. Salvucci*, 448 U.S. 83 (1980); *Silverman v. United States*, 365 U.S. 505, 511-12 (1961); *Warden v. Hayden*, 387 U.S. 294, 304 (1967); *Rakas v. Illinois*, 439 U.S. 128, 143 (1986).

³² *Warden*, 387 U.S. at 304-05 (discussing the shift from an emphasis from property to privacy).

³³ *Katz*, 389 U.S. at 353. This focus finds support in the Amendment’s text, which begins by stating that it protects “[t]he right of the people.” U.S. Const. amend. IV.

³⁴ 389 U.S. 347 (1967).

³⁵ *Kyllo*, 533 U.S. at 33 (quoting *Katz*, 389 U.S. at 353).

obtained cannot be used against them.³⁶ But the Court has rejected such broad interpretations of the term “search,” holding instead “that visual observation is no ‘search’ at all.”³⁷ Simply put, “the police cannot reasonably be expected to avert their eyes from ... activity that could have been observed by any member of the public. Hence, ‘[w]hat a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection.’”³⁸ Visual observation is not, in other words, a “search.”³⁹

To avoid misapplication of the principles set forth in *Katz* when determining whether law enforcement has conducted a search or a seizure within the meaning of the Fourth Amendment, the Court subsequently came to rely upon *Katz*’s concurring opinion. The concurring opinion clarified the Court’s test as being “whether a person has a ‘constitutionally protected reasonable expectation of privacy.’”⁴⁰ Courts presently examine law enforcement’s conduct to make this threshold determination by following “a two-part inquiry: first, has the individual manifested a subjective expectation of privacy in the object of the challenged search? Second, is society willing to recognize that expectation as reasonable?”⁴¹

The Fourth Amendment and GPS Technology

State and federal courts have long since wrestled with whether and how to apply the *Katz* test to advancing technology. For example, the Supreme Court in *Katz* determined that when the suspect entered the phone booth and shut the door, he had a reasonable expectation of privacy in his being there. Thus, the police conducted an unreasonable search by using a listening and recording device without getting a warrant. Similarly, in *Kyllo v. United States*,⁴² the Court decided that a suspect had a reasonable expectation of privacy in his home when the police, suspecting him of growing marijuana, used a thermal imaging device without a warrant to detect the heat emanating from it. In contrast, when the Court was asked in *United States v. Ciraolo*⁴³ to decide whether a suspect had a reasonable expectation of privacy in his 10-foot-high, fenced-in back yard after the police looked into it without a warrant from an airplane to see if he was growing marijuana, the Court concluded that he did not and that looking into the yard was not a search; thus, no warrant was necessary.

³⁶ The Fourth Amendment’s mandates are enforced through the application of an exclusionary rule which generally states that evidence illegally seized may not be used against the defendant. *See, Weeks v. United States*, 232 U.S. 383 (1914) (holding that the Fourth Amendment barred the use of evidence secured through a warrantless search); *Mapp v. Ohio*, 367 U.S. 643 (1961) (holding that the exclusionary rule applies to the states).

³⁷ *Id.* at 32.

³⁸ *California v. Greenwood*, 486 U.S. 35, 40-41 (1988).

³⁹ “A search,” the Court has explained, “comprises the individual interest in privacy; a seizure deprives the individual of dominion over his or her [person or] personal property.” *Horton v. California*, 496 U.S. 128, 133 (1990). The use of a GPS to conduct surveillance would seem to fall under the rubric of a search; the attachment of a GPS device lends itself more to the concept of a seizure. *See United States v. Karo*, 468 U.S. 705, 712-13 (1984) (recognizing the difference in issues raised between the two concepts).

⁴⁰ *United States v. Ciraolo*, 476 U.S. 207, 211 (1986) (quoting *Katz v. United States*, 389 U.S. 347, 360 (1967) (Harlan, J., concurring)); *see also Kyllo*, 533 U.S. at 33-34.

⁴¹ *Ciraolo*, 476 U.S. at 211; *see also Kyllo*, 533 U.S. at 34.

⁴² 533 U.S. 27, 34 (2001).

⁴³ 476 U.S. 207, 213-15 (1986).

Likewise, the Court found that a defendant did not have a reasonable expectation of privacy in his car while traveling along public roads. In *United States v. Knotts*,⁴⁴ Minnesota law enforcement officers placed (with the seller's consent) a beeper in a chloroform container, believing that the defendant buyer was engaging in the production of illicit drugs. Officers subsequently followed the vehicle carrying the container, maintaining both a visual surveillance and a monitor receiving the beeper signals. Based on the beeper signals, the officers tracked the container to the defendant's secluded cabin. After a three-day visual surveillance of the cabin, the officers obtained and executed a search warrant and found the container and a drug laboratory in the cabin. The defendant sought to have the evidence suppressed, arguing that the warrantless monitoring of the beeper violated the Fourth Amendment.

The Court disagreed and held that the officers' actions did not constitute a search or seizure, as the defendant did not have a legitimate expectation of privacy because the beeper signal was not used to monitor movement of the container within a private residence. Instead, it was used to monitor movement along public highways and other areas visible to the naked eye.

However, in a similar scenario, when a beeper was activated while the suspect was inside his house, the Court held that the suspect did have a reasonable expectation of privacy in his home and that the absence of a warrant constituted an unreasonable search.⁴⁵ In *United States v. Karo*,⁴⁶ Drug Enforcement Administration (DEA) agents installed an electronic beeper in a can of ether with the consent of the owner (a government informant). The marked can was sold with others to the defendants, who intended to use the contents for cocaine production. Having tracked the can to several residences and storage facilities, law enforcement determined the can's location and obtained an arrest warrant. The defendants were arrested and charged with possession of cocaine with intent to distribute. One of the defendants sought to have the evidence suppressed as "tainted fruit" of an unlawful search. This case presented two issues for the Court to address: (1) whether the beeper's installation constituted a search or seizure when the container was delivered to a buyer without any knowledge of the beeper's presence and (2) whether the beeper's monitoring within an individual's residence falls within the Fourth Amendment's ambit when it reveals information that could not have been obtained through visual surveillance.

As to the first issue, the Court found that the defendant lacked a Fourth Amendment interest, as the owner's consent was sufficient to withstand the challenge. However, the Court found that the Fourth Amendment was violated when the agents used the beeper to locate the container in a private dwelling without first obtaining a search warrant. Although the transfer of the beeper to the defendant did not violate the Fourth Amendment, the monitoring of the beeper in a private residence not open to visual surveillance did violate the Fourth Amendment.⁴⁷

⁴⁴ 460 U.S. 276, 281-84 (1983).

⁴⁵ However, the Court found that the arrest warrant was valid, as it was based on an affidavit, which contained a significant amount of evidence from sources other than the beeper.

⁴⁶ 468 U.S. 705, 713-16 (1984).

⁴⁷ The Court declined to decide whether a search warrant to monitor a beeper would require probable cause or reasonable suspicion.

States' Responses

States have employed various approaches regarding the use of GPS technology and the Fourth Amendment's warrant requirement. Some states have addressed the issue statutorily by enacting laws "imposing civil and criminal penalties for the [improper] use of electronic tracking devices or expressly requiring exclusion of evidence produced by such a device unless obtained by the police acting pursuant to a warrant."⁴⁸ Judicially, state courts have reached differing conclusions. State courts in New York, Washington, Oregon, Delaware, and Massachusetts have determined that, absent some exigent circumstance, police officers must first obtain a warrant before using GPS technology (in some cases the court is interpreting its respective state constitution).⁴⁹ For example, in *State v. Weaver*,⁵⁰ the Court of Appeals of New York held that the "unconsented placement" of a GPS tracking device and subsequent monitoring of the vehicle constituted a search requiring a warrant under the state's constitution.⁵¹ The court noted that it has interpreted its constitution to provide greater protections "in the areas of search and seizure."⁵² The court found that the defendant had a reasonable expectation of privacy that was infringed by the state's action. While the court found that the defendant had a diminished expectation of privacy, "that expectation was not reduced to zero."

Conversely, state courts in Nevada and Virginia have found that GPS use does not raise any state or federal constitutional concerns.⁵³ In *Foltz v. Commonwealth*,⁵⁴ the court found that the law enforcement's use of a GPS tracking device to track a vehicle's movement on a public street did not constitute a search or seizure under either the federal or state constitutions. The defendant, a registered sex offender on probation for committing sexual assault, became a suspect in a new series of sexual assaults. Police attached a GPS device to the defendant's work vehicle. Upon observing, "in real time via a computer screen with a map,"⁵⁵ police noticed that the van was driven in and out of various neighborhoods where crimes had occurred. That evening another sexual assault occurred. The police followed the defendant the next day and witnessed him grab a woman and knock her down to the ground. The police stopped the assault and arrested the defendant. In reaching its decision, the court concluded that the defendant did not manifest a subjective expectation of privacy while driving down the street looking for victims. Moreover, the court concluded that the defendant "did nothing to prevent others from inspecting the bumper of

⁴⁸ *United States v. Maynard*, 615 F.3d 544, 564 (D.C. Cir. 2010)(listing several states and the relevant legislation in each). See, e.g., Utah Code Ann. §§ 77-23a-4, 77-23a-7, 77-23a-15.5; Minn. Stat. §§ 626A.37, 626A.35; Fla. Stat. §§ 934.06, 934.42; S.C.Code Ann. § 17-30-140; Okla. Stat., tit. 13, §§ 176.6, 177.6; Haw. Rev. Stat. §§ 803-42, 803-44.7; 18 Pa. Cons.Stat. § 5761.

⁴⁹ See *State v. Weaver*, 909 N.E.2d 1195 (N.Y. 2009) (GPS use, under state constitution, is unconstitutional without a warrant); *State v. Jackson*, 76 P.3d 217 (Wash. 2003); *State v. Campbell*, 759 P.2d 1040 (Or. 1988); *Delaware v. Biddle*, No. CRIM.A. 05-01-1052, 2005 WL 3073593, at *1 (Del. Com. Pl. May 5, 2005); see also *Commonwealth v. Connolly*, 913 N.E.2d 356 (Mass. 2009) (installation of a GPS device was a seizure).

⁵⁰ 909 N.E.2d 1195 (N.Y. 2009).

⁵¹ *Id.* at 1202.

⁵² *Id.*

⁵³ See *Osburn v. State*, 44 P.3d 523 (Nev. 2002); *Foltz v. Commonwealth*, 698 S.E.2d 281 (Va. Ct. App. 2010), *reh'g en banc granted and mandate stayed* by 699 S.E. 2d 522 (Va. Ct. App. 2010).

⁵⁴ 698 S.E.3d 281 (Va. Ct. App. 2010), *reh'g en banc granted and mandate stayed* by 699 S.E. 2d 522 (Va. Ct. App. 2010).

⁵⁵ *Id.* at 286.

the work van.” Other state jurisdictions have simply not addressed the issue either legislatively or judicially as of this writing.

Federal Courts

The Supreme Court has not directly addressed the issue of whether law enforcement’s use of GPS technology in connection with motor vehicles falls within the Fourth Amendment’s purview. Lower federal courts have relied on Supreme Court precedent to arrive at arguably varying conclusions. For example, several district and circuit courts of appeals have concluded that law enforcement’s current use of GPS technology does not constitute a search and is thus permissible under the Constitution.⁵⁶

For example, in *United States v. Pineda-Moreno*,⁵⁷ the 9th Circuit decided a case involving criminal investigation of drug manufacturing that arose in Oregon. Without a warrant, DEA agents attached a GPS device to a Jeep owned by a man suspected of drug activity. The device was attached on several occasions over a four-month period.⁵⁸ Four times agents attached the device while the Jeep was parked on a public street; one time while it was parked at a public parking lot; and two times while it was parked on his property, necessitating that agents sneak onto it in the early morning hours to attach the device.⁵⁹ Eventually, the GPS “device alerted agents that [the suspect’s] vehicle was leaving a suspected marijuana grow site.” The suspect was then arrested and officers found marijuana in the Jeep.⁶⁰

The court held that the DEA’s actions did not constitute a search because a person does not have a reasonable expectation of privacy in a car’s exterior, even when the car is parked on the person’s driveway (unless the person has affirmatively sought to exclude others from entering his land).⁶¹ The court then held that the DEA’s monitoring of the suspect’s travel was analogous to the facts in *Knotts*, where the police followed the suspect’s car by using a beeper to track its movements along the streets, because using the GPS device disclosed information that the police “could have obtained by following the car.”⁶² The court then concluded by quoting *Knotts*: “‘Insofar as [Pineda-Moreno’s] complaint appears to be simply that scientific devices such as the [tracking devices] enabled the police to be more effective in detecting crime, it simply has no constitutional foundation. We have never equated police efficiency with unconstitutionality and decline to do so now.’”⁶³

⁵⁶ See, e.g., *United States v. Garcia*, 474 F.3d 994 (7th Cir. 2007); *United States v. Marquez*, 605 F.3d 604 (8th Cir. 2010); *United States v. Pineda-Moreno*, 591 F.3d 1212 (9th Cir. 2010); *United States v. Eberle*, 993 F.Supp. 794 (D. Mont. 1998); *United States v. Moran*, 349 F. Supp. 2d 425 (N.D.N.Y.2005); *United States v. Burton*, 698 F. Supp. 2d 1303 (N.D. Fl. 2010); *United States v. Williams*, 650 F. Supp. 2d 633 (W.D. KY. 2009); *United States v. Jesus-Nunez*, No. 1:10-CR-00017-01, 2010 WL 2991229, at *1 (July 27, 2010).

⁵⁷ 591 F.3d 1212 (9th Cir. 2010).

⁵⁸ *Id.* at 1213.

⁵⁹ *Id.*

⁶⁰ *Id.* at 1214.

⁶¹ *Id.* at 1214-15.

⁶² *Id.* at 1216.

⁶³ *Id.* at 1216-17 (quoting *Knotts*, 460 U.S. at 284) (alterations in original).

Similar to *Pineda-Moreno*, many of the courts to follow this line of reasoning have analogized GPS devices to the beeper devices in *Knotts*. In addition, many have also included a caveat similar to the one the Supreme Court proffered in *Knotts*. In *Knotts*, the defendant argued that the Court's ruling would permit the government to conduct warrantless and unlimited surveillance with such technology: "[I]f such dragnet type law enforcement practices as the defendant envisions should eventually occur," the Court responded, "there will be time enough then to determine whether different constitutional principles may be applicable."⁶⁴ It is unclear what this "dragnet exception" means, and the differing outcomes in the federal circuits can be attributed to how the courts interpret it. The 9th Circuit, quoting with approval the 7th Circuit, stated it this way: "Should [the] government someday decide to institute programs of mass surveillance of vehicular movements, it will be time enough to decide whether the Fourth Amendment should be interpreted to treat such surveillance as a search."⁶⁵ Thus, the 9th and 7th Circuits interpreted *Knotts*'s dragnet exception to apply to mass police monitoring.

Conversely, the D.C. Circuit held that law enforcement's prolonged use of GPS technology does amount to a search and thus requires a warrant.⁶⁶ In reaching its conclusion, the court found that *Knotts*'s "dragnet exception" applied to an individual when the law enforcement's warrantless surveillance was constant and protracted, and is not limited to mass surveillance. In this case, the Federal Bureau of Investigation (FBI) installed a GPS device on a vehicle to track the "movements" of a club owner suspected of conspiracy to distribute cocaine. They monitored him "[for] 24 hours a day for 28 days as he moved among scores of places, thereby discovering the totality and pattern of his movements from place to place to place."⁶⁷ The information was subsequently used as evidence at trial to prove his involvement in the conspiracy.⁶⁸

The court distinguished its holding from the decisions in the other circuits by noting that the rule in *Knotts* was limited. Whereas the other circuits had read *Knotts*'s dragnet exception to mean "mass surveillance," the court read it to apply to the individual and to mean prolonged, "twenty-four hour surveillance."⁶⁹ The court also concluded that a person has a reasonable expectation of privacy in the totality of his movements over the course of a month, which he does not actually or constructively expose to the public, even though law enforcement could constitutionally conduct warrantless observation of his individual movements from one place to another while in public.⁷⁰

Differing Decisions

Depending on how one reads the courts' decisions, one could conclude that there is a split in the courts regarding whether law enforcement must first obtain a warrant before using a GPS device. Conversely, one could also conclude that the courts' decisions are reconcilable and that the outcomes of the cases are fact sensitive. However one reads the differing decisions, courts will

⁶⁴ *Knotts*, 460 U.S. at 284.

⁶⁵ *Pineda-Moreno*, 591 F.3d at 1216 n.2 (quoting *Garcia*, 474 F.3d at 998).

⁶⁶ *United States v. Maynard*, 615 F.3d 544 (D.C. Cir. 2010).

⁶⁷ *Id.* at 558.

⁶⁸ *Id.* at 567.

⁶⁹ *Id.* at 556-58 ("In short, *Knotts* held only that '[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another,' not that such a person has no reasonable expectation of privacy in his movements whatsoever, world without end.").

⁷⁰ *Id.* at 558-67.

continue to hear these claims and will likely reach alternative conclusions depending upon the facts of each case. Some courts, like the 7th and 9th Circuits, as well as the state court decisions in Nevada and Virginia, therefore, may decide to extend the Supreme Court's existing precedents to hold that a person has no reasonable expectation of privacy in his car when he travels about in public because he exposes himself and his car to the public. Thus, the current use of GPS technology would not constitute a search under the Fourth Amendment. A few courts may go so far as to conclude that any use of GPS technology, even when attaching it, is presumptively unreasonable unless law enforcement first obtains a valid warrant.⁷¹ Other courts may decide that the warrantless use of GPS technology is permissible, subject to one of the already settled warrant exceptions, such as when the suspect is fleeing and the police are engaged in hot pursuit. The state court decisions in Washington, Oregon, and New York seem to have adopted this approach under their own constitutions. Finally, some courts may argue, which could be seen as an attempt to reconcile the already existing decisions, that using GPS devices for a minimal amount of time—for a few days, perhaps—is permissible, but when the monitoring becomes prolonged—for many days, weeks, or months—the intrusiveness reaches a point where it becomes a search requiring a warrant.⁷² The state court's decision in New York might also be read this way, and the D.C. Circuit appears to have followed this approach.⁷³

Competing Interests

In resolving disputes over law enforcement's warrantless use of GPS technology, courts and legislatures seek the appropriate balance of two competing interests: enhancing law enforcement efficiency versus protection of individual privacy. Some contend that it would be better for legislatures rather than the courts to conduct this balance.⁷⁴ Others argue that the courts are capable and equipped to do it, just as they have done reconciling the law to the usage of many other emerging technologies.⁷⁵ Regardless, as defendants continue to raise challenges to law enforcement's warrantless use of GPS technology in criminal investigations in state and federal courts, the courts must confront these conflicts and weigh the interests.

Those who argue that law enforcement does not need to obtain a warrant to use GPS technology contend that the many uses of GPS technology simply “enable[] the police to be more effective in

⁷¹ See, e.g., *Connolly*, 913 N.E.2d at 822.

⁷² This approach could be called the “Mosaic Theory.” The idea is that when GPS surveillance is prolonged, the sum of otherwise publicly exposed activities reveals patterns that are reasonably expected to be private, thus constituting a search, which requires a warrant. See Orin Kerr, *D.C. Circuit Introduces “Mosaic Theory” of Fourth Amendment, Holds GPS Monitoring a Fourth Amendment Search*, *The Volokh Conspiracy* (August 6, 2010), <http://volokh.com/2010/08/06/d-c-circuit-introduces-mosaic-theory-of-fourth-amendment-holds-gps-monitoring-a-fourth-amendment-search/>. The court in *Maynard* used this theory and tied it to the Supreme Court's dragnet exception in *Knotts*. However, unlike the 9th and 7th Circuits, the D.C. Circuit read it to apply when law enforcement engages in prolonged surveillance, not just mass surveillance. *Maynard*, 615 F.3d at 557-63.

⁷³ Note that the United States has petitioned for a rehearing *en banc* to the court's decision in *Maynard*. Orin Kerr, *DOJ Petitions for Rehearing in DC Circuit “Mosaic Theory” GPS Surveillance Case*, *The Volokh Conspiracy* (September 22, 2010), <http://volokh.com/2010/09/22/doj-petitions-for-rehearing-in-dc-circuit-mosaic-theory-gps-surveillance-case/>.

⁷⁴ Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 Mich. L. Rev. 801, 806 (2004).

⁷⁵ See generally Hutchins, *supra* note 1; see also Renee McDonald Hutchins, *The Anatomy of a Search: Intrusiveness and the Fourth Amendment*, 44 U. Rich. L. Rev. 1185, 1189 n.22 (May 2010) (noting the current debate between whether the legislature or the courts is the preferred arbiter in the area of GPS technology).

detecting crime,”⁷⁶ stamping it out at its earlier stages and preventing it from even occurring. Among others, the advantages in such technology, especially when police officers are engaged in a high-speed chase, decrease the likelihood of endangering the public, the police, or even the suspect from the potential hazards involved in such situations. Moreover, as already discussed, the efficiencies of GPS technology have enabled officers to prevent one woman from being raped and any further rapes from being committed by the suspect. Likewise, proponents of GPS use maintain that officers have been able to prevent drug production and distribution by the respective suspects they apprehended. GPS technology, then, can be preventive, saving lives and time; it decreases the cost of having officers out conducting surveillance while simultaneously allowing more places and people to be monitored and more action to be taken when criminal activity occurs. In short, from this perspective, GPS devices make law enforcement’s job more efficient, safer, and effective, providing for a securer and safer society. They would argue that GPS technology functions “merely as an enhancing adjunct to the surveilling officer’s eyes,”⁷⁷ and naked eye observation does not offend the Fourth Amendment because a person does not have a reasonable expectation of privacy in activity that any member of the public might observe. GPS technology is merely a matter of efficiency, they conclude, and the courts “have never equated police efficiency with unconstitutionality.”⁷⁸

Conversely, proponents of requiring law enforcement to obtain judicial permission before using a GPS device contend that efficiency, security, and safety come at some unacceptable costs.⁷⁹ At “the press of a button,” for example, a GPS device can disclose one’s activities that are “indisputably private [in] nature,” such as “trips to the psychiatrist, the plastic surgeon, the abortion clinic, the AIDS treatment center, the strip club, the criminal defense attorney, the by-the-hour motel, the union meeting, the mosque, synagogue or church, the gay bar and on and on.”⁸⁰ It does not only disclose “where we go, but by easy reference [it reveals] our associations—political, religious, amicable and amorous,” as well as “the pattern of our professional and avocational pursuits.”⁸¹ GPS technology “is not a mere enhancement of human sensory capacity,” because the information it can capture is potentially tantamount to, “at a minimum, millions of additional police officers and cameras on every street lamp.”⁸² A person does have a reasonable expectation of privacy from the government’s ability to obtain such comprehensive and detailed information. The ability of the government to engage in monitoring that exposes this type of information, some even argue, foreshadows “Orwellian images of Big Brother secretly following your movements through the small device in your pocket”⁸³ or car, especially when the pervasive monitoring has been prolonged and continuous—for 28⁸⁴ and even

⁷⁶ *Pineda-Moreno*, 591 F.3d at 1216 (quoting *Knotts*, 460 U.S. at 284).

⁷⁷ *Weaver*, 909 N.E.2d at 1199.

⁷⁸ *Knotts*, 460 U.S. at 284.

⁷⁹ Some cite, for example, an Historical Review of the Constitution and Government of Pennsylvania, title page (1759) (Arno Press reprint 1972) (stating that “[t]hose who would give up essential Liberty, to purchase a little temporary Safety, deserve neither Liberty nor Safety.”) (commonly attributed to Benjamin Franklin).

⁸⁰ *Weaver*, 909 N.E. 2d at 1198-99.

⁸¹ *Id.*

⁸² *Id.*

⁸³ Michael Isikoff, *The Snitch in Your Pocket*, Newsweek, February 19, 2010, available at <http://www.newsweek.com/2010/02/18/the-snitch-in-your-pocket.html>; see also *Pineda-Moreno*, 617 F.3d 1120, 1121, 1126 (9th Cir. 2010) (Kozinski, C.J., dissenting from the denial of rehearing en banc).

⁸⁴ *Maynard*, 615 F.3d at 558.

65⁸⁵ days, in certain cases. Besides, they contend, unless the situation is an emergency, it is not that onerous a burden to require the police to take a few minutes to obtain judicial approval before they use such revealing technology; a warrant is just not that hard to get.⁸⁶

Conclusion

Society's increased reliance on GPS technology raises both societal and legal considerations. Law enforcement has found many uses for GPS technology in criminal investigations. Some of these uses in connection with motor vehicle surveillance raise concerns over the technology's potential interference with privacy interests protected by the Fourth Amendment. Others have argued that GPS technology is comparable to naked eye observation, and its advantages in impeding and preventing criminal activity are substantial. Balancing these two competing but compelling interests is not easy. There are also questions as to whether this balancing should be done legislatively or judicially. It is important to note that the Fourth Amendment provides a floor for protection. No matter what the state legislatures or Congress does, the requirements of the Fourth Amendment must be met. Legislation provides two advantages: (1) clarification for procedural distinctions between warrantless and presumptively unreasonable searches, and (2) additional protection where reenforcement is thought necessary. Several state legislatures have enacted legislation governing the warrantless use of GPS devices.

Although the Supreme Court has not spoken to the use of GPS vehicle monitoring, state and lower federal courts have reached differing conclusions based on the facts presented, U.S. Supreme Court precedent, and/or state constitutions.

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⁸⁵ Weaver, 909 N.E 2d at 1195.

⁸⁶ “[O]fficers in Utah can get electronic warrants in about 20 minutes. ‘It’s not that hard,’” a Utah County Sherriff stated. Janice Peterson, *Confliction views on no-warrant GPS ruling*, Daily Herald (September 5, 2010), available at http://www.heraldextra.com/news/local/article_6d44220a-c8d1-5d0b-a072-bee72e97a835.html