Cleveland State Law Review

Volume 62 | Issue 1 Note

2014

The "Orwellian Consequence" of Smartphone Tracking: Why a Warrant Under the Fourth Amendment is Required Prior to Collection of GPS Data from Smartphones

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THE "ORWELLIAN CONSEQUENCE" OF SMARTPHONE TRACKING: WHY A WARRANT UNDER THE FOURTH AMENDMENT IS REQUIRED PRIOR TO COLLECTION OF GPS DATA FROM SMARTPHONES

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I. INTRODUCTION

"I'll take three of those," said Brandon, as he pointed to the newest TracFones behind the register. The phones contained a Global Positioning System ("GPS")

* J.D. expected, Cleveland-Marshall College of Law, May 2014. I would like to thank Professor Jonathan P. Witmer-Rich for his guidance, as well as all who have assisted and supported me.

device which, among other features, allows its user to access turn-by-turn directions. The cashier took three phones off of the rusty rack and activated each one. Brandon traveled forty-four miles south to a gas station where he bought three more TracFones. He then travelled nearly thirty miles west to a corner store where he purchased even more. In Brandon's world, these phones are known as burners—phones typically used in the drug trade. Brandon purchased the burners for Mr. Russell, Cleveland's biggest drug dealer, who then distributed the burners throughout his criminal enterprise.

Law enforcement followed Russell's operations, but was unable to obtain sufficient information to bring a case against him. The Cleveland Police Department ("Department") obtained warrants to intercept calls made on the burners, but the wire taps only lasted for a matter of hours because the phones were disposed of after their pre-paid minutes were used up. Russell's paranoia, loading the burners with minimal minutes in order to avoid wire taps, caused the Department to waste manpower, time, and money—the cost of the intercepted calls totaled nearly seven hundred dollars per call.

Although it appeared impossible to tap calls made by or to Russell, the Department obtained a device that collected cell phone information from nearby cell phone towers. The Department could now "ping" data from cell phone towers near Russell's loft and business. Officers worked day and night to monitor Russell's smartphone and to track his movements using the GPS chip embedded in his phone. For reasons then unknown, Russell left Cleveland and headed south towards Kentucky. With the help of the Federal Bureau of Investigation ("FBI"), the officers were able to track Russell as he moved from Cleveland to Louisville. After losing sight of Russell on Interstate 71, the Department's major crime unit and a handful of FBI agents were able to locate Russell in an abandoned warehouse using the GPS in his smartphone. Russell was arrested for possession of narcotics with intent to distribute.

Months later, Russell's attorney, Maurice Banks, filed a motion to suppress evidence obtained at the scene of the crime, arguing that the evidence was obtained unlawfully. Mr. Banks argued that the Department and the FBI should have obtained a warrant before they began tracking Russell's smartphone.[1]

Is Mr. Banks correct? Should a warrant be required when law enforcement utilizes the GPS technology in a user's smartphone to locate or track the user? Most courts have answered in the affirmative.[2] When such questions are before the courts, they consider whether the Electronic Communications Privacy Act ("ECPA") or the Fourth Amendment applies.[3] A recent Sixth Circuit decision, *United States v.*

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[1] The opening narrative was based off of season three of *The Wire*. *The Wire: The Third Season* (HBO 2004).

[2] *See*, *e.g.*, Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, *7-9 (Mass. Supp. 2012) (finding that a warrant is required before cell site location information (CSLI) is used); *see also* United States v. Jones, 132 S. Ct. 945 (2012) (finding that evidence obtained by a warrantless use of a GPS device violated the Fourth Amendment); United States v. Karo, 468 U.S. 705 (1984) (holding that monitoring a pager in a private residence without obtaining a warrant violates a person's Fourth Amendment rights).

[3] For courts applying the Stored Communications Act (SCA), see United States v. Navas, 640 F. Supp. 2d 256 (S.D.N.Y. 2009) (applying a combination of the SCA and the Pen Register Act); *In re* Application of the U.S. for an Order: (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber

Skinner, applied the Fourth Amendment because the court focused on whether the defendant had a reasonable expectation of privacy in inherent location data broadcasted from the defendant's cell phone.[4] The court held that no warrant was required when tracking an individual's cell phone[5] because the defendant had no reasonable expectation of privacy in the data emitted from his cell phone.[6] However, should the ECPA have been implicated as well?

This Note argues that a warrant under the Fourth Amendment, rather than under the ECPA or no warrant at all, must be obtained prior to collection of GPS data[7] from a user's smartphone, whether payment for the phone is contractual or pay-as-you-go.[8] Part II of this Note discusses smartphones and how the purpose of the Fourth Amendment applies to smartphone tracking. That Section also discusses the legislative intent behind the ECPA and its inapplicability to smartphone tracking. In addition, Part II addresses United States Supreme Court decisions regarding electronic monitoring by law enforcement, as well as the development and present use of GPS technology.

Part III discusses the different approaches that twenty-first century courts have taken when deciding which authority, the ECPA or Fourth Amendment, allows law enforcement to collect GPS data from individuals' smartphones. Part IV explains why the ECPA is not the proper standard for collection of GPS data. That Section also explains why a warrant under the Fourth Amendment must be obtained prior to collection of GPS data using case law and public policy arguments to support this position. In addition, Part IV addresses and rebuts any Fourth Amendment arguments against requiring a warrant prior to collection of GPS data. Lastly, Part IV presents solutions to curb the growing problem of warrantless smartphone GPS data collection.

II. UNDERSTANDING THE TRACKING OF INDIVIDUALS' SMARTPHONES USING GPS TECHNOLOGY

Law enforcement's use of GPS technology to track individuals' smartphones under the Fourth Amendment Search and Seizure Clause has been a concern in recent cases.[9] This Section briefly discusses smartphones.[10] This Section also

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Info. and/or Cell Site Info., 411 F. Supp. 2d 678 (W.D. La. 2006) (applying a combination of the SCA and the Pen Register Act). For courts applying the Fourth Amendment, see Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270 (Mass. Supp. 2012) (applying the reasonable expectation standard); United States v. Skinner, 690 F.3d 772 (6th Cir. 2012) (applying the reasonable expectation standard).

[4] *Skinner*, 690 F.3d at 777-79.

[5] *Id.* at 781.

[6] *Id.*

[7] GPS data is the general term that will be used throughout this Note for collection of CSLI or ping data, in addition to any other GPS data.

[8] The term pay-as-you-go will be used synonymously with burner.

[9] This was a concern of Justice Sotomayor in her concurrence in United States v. Jones, 132 S. Ct. 945 (2012).

[10] Smartphones are mobile phones that offer more advanced computing ability and connectivity than a contemporary, basic phone. *See* Andrew Nusca, *Smartphone v. Feature*

discusses the Fourth Amendment and its applicability to smartphone tracking. The legislative intent behind the ECPA will then be discussed. Lastly, this Section discusses United States Supreme Court decisions relating to electronic surveillance, as well as advancements in GPS technology.

A. Smartphones: Cell Phones with an Education

Smartphones have become the industry standard within the past decade. Smartphones are cell phones that also have the capabilities of personal digital assistants, such as email and Internet.[11] Since smartphones were first introduced in 2001, their number of users has continually increased, with over 100 million smartphone users in the United States in 2012.[12] This number will likely grow in the coming years, making the issue of warrantless collection of smartphone GPS data a growing problem.

Smartphones can be either contractual or non-contractual.[13] There may be issues if a court decides to distinguish between the two types;[14] this distinction, however, is unnecessary. Non-contractual smartphones are also known as burners, prepaid cell phones, TracFones, and pay-as-you-go phones.[15] Burners are no different than contractual smartphones, except the user owns the smartphone with no contract, credit check, or activation and cancellation fees.[16] Furthermore, there is an iPhone app that allows smartphone users to create temporary phone numbers and dispose of

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Phone Arms Race Heats Up; Which Did You Buy?, ZDNET (Aug. 20, 2009), http://www.zdnet.com/blog/gadgetreviews/smartphone-vs-feature-phone-arms-race-heats-up-which-did-you-buy/6836. A smartphone has built-in applications and Internet access. In addition to digital voice service, modern smartphones provide text messaging, e-mail, Web browsing, still and video cameras, an MP3 player, video playback, and calling. ENCYLOPEDIA, PC MAG, http://www.pcmag.com/encyclopedia_term/0,2542,t=Smartphone&i=51537,00.asp (last visited Jan. 20, 2013); *see also* TECHTERMS, http://www.techterms.com/definition/smartphone (last visited Jan. 20, 2013); *Smartphone Definition*, MERIAM-WEBSTER.COM, http://www.merriam-webster.com/dictionary/smartphone (last visited Jan. 20, 2013). In addition, smartphones act as media players, digital cameras, video cameras, a GPS navigation device, a mini laptop, and game console. For more information on smartphones, see Part II.E of this Note.

[11] *See Smartphone Definition*, MERIAM-WEBSTER.COM, http://www.merriam-webster.com/dictionary/smartphone (last visited Jan. 20, 2013).

[12] Sascha Segan, Kyocera Launches First Smartphone in Years, PC MAG (Mar. 23, 2010), http://www.pcmag.com/article2/0,2817,2361664,00.asp; Trevor Mogg, *US Smartphone Users Now Over 100 Million, Android Increases Market Share* (Mar. 6, 2012), http://news.yahoo.com/us-smartphone-users-now-over-100-million-android-041611789.html.

[13] Contractual smartphones are smartphones where the service provider requires the user to obtain a contract for a specific amount of time.

[14] Issues arise due to the fact that criminals such as Mr. Russell prefer non-contractual phones. This may distort a court's view of the defendant. *See* United States v. Skinner, 690 F.3d 772 (6th Cir. 2012) (distinguishing between contractual and non-contractual smartphones).

[15] *Overview*, TRACFONE, http://www.tracfone.com/facelift/tour.jsp#a_overview (last visited Jan. 26, 2013).

[16] *Id.*

them, allowing contractual smartphones to in effect perform exactly like their non-contractual counterparts.[17] This eliminates any distinction between the two types of smartphones in that contractual smartphone users, in essence, can convert their smartphone into a burner.

B. Two Peas in a Pod: The Fourth Amendment and Smartphone Tracking

The Fourth Amendment protects the right of United States citizens "to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures."[18] The Fourth Amendment also states the grounds on which the government can perform searches and seizures: The government must obtain a warrant issued on "probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."[19] Because the Fourth Amendment does not actually mention smartphones or GPS tracking, an inquiry into the Founders' reasons for enacting the Fourth Amendment is beneficial to understanding the relation between the Fourth Amendment and smartphones.

The Framers of the Amendment were influenced by government action in England and the American colonies that violated personal liberties. In two English cases, *Entick v. Carrington* and *Wilkes v. Wood*, the government seized property using general warrants—warrants with no names or places to be searched.[20] The general warrants were struck down and judgment was entered in favor of the plaintiffs in both cases.[21] In the Massachusetts *Writs of Assistance* case, the government searched any place where the sought after property could be hidden without any suspicion the goods were actually there.[22] Unlike in *Entick* and *Wilkes*, the search was ruled legal and judgment was entered in favor of the government.[23] The use of general warrants in these cases prompted the drafting of the Fourth Amendment.[24]

The reasons why the Framers drafted the Amendment are relevant to the analysis at issue, despite the fact that smartphones and GPS neither influenced the Fourth

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[17] Damien Scott, *Burner iPhone App Lets You Create Temporary Phone Numbers*, COMPLEX (Aug. 11, 2012), http://www.complex.com/tech/2012/08/burner-iphone-app-lets-you-create-temporary-phone-numbers; *see also* Chris Maxcer, *Burner Is a Handy Way to Grab a Throwaway Phone Number*, TECHNEWSWORLD (Aug. 13, 2012), http://www.macnewsworld.com/story/75878.html (explaining the iPhone burner app); Stephanie Mlot, *Create Disposable Phone Numbers with Burner iPhone App*, PC MAG (Aug. 9, 2012), http://www.pcmag.com/article2/0,2817,2408265,00.asp (explaining the burner app).

[18] U.S. CONST. amend. IV.

[19] *Id.*

[20] Entick v. Carrington, 19 How. St. Tr. 1029 (C.P. 1765); Wilkes v. Wood, 19 How. St. Tr. 1153 (C.P. 1763).

[21] Entick v. Carrington, 19 How. St. Tr. 1029 (C.P. 1765); Wilkes v. Wood, 19 How. St. Tr. 1153 (C.P. 1763).

[22] Writs of Assistance Case, Quincy 51 (Mass. 1761).

[23] *Id.*

[24] GERARD V. BRADLEY, THE HERITAGE FOUNDATION, THE HERITAGE GUIDE TO THE CONSTITUTION 323-24 (Edwin Meese III et al. eds., 2005).

Amendment's drafting nor were contemplated by the Framers. Such is the case because not requiring a warrant based on probable cause permits the government, as the above cases forbid, to collect GPS data without describing the location of the person they intend to track.[25] Not requiring a warrant or probable cause for the search also allows the government to track a person without describing any connection with the smartphone or the crime investigated.[26] This resembles the government's use of general warrants during colonial America. The precise reason the Amendment was adopted was to curb the use of general warrants, not permit them to occur hundreds of years later.[27] In addition, Supreme Court decisions help make sense of the connection between the Fourth Amendment and smartphone tracking.

The Supreme Court's jurisprudence gives guidance on many of the terms that the Fourth Amendment contains. For example, a search requiring a warrant based on probable cause occurs in two circumstances. First, when law enforcement trespasses on a searched person's property, also known as a physical intrusion.[28] Second, when a searched person's expectation of privacy in the thing searched is reasonable and society believes that the expectation of privacy is reasonable.[29] The Court has also defined seizure and probable cause.[30] In addition, the Court has crafted numerous exceptions to the warrant requirement including exigent circumstances, arrests outside the home, searches incident to arrest, inventory searches, automobiles, and street stops and frisks.[31]

When focusing on collection of GPS data, a reasonable expectation of privacy is the point of issue.[32] Smartphone users have an expectation of privacy in their GPS data and society believes that the expectation of privacy is reasonable. Because the Fourth Amendment was meant to restrict the use of general warrants and because the Supreme Court has defined many terms in the Fourth Amendment, the Fourth Amendment and a warrant based on probable cause are proper when deciding smartphone GPS tracking cases.

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[25] United States v. Powell, 943 F. Supp. 2d 759, 778-79 (E.D. Mich. 2013).

[26] *Id.*

[27] BRADLEY, *supra* note 24, at 327.

[28] *See* United States v. Jones, 132 S. Ct. 945 (2012); Katz v. United States, 389 U.S. 347 (1967).

[29] *See Jones*, 132 S. Ct. 945; *Katz*, 389 U.S. 347.

[30] A seizure has been defined as a "meaningful interference with an individual's possessory interests in that property." Soldal v. Cook Cnty. 506 U.S. 56, 61 (1992). Persons may also be seized, but this is not at issue here. Probable cause has been defined as "a fair probability." Illinois v. Gates, 462 U.S. 213, 246 (1983).

[31] The exception that will most likely apply to collection of a smartphone user's GPS information is exigent circumstances. "Courts recognize the existence of exigent circumstances to justify a warrantless search in several situation, including: to prevent the destruction of evidence, to [ensure safety,] when police are in 'hot pursuit' of a fleeing suspect, or when other emergency circumstances exist, such as the need to assist injured individuals." Patterson v. North Carolina, No. 5:12 cv-182-RJC, 2013 WL 170431, at *3 (W.D.N.C. Jan. 16, 2013). The standard under exigent circumstances is a "reasonable suspicion"—a lower standard than probable cause. *Id.*

[32] BRADLEY, *supra* note 24, at 323.

C. The Electronic Communications Privacy Act

The Electronic Communications Privacy Act (ECPA)[33] sets the standard for how disclosure of electronic communications or records may take place without a warrant based on probable cause.[34] Congress wanted to protect electronic communications from government intrusion by clearly defining and limiting government surveillance.[35] Electronic communications are "any transfer of signs, signals, writing, images, sounds, data, or intelligence of any nature transmitted in whole or in part by a wire, radio, electromagnetic, photoelectronic or photooptical system that affects interstate or foreign commerce . . . ."[36] This does not, however, include any wire or oral communication, any communication made through a tone-only paging device, any communication from a tracking device, or electronic funds transfer information stored by a financial institution in a communications system used for the electronic storage and transfer of funds.[37] When the communication does not fall within the purview of the ECPA, courts will scrutinize the government's intrusion under the Fourth Amendment.[38]

GPS-embedded smartphones are not covered by the ECPA for two reasons. First, using a GPS embedded smartphone as a tracking device explicitly falls outside of the electronic communications definition.[39] As previously mentioned, electronic communications are not, among other things, tracking devices.[40] Second, smartphones did not exist at the time the ECPA was enacted.[41] Allowing the ECPA to govern smartphone tracking does not coincide with the reason that the Act was drafted—to keep pace with the technological advancements at that time.[42] Congress

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[33] The ECPA is made up of three titles. Title I protects wire, oral, and electronic communications. Title II, also known as the Stored Communications Act, protects communications held in electronic storage. Title III prohibits the use of pen register and/or trap and trace devices to record dialing, routing, addressing, and signaling information used in the process of transmitting wire or electronic communications without a court order.

[34] *See* 18 U.S.C.A. § 2703 (West 2014).

[35] H.R. REP. 103-827, at *17 (1994).

[36] 18 U.S.C.A. § 2510(12) (West 2014).

[37] *Id.*

[38] *See In re* Application of the U.S. for Historical Cell Site Data, 724 F.3d 600 (5th Cir. 2013) (looking at whether the Fourth Amendment or ECPA applied); United States v. Graham, 846 F. Supp. 2d 384 (D. Md. 2012) (same); *In re* Application of the U.S. for an Order (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 411 F. Supp. 2d 678, 682 (W.D. La. 2006) (same); *In re* Application of the U.S. for an Order (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 396 F. Supp. 2d 294, 327 (E.D.N.Y. 2005) (same).

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *See* H.R. REP. 103-827, at *17 (1994); S. REP. 99-541, at *2 (1986). *See generally* Orin S. Kerr, *A User's Guide to the Stored Communications Act, and a Legislator's Guide to Amending It*, 72 GEO. WASH. L. REV. 1208 (2004).

stated that the continual "development of new methods of communication and devices for surveillance has [dramatically expanded] the opportunity for [arbitrary government] intrusions."[43] For this very reason, Congress enacted the ECPA.

Congress also stated that one of its goals in enacting the ECPA was "to protect privacy interests in personal and proprietary information, while protecting the Government's legitimate law enforcement needs."[44] While it is important to protect law enforcement's needs, individuals' privacy interests should not take a back seat to the needs of the government. Because smartphone technology is a new method of communication and has been used as a surveillance device, applying the ECPA to smartphone GPS tracking is contrary to its enactment.

D. Katz*,* Knotts*,* Karo*, and* Jones*: Setting the Table for GPS Smartphone Tracking*

Four United States Supreme Court cases have shaped the current law of GPS tracking in smartphones. Important to note is that the four cases all rely on the Fourth Amendment rather than the ECPA.[45] The Supreme Court established the reasonable expectation standard in *Katz v. United States*.[46] In *Katz*, the petitioner challenged the government's attachment of an eavesdropping device to a public phone booth as a violation of his constitutional rights.[47] The Court found that a conversation is protected from unreasonable search and seizure under the Fourth Amendment if it is made with a "reasonable expectation of privacy."[48] Justice Harlan's concurring opinion launched the "*Katz* test," consisting of a two-part inquiry.[49] In order to determine whether a search violated a person's Fourth Amendment rights, courts must consider: (1) Has the individual manifested a subjective expectation of privacy in the object of the challenged search?; and (2) Is society willing to recognize that expectation as reasonable?[50] This test has been applied in numerous GPS tracking cases,[51] as well as influenced *United States v. Knotts*, *United States v. Karo*, and the concurring opinions in *United States v. Jones*.

The Supreme Court in *Knotts*[52] set forth the proposition that individuals have no expectation of privacy on public roadways.[53] In *Knotts*, federal agents placed a

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[43] S. REP. 99-541, at *2 (1986).

[44] *Id.* at *3.

[45] *See* Katz v. United States, 389 U.S. 347 (1967); United States v. Knotts, 460 U.S. 276 (1983); United States v. Karo, 468 U.S. 705 (1984); United States v. Jones, 132 S. Ct. 945 (2012).

[46] *Katz*, 389 U.S. at 360-61.

[47] *Id.* at 348.

[48] *Id.* at 360.

[49] *Id.* at 360-61.

[50] *Id.* at 361.

[51] *See* United States v. Skinner, 690 F.3d 772 (6th Cir. 2012) (applying the Fourth Amendment to cell phone GPS tracking); United States v. Powell, 943 F. Supp. 2d 759 (E.D. Mich. 2013) (same); Commonwealth v. Pitt, 29 Mass. L. Rptr. 445 (Mass. App. Div. 2012) (same); Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270 (Mass. App. Div. 2012) (same); State v. Earls, 70 A.3d 630 (N.J. 2013) (same).

[52] United States v. Knotts, 460 U.S. 276 (1983).

beeper into a container that was to be purchased by respondent.[54] The agents were able to monitor the movement of the container as it moved along the highway and eventually to respondent's home.[55] The Court held that "[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another."[56] The Court found no reasonable expectation of privacy because the information obtained had been voluntarily conveyed to the public by traveling on public roads.[57] This rule has been applied incorrectly to the monitoring of individuals using the GPS emanating from the person's smartphone.[58]

In *Karo*, the Supreme Court considered whether the installation of a beeper in a container amounted to a search or seizure.[59] Federal agents installed a beeper on a container in order to locate the movement of the container from location to location.[60] The Court held that the installation, with the consent of the original owner, does not invade a buyer's privacy when the buyer had no knowledge of the presence of the beeper.[61] However, the Court found that monitoring a beeper in a private residence violates a person's Fourth Amendment rights because a warrant must be obtained in order to search a house.[62] This requirement of a warrant has also been applied to situations where law enforcement tracks the GPS in an individual's smartphone.[63]

In *Jones*, which has been both relied on and distinguished by smartphone tracking cases,[64] the Supreme Court addressed the issue of "whether the attachment of a GPS device to an individual's vehicle, and the subsequent use of the device to track the vehicle's movements, constitutes a search under the Fourth Amendment."[65] The government attached the GPS device to the defendant's vehicle without a proper

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[53] *Id.* at 280-81.

[54] *Id.* at 277.

[55] *Id.* at 278-79.

[56] *Id.* at 281.

[57] *Id.* at 281-82.

[58] *See*, *e.g.*, United States v. Skinner, 690 F.3d 772, 777-79 (6th Cir. 2012) (applying *Knotts*). Due to the holding in *Jones* and society's current state, *Knotts* is no longer applicable to cases where law enforcement collects an individual's smartphone GPS data.

[59] United States v. Karo, 468 U.S. 705 (1984).

[60] *Id.* at 708.

[61] *Id.* at 712.

[62] *Id.* at 718.

[63] *See, e.g.*, Commonwealth v. Pitt, 29 Mass. L. Rptr. 445 (Mass. App. Ct. 2012) (applying *Karo*).

[64] Cases relying on *Jones* include: *Pitt*, 29 Mass. L. Rptr. 445; Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270 (Mass. App. Div. 2012); State v. Earls, 70 A.3d 630 (N.J. 2013). Cases distinguishing *Jones* include: United States v. Graham, 846 F. Supp. 2d 384 (D. Md. 2012); United States v. Skinner, 690 F.3d 772, 777-79 (6th Cir. 2012).

[65] Letter from N. Mark Rapoport, S.C. Senior Assistant Att'y Gen., to Brian Buck, Chief of Police, 2012 WL 1260180, at *1 (2012).

warrant and tracked the vehicle's movements for twenty-eight days.[66] Once indicted, the defendant moved to suppress the evidence obtained through the GPS device.[67]

The district court suppressed the GPS data obtained while the vehicle was at the defendant's residence;[68] however, the court admitted into evidence the data obtained while the vehicle was on public streets, evoking *Knotts*.[69] The Circuit Court for the District of Columbia reversed on appeal, holding that the admission of the evidence obtained by the warrantless use of a GPS device violated the Fourth Amendment.[70] Affirming the decision of the circuit court, the Supreme Court held that the attachment of the GPS devise constituted a search under the Fourth Amendment because of the government's "physical intrusion on an 'effect' for the purpose of obtaining information . . . ."[71] In reaching this decision, the Court utilized the "physical trespass test."[72] This holding appears to ignore *Knotts* by affirming the decision of the circuit court to overrule the district court's holding that relied on *Knotts* to find that no search occurred on public thoroughfares.[73]

In her concurrence, Justice Sotomayor argued that the *Katz* test provides individuals more protection than the test applied by the majority.[74] She noted that the government can circumvent the *Jones* holding by enlisting factory-installed or owner-installed tracking devices, i.e. GPS-enabled smartphones, instead of physically attaching a tracking device.[75] Justice Sotomayor stated that the delicate information received by the GPS to determine "the existence of a reasonable societal expectation of privacy in the sum of one's public movements" should be taken into account.[76] This weakens the *Knotts* holding, implying that a person may have a reasonable expectation of privacy in GPS data collected on public roads. She also recognized the difficulty in determining what a reasonable expectation of privacy is in society's present "digital age."[77]

Justice Alito's concurrence expounded upon the points made by Justice Sotomayor. Justice Alito found that continuous monitoring of every single movement of an individual's car for twenty-eight days violated individuals' reasonable expectation of privacy and thus constituted a search.[78] He explained that

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[66] United States v. Jones, 132 S. Ct. 945, 952 (2012).

[67] *Id.* at 953.

[68] *Id.* at 953-55.

[69] *Id.*

[70] *Id.*

[71] *Id.* at 950.

[72] *Id.* at 949-50; *see supra* Part II.A. Although the majority applied the "physical trespass test," the concurring opinions focused on the "*Katz* test." *Jones,* 132 S. Ct. at 953-54, 58.

[73] *Id.* at 954.

[74] *Id.* at 954.

[75] *Id.*

[76] *Id.* at 956.

[77] *Id.* at 957.

[78] *Id.* at 963-64.

prior to GPS devices, a month-long surveillance of an individual would have been demanding and costly—requiring a tremendous amount of resources and people.[79] As a result, society's expectations that such surveillance would not happen to them are reasonable.[80]

These four cases lay the groundwork for searches involving smartphones. Some courts, however, distinguish *Jones* and apply *Knotts*, which held that a person traveling on public thoroughfares has no reasonable expectation of privacy in his movements.[81] Courts should instead apply the principles in *Katz*, that a search or seizure under the Fourth Amendment occurs when a person has "reasonable expectation of privacy,"[82] *Karo*, that monitoring a tracking device in a private residence violates a person's Fourth Amendment rights,[83] and the concurrences in *Jones*.

E. The Development and Use of GPS Technology

The GPS system used in smartphones comes from twenty-four of the 443 GPS satellites in the United States. [84] GPS in cell phones was first used to improve emergency response by giving emergency operators the exact location of the person in need rather than relying on the reporter's estimated location.[85] Now, however, GPS in cell phones is used for more than aiding those in need.[86] Individuals use smartphone GPS to locate dining and entertainment venues, as well as to obtain

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[79] *Id.*

[80] *Id.*

[81] United States v. Knotts, 460 U.S. 276, 281 (1983).

[82] Katz v. United States, 389 U.S. 347, 360 (1967).

[83] United States v. Karo, 468 U.S. 705, 718 (1984).

[84] *UCS Satellite Database*, UNION OF CONCERNED SCIENTISTS (Aug. 1, 2012), http://www.ucsusa.org/nuclear_weapons_and_global_security/space_weapons/technical_issues/ucs-satellite-database.html; *What is GPS?*, GARMIN, http://www8.garmin.com/aboutGPS/. Of the 443 satellites, eight are civil, 116 are government, 122 are military, and 197 are commercial. *See UCS Satellite Database*, *supra*. The newest satellites have the "capability to meet the evolving needs of military, commercial and civilian users worldwide." *U.S. Air Force Awards Lockheed Martin Contract for Third and Fourth GPS III Satellites*, LOCKHEED MARTIN (January 12, 2012), http://www.lockheedmartin.com/us/news/press-releases/2012/january/0112_ss_gps.html. "[These] satellites will deliver better accuracy and improved anti-jamming power while enhancing the spacecraft's design life and adding a new civil signal designed to be interoperable with international global navigation satellite systems." *Id.*

[85] Ian Herbert, *Where We are with Location Tracking: A Look at the Current Technology and the Implications on Fourth Amendment Jurisprudence*, 16 BERKELEY J. CRIM. L. 422, 477 (2011).

[86] *See, e.g.*, Sonja Thompson, *10 Smartphone Features that I'm Pretty Darn Thankful For*, TECH REPUBLIC (Nov. 28, 2013), http://www.techrepublic.com/blog/smartphones/10-smartphone-features-that-im-pretty-darn-thankful-for/.

driving directions.[87] Additionally, law enforcement uses smartphone GPS to track individuals for their criminal investigations.[88]

Law enforcement may locate and track a person by collecting two prominent types of cell phone data: cell-site location and ping data.[89] Cell-site location data, also known as cell-site location information (CSLI), begins when an individual's cell phone communicates identification and serial numbers to a cell tower.[90] This information is collected by telecommunications providers and can be viewed by law enforcement as "historical" CSLI or "real-time" CSLI.[91] To "ping" means to send a signal to a particular cell phone and have that phone respond with the requested data.[92]

GPS-enabled surveillance appeals to law enforcement because GPS allows law enforcement "to collect continuous, detailed, and real-time location, speed, direction, and duration information."[93] Law enforcement can collect this information for hours, days, weeks, months, and even years without the smartphone user's knowledge—a power easily subject to abuse.[94] Other advantages to law enforcement include the accuracy and flexibility of GPS data. For example, current GPS technology typically achieves spatial resolution within about thirty-three feet.[95] This means, for example, that law enforcement could locate an individual using his cell phone within approximately thirty-three feet of the individual's exact location. GPS also makes it easier to collect detailed information "without incurring the commensurate costs in dedicated employee resources, salary, benefits, [maintenance,] and overtime pay."[96] Law enforcement can locate individuals in this manner from any location, making GPS-enabled surveillance not only cheaper but vastly superior to visual surveillance because "no one human or organization of human observers is currently capable of

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[87] *New Research Shows Consumers Want a Side of Technology with their Meals*, NAT'L REST. ASS'N (Oct. 23, 2013), http://www.restaurant.org/News-Research/News/New-research-shows-consumers-want-a-side-of-techno.

[88] *See, e.g.*, State v. Earls, 70 A.3d 630 (N.J. 2013).

[89] *See e.g.*, *In re* Application of the U.S. for an Order Authorizing Disclosure of Location Info. of a Specified Wireless Tel., 849 F. Supp. 2d 526 (D. Md. 2011).

[90] *See* Steven M. Harkins, *CSLI Disclosure: Why Probable Cause is Necessary to Protect What's Left of the Fourth Amendment*, 68 WASH. & LEE L. REV. 1875, 1882 (2011) (citing Stephanie Lockwood, *Who Knows Where You've Been? Privacy Concerns Regarding the Use of Cellular Phones as Personal Locators*, 18 HARV. J.L. & TECH. 307, 308 (2004)).

[91] *Id.* at 1883.

[92] *See Locating Mobile Phones through Pinging and Triangulation*, PURSUIT MAGAZINE (July 1, 2008), http://pursuitmag.com/locating-mobile-phones-through-pinging-and-triangulation/. The term "ping" derived from SONAR when a technician would send a ping and wait for its return to locate another object. *Id.*

[93] Lenese C. Herbert, *Challenging the (Un)constitutionality of Governmental GPS Surveillance*, 26 CRIM. JUST. 34, 34 (2011).

[94] *Id.*

[95] *In re* Application of the U.S. for an Order Authorizing Disclosure of Location Info. of a Specified Wireless Tel., 849 F. Supp. 2d 526, 533 (D. Md. 2011).

[96] *Id.*

such comprehensive, continuous, and accurate information regarding location and movement monitoring."[97]

The precision, low cost, and ease of collecting GPS data give law enforcement a leg up on fighting crime. This result is welcomed in society. However, the existing convenience and simplicity in tracking an individual's smartphone presents opportunity for abuse when collected without a warrant based on probable cause. Not only is the collection of GPS data invasive, its intrusion into society's reasonable expectation of privacy is also not likely to be welcomed by society.[98]

III. CURRENT CASE LAW REGARDING SMARTPHONE TRACKING

Most courts have applied the Fourth Amendment when analyzing law enforcement's use of smartphones as tracking devices, thereby requiring a warrant based on probable cause before any such use could occur.[99] However, some courts have questioned whether there are other ways by which law enforcement can collect smartphone GPS data without a warrant.[100] Specifically, some courts have discussed collection of GPS data under the ECPA.[101] This Section focuses on courts that have contemplated the application of the ECPA in deciding whether a warrant is required to obtain GPS data. This Section also focuses on courts that have applied the Fourth Amendment to law enforcement's use of smartphone GPS in tracking individuals. These courts have applied or distinguished *Jones*, as well as other doctrines, resulting in a flurry of differing opinions.

A. "Big Brother's" False Hope: Law Enforcement's Collection of Smartphone GPS Data Under the ECPA

When the government seeks to collect location information under the ECPA, they do so under the Stored Communications Act ("SCA") or a combination of the Pen Register and Trap and Trace statutes, and the SCA. The SCA protects communications held in electronic storage, while the Pen Register and Trap and Trace statutes pertain to record dialing, routing, addressing, and signaling

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[97] L. C. Herbert, *supra* note 93, at 35; *see also Application of the U.S.*, 849 F. Supp. 2d at 540.

[98] Byron Acohido, *Can Snowden Revert Privacy to a Social Norm?*, USA TODAY (Oct. 30, 2013), http://www.usatoday.com/story/cybertruth/2013/10/30/how-snowden-is-returning-privacy-to-a-social-norm/3318559/.

[99] *See* United States v. Skinner, 690 F.3d 772 (6th Cir. 2012); United States v. Powell, 943 F. Supp. 2d 759 (E.D. Mich. 2013); Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, *7-9 (Mass. App. Div. 2012); Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270 (Mass. App. Div. 2012); State v. Earls, 70 A.3d 630 (N.J. 2013).

[100] *See In re* Application of the U.S. for Historical Cell Site Data, 724 F.3d 600 (5th Cir. 2013); United States v. Graham, 846 F. Supp. 2d 384 (D. Md. 2012); *In re* Application of the United States for an Order (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 411 F. Supp. 2d 678 (W.D. La. 2006); *In re* Application of the U.S. for an Order (1) Authorizing the Installation and Use of a Pen Register and a Trap and Trace Device and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 396 F. Supp. 2d 294 (E.D.N.Y. 2005).

[101] *Application of the U.S.*, 411 F. Supp. 2d 678; *Application of the U.S.*, 396 F. Supp. 2d 294.

information used in the process of transmitting wire or electronic communications without a court order.[102] Courts have ruled differently when deciding whether these statutes sufficiently protect individuals' privacy rights. Issues arise such as the differing evidentiary standards under the ECPA and the Fourth Amendment and whether the GPS data is historical or prospective.[103]

In *United States v. Graham* and a recent Fifth Circuit case, the courts held that the Fourth Amendment is not implicated when the government seeks to collect historical GPS data.[104] Both courts found that the SCA provided sufficient privacy protections for historical GPS data.[105] According to these courts, then, the "specific and articulable" standard required by the SCA protects individuals' privacy interests akin to the probable cause standard required under the Fourth Amendment.[106] Important to note, however, is that the specific and articulable standard is a lesser standard than probable cause because all that is required are facts demonstrating reasonable grounds to believe that the information sought is relevant and material to an ongoing criminal investigation; probable cause requires a reasonable amount of suspicion, supported by circumstances sufficiently strong to justify a prudent and cautious person's belief that certain facts are probably true.[107]

Although both courts found that the SCA protects privacy interests similar to the Fourth Amendment, the courts found that historical GPS data are business records and should therefore be analyzed under the third party and business records doctrines.[108] Specifically, these courts found that historical GPS data are the business records of phone companies and are voluntarily provided by the phone's user.[109] Additionally, neither court decided to apply *Jones*, based on the fact that *Jones* dealt with a different type of GPS technology.[110] Rather, these courts stated that the legislature might be better equipped to decide such policy concerns.[111] Justice Sotomayor alluded to the inapplicability of the business records and third party doctrines to current GPS tracking in her concurrence by stating that it is "ill suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks."[112] Therefore, *Jones* should have been followed and the Fourth Amendment implicated.

The Western District of Louisiana and the Eastern District of New York also considered the issue of whether the collection of smartphone GPS data required a warrant under the Fourth Amendment or the SCA. The Western District of Louisiana

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[102] 18 U.S.C.A. §§ 2701–2712, ch. 206 (West 2012).

[103] I will use the term "prospective" to also include "real-time" GPS collection.

[104] *Application for Historical Data*, 724 F.3d 600; *Graham*, 846 F. Supp. 2d at 386.

[105] *Application for Historical Data*, 724 F.3d at 615; *Graham*, 846 F. Supp. 2d at 390.

[106] *Graham,* 846 F. Supp. 2d at 388.

[107] *Application for Historical Data*, 724 F.3d at 615; *Graham*, 846 F. Supp. 2d at 393.

[108] *Application for Historical Data*, 724 F.3d at 615; *Graham*, 846 F. Supp. 2d at 403.

[109] *Application for Historical Data*, 724 F.3d at 615; *Graham*, 846 F. Supp. 2d at 403.

[110] *Application for Historical Data*, 724 F.3d at 615; *Graham*, 846 F. Supp. 2d at 394.

[111] *Application for Historical Data*, 724 F.3d at 614; *Graham*, 846 F. Supp. 2d at 405.

[112] United States v. Jones, 132 S. Ct. 945, 957 (2012).

granted an order to obtain prospective GPS data pursuant to the Pen Register Statute and the SCA, while the Eastern District of New York denied a similar order.[113] The Louisiana court found that the Fourth Amendment was not implicated because the government did not seek GPS information that might be available when the defendant's cell phone was turned off; it only sought information communicated to cell phone towers.[114] Again, this court made the unnecessary distinction between types of GPS data. The New York court, however, found the opposite.[115]

The New York court made the appropriate analysis when it determined that the SCA does not permit the collection of GPS data without a warrant based on probable cause. This court correctly stated that disclosure of GPS information turned a smartphone into a tracking device, which requires a showing of probable cause under the Fourth Amendment, not the lesser standard set forth in the SCA.[116] Accordingly, the court held that the SCA does not apply because GPS data neither pertains to an individual's utilization of a provider's electronic communication service, as the SCA requires, nor focuses on communications already in existence, as does the SCA.[117] Therefore, according to this New York court, because the SCA does not apply, probable cause is required for the disclosure of smartphone GPS data pursuant to the Fourth Amendment.

In line with the New York court, the court in *United States v. Powell* found that a warrant for the collection of GPS data requires probable cause.[118] The *Powell* court found that "when the government requests authorization to engage in long-term, real-time tracking of an individual's movements via his or her cell phone . . . Fourth Amendment concerns are implicated."[119] Based on statutory interpretation, technological differences, and a distinction between historical CSLI and prospective GPS collection, this court found that the SCA, wiretaps, Pen-Register statute, and a combination of the SCA and Pen-Register statutes are not applicable to prospective smartphone tracking.[120] The distinction by the court, however, offers no protection to individuals because prospective information will inevitably become historical, thus this information will then inevitably become available to law enforcement without the requirement of a warrant based on probable cause. The distinction also burdens law enforcement in that it causes the government to provide a warrant based on a separate standard, or wait until the data becomes historical.

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[113] *In re* Application of the U.S. for an Order: (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 411 F. Supp. 2d 678, 682 (W.D. La. 2006); *In re* Application of the U.S. for an Order (1) Authorizing the Installation and Use of a Pen Register and a Trap and Trace Device and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 396 F. Supp. 2d 294, 327 (E.D.N.Y. 2005).

[114] *Application of the U.S.*, 411 F. Supp. 2d at 681-82.

[115] *Application of the U.S.*, 396 F. Supp. 2d at 327.

[116] *Id.* at 300.

[117] *Id.* at 308.

[118] United States v. Powell, 943 F. Supp. 2d 759, 768 (E.D. Mich. 2013).

[119] *Id.* at 776-77.

[120] *Id.*

B. Law Enforcement's Collection of Smartphone GPS Data Under the Fourth Amendment

Applying the Fourth Amendment to the government's collection of GPS data, rather than the ECPA, does not present any shortage of issues. However, most courts apply the Fourth Amendment to smartphone GPS tracking.[121] Issues include the type of information that could be collected, governmental interest in the search, the length of surveillance, and the criminality of the defendant.

The issue associated with the type of information that could be collected by the government through smartphone GPS data is that it presents a privacy intrusion. The court in *Commonwealth v. Pitt*[122] analyzed this issue by applying the *Katz* test.[123] The court reasoned that "a cell phone subscriber takes no overt steps to communicate his physical location to a cell phone service provider" because the user is likely unaware that making a call could disclose his location to law enforcement.[124] Thus, according to the *Pitt* court, the only information voluntarily and knowingly conveyed by the user is the number dialed.[125] This, however, is the opposite position of that taken by the court in *Graham*, which held that the Fourth Amendment is not implicated when the government seeks to collect historical GPS data.[126] The *Pitt* court, therefore, afforded more privacy in location information than the court in *Graham*.

The *Pitt* court found that the collection of GPS data allows for "dragnet-type law enforcement practices" due to the type of information "that the defendant's [GPS data] *could* have exposed [such as] intimate knowledge about his personal life."[127] Examples of "intimate knowledge" suggested by the court were political, religious, amicable, and amorous associations.[128] The court stated that it would be absurd to decide the constitutionality of a search after the fact, based on the information that it produced,[129] and also found that almost all citizens of Massachusetts carry with them a GPS tracking device due to the "ubiquity of modern cell phones and 'smart phones . . . .'"[130] This is true not only in Massachusetts, but throughout the entire United States.[131] The court therefore concluded that a warrant based on probable cause is

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[121] *See* United States v. Skinner, 690 F.3d 772 (6th Cir. 2012); *Powell*, 943 F. Supp. 2d at 764; Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, *7-9 (Mass. App. Div. 2012); Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270 (Mass. App. Div. 2012); State v. Earls, 70 A.3d 630, 638 (N.J. 2013).

[122] *Pitt*, 29 Mass. L. Rptr. 445.

[123] *Id.* at *3.

[124] *Id.* at *3-4.

[125] *Id.* at *3.

[126] United States v. Graham, 846 F. Supp. 2d 384, 403 (D. Md. 2012).

[127] *Pitt*, 29 Mass. L. Rptr. 445, at *8.

[128] *Id.*

[129] *Id.* at *7.

[130] *Id.*

[131] State v. Earls, 70 A.3d 630, 643 (N.J. 2013).

required for such collection because the Fourth Amendment must advance with technology to ensure its continued vitality.[132]

While the *Pitt* court affords more privacy in location information than the court in *Graham*, it also uses generalities and does not necessarily look to the subjective privacy interests of smartphone users. A question would then arise if defendants knew that their smartphone would create a record of their location. Although the *Pitt* court is correct, it fails to state whether a defendant's knowledge that smartphone use creates a record of their location satisfies the objective test.

A case similar to that of *Pitt* is *Commonwealth v. Wyatt*,[133] another Massachusetts case in which the court relied on *Jones*.[134] Unlike the *Pitt* court, the *Wyatt* court focused on defendants' subjective expectations of privacy rather than simply assuming that defendants were unaware that a call could disclose their location to law enforcement.[135] In *Wyatt,* the court found a subjective expectation of privacy in smartphone GPS data because the court found that defendants were unaware that their phone usage created a record of their location.[136] The court also found an objective expectation of privacy because the use of smartphones has become so pervasive, and finding otherwise would compromise "what it means to be a citizen of the [United States] free from arbitrary surveillance."[137]

The *Wyatt* Court was correct in stating that the use of smartphones is pervasive. There are an estimated 321,716,905 cell phone subscribers in the United States, with nearly half of them being smartphone users.[138] This number is surely going to continue its trend upwards in the coming years. The *Pitt* and *Wyatt* courts recognized the dependence of Americans on their smartphones and the proximity of the phone to the person, creating the possibility of privacy intrusion not imagined by the Framers of the Fourth Amendment.[139] Such governmental intrusion requires a warrant based on probable cause, not the lesser standard of proof established by the SCA.

Courts also look at the government's interest in collecting GPS data separate from the type of information collected. In *United States v. Ortiz*,[140] the court held

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[132] *Pitt*, 29 Mass. L. Rptr. 445, at *9.

[133] Commonwealth v. Wyatt, 30 Mass. L.Rptr. 270 (Mass. App. Div. 2012).

[134] *Id.* at *2 (The Court looked at the concurrence in both *Jones* and *Connolly*.); *see also* Commonwealth v. Connolly, 913 N.E.2d 356, 377 (Mass. 2009) (Gants, J., concurring) (Justice Gants' concurrence focused on a reasonable expectation of privacy. He found that police could potentially engage in GPS monitoring of any individual and learn what could otherwise only be learned though twenty-four hour surveillance.).

[135] *Wyatt*, 30 Mass. L. Rptr. 270 at *6.

[136] *Id.*

[137] *Id.* at *7.

[138] *Semi-Annual Wireless Industry Survey*, CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION (2012), http://files.ctia.org/pdf/CTIA_Survey_MY_2012_Graphics-_final.pdf; *Smartphones Account for Half of All Mobile Phones, Dominate New Phone Purchases in the U.S.*, NIELSEN (Mar. 29, 2012), http://www.nielsen.com/us/en/newswire/2012/smartphones-account-for-half-of-all-mobile-phones-dominate-new-phone-purchases-in-the-us.html.

[139] Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, at *7 (Mass. App. Div. 2012); *Wyatt*, 30 Mass. L. Rptr. 270, at *7.

[140] United States v. Ortiz, 878 F. Supp. 2d 515 (E.D. Penn. 2012).

that "installation and monitoring of a [GPS] tracking device on a vehicle require[d] a warrant," and that any governmental interest in such a search paled in comparison to the privacy interests of citizens.[141] Although this case concerned an installation of a GPS device and not a GPS-enabled smartphone, the principals in this case are nevertheless pertinent to GPS embedded smartphones because smartphones act like tracking devises—they, like the GPS tracker attached in this case, can provide information twenty-four hours a day without regard to where the person goes, who the person is, or whether agents are actively monitoring the phone.

The *Ortiz* court balanced the government's intrusion on the defendant's Fourth Amendment interests with the legitimate government interest.[142] The court found that the infringed privacy interests created by the tracking deserved considerable weight due to the length of time defendant was monitored.[143] Thus, the court reasoned that the length of time a defendant was tracked and whether there is a period of time where it is reasonable to track and not to track is a major issue of concern in weighing government interest against individuals' privacy rights.[144] In *Ortiz,* the court found no legitimate government interest because the government did not prove a need to use the GPS tracker beyond the normal need for law enforcement.[145] In the case of smartphones, information is provided for longer periods without burdening law enforcement with attaching another GPS device, so the *Ortiz* ruling would seem to apply even more strongly to that type of search.

Another case looking into government interests, and one of the biggest smartphone GPS tracking cases, is *United States v. Skinner*.[146] The Sixth Circuit held that there was no Fourth Amendment violation in the government's collection of smartphone GPS data because the defendant "did not have a reasonable expectation of privacy in the data emanating from his cell phone that showed its location."[147] This reasoning contrasts with *Pitt* and *Wyatt*. The Sixth Circuit reasoned that individuals may not rely on the expected "untrackability" of their tools because if such were the case, then smartphone technology would help criminals, not law enforcement.[148] In addition, the court stated that "[l]aw enforcement tactics must be allowed to advance with technological changes, in order to prevent criminals from circumventing the justice system."[149] This view is in direct contrast to the *Pitt* court's view that the Fourth Amendment must advance with technological changes.

The *Skinner* court also cited *Knotts*, finding that the defendant was traveling on public roads, and the GPS data that aided law enforcement could also have been obtained through visual surveillance.[150] The Supreme Court, however, in *United*

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[141] *Id.* at 530-32.

[142] *Id.* at 530.

[143] *Id.*

[144] *Id.* at 531.

[145] *Id.* at 530.

[146] United States v. Skinner, 690 F.3d 772 (6th Cir. 2012).

[147] *Id.*

[148] *Id.* at 777.

[149] *Id.* at 778.

[150] *Id.*

States v. Jones, expressly rejected this reasoning when it upheld the circuit court's ruling rather than the ruling of the district court.[151] The *Skinner* court distinguished *Jones*, holding that the defendant did not have a reasonable expectation of privacy in the GPS data and location of his cell phone because authorities tracked a known number that was voluntarily used while traveling on public thoroughfares.[152] The *Skinner* court also took into account the fact that the phone was used during the commission of a crime.[153] The criminality of the defendant, however, should not be a factor in determining whether the Fourth Amendment was implicated by a government's search because the Fourth Amendment protects all citizens, criminals or not.

The Sixth Circuit determined *Jones* was not controlling because it decided there was no *physical* intrusion onto defendant or his property that may have constituted a violation of the Fourth Amendment.[154] In addition, the court looked at Justice Sotomayor's and Justice Alito's concurring opinions in *Jones*, finding that the majority's opinion provided little guidance on cases of electronic surveillance without physical intrusion and that there was little precedent in this area.[155] The court further distinguished *Jones* by looking at the amount of time involved in the GPS monitoring, again raising the issue of length of monitoring.[156]

Justice Donald, in his concurring opinion, found that society is not prepared to recognize defendant's expectation of privacy as legitimate because the majority's reasoning was contrary to established law.[157] Donald stated that privacy expectations are not diminished by the criminality of a defendant's activities,[158] and that holding

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[151] United States v. Jones, 132 S. Ct. 945, 954 (2012) (holding that the attachment of the GPS devise constituted a search under the Fourth Amendment).

[152] *Skinner*, 690 F.3d at 779.

[153] *Id*. at 785.

[154] *Id.* at 780.

[155] *Id.*

[156] *Id.* In *Jones*, Justice Alito raised concerns that using legal methods, law enforcement may comprehensively track a person's activities, which are unreasonable for Fourth Amendment purposes. *See Jones*, 132 S. Ct. at 963. His example was monitoring the location of a vehicle for four weeks. *Id.* He stated that doing so would require a large team of agents, multiple vehicles, and perhaps aerial assistance. *Id.* However, with current technology, Justice Alito recognized that law enforcement can "secretly monitor and catalogue every single movement" that a defendant made over four weeks, which would have previously been impossible. *See id.* at 964.

The court in *Skinner* found that Justice Alito's concerns, although valid, were not present in the case because DEA agents only tracked Skinner's cell phone for three days, rather than twenty-eight days as in *Jones*. *Skinner*, 690 F.3d at 780. The court further distinguished this concern, stating that the monitoring was no more of a comprehensively invasive search than if the car was identified, tracked visually, and the search handed off from one local authority to another as the vehicles progressed. *Id.*

[157] *Id.* at 785-86.

[158] *Id.* at 785.

otherwise is contrary to law.[159] Donald also stated that *Knotts* is distinguishable because law enforcement had already identified and undertaken visual surveillance of a particular suspect, whereas in the present case, the agents did not know the identity of their suspect, the car he drove, or the route he was traveling.[160] He consequently found that society is prepared to recognize a legitimate expectation of privacy in GPS data emitted from a smartphone when law enforcement does not use the GPS data to simply augment their search.[161] He argued that this reasonable expectation of privacy exists because the government could not have discovered the aforementioned information without the GPS data.[162]

Skinner paved the way for other courts to find that collecting smartphone GPS data does not implicate the Fourth Amendment.[163] Two examples are *United States v. Barrera-Barron* and *People v. Moorer*.[164] In *Barrera-Barron*, the court relied on *Skinner* in finding that the defendant did not have standing, or an expectation of privacy, to contest the use of GPS data from the phone he used.[165] The *Barrera-Barron* court rejected any expectation of privacy argument by focusing on *Knotts* and *Skinner*, stating that "[t]here is no inherent constitutional difference between trailing a defendant and tracking him via [GPS] technology. Law enforcement tactics must be allowed to advance with technological changes, in order to prevent criminals from circumventing the justice system."[166] The *Barrera-Barron* court also stated that the defendant did not have an expectation of privacy because he was traveling on public thoroughfares.[167]

In *People v. Moorer*, the court correctly rejected any statutory authority allowing law enforcement to ping the defendant's cell phone;[168] however, it also found that individuals have no expectation of privacy in their smartphone GPS data under the Fourth Amendment or the New York State Constitution, incorrectly relying on *Skinner* and *Knotts*—allowing the government to track the defendant's smartphone

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[159] *Id.* Justice Donald looked to United States v. Bailey, 628 F.2d 938 (6th Cir. 1980), and found that under the Fourth Amendment there is a distinction between contraband and other property. *Skinner*, 690 F.3d at 785. Any item that is legitimately owned is not considered contraband. *Id.* Donald found that the defendant's possession of the phone was legitimate and not unlawful or suspicious in itself, therefore finding the majority's holding, that defendant had no expectation of privacy in his phone because he used it to conduct criminal activities, was contrary to law. *Id.*

[160] *Id.* at 786.

[161] *See id.* at 786.

[162] *See id.*

[163] United States v. Barrera-Barron, No. 12-20066-22-KHV, 2013 WL 3989182, at *6 (D. Kan. Aug. 1, 2013); United States v. Money, No. 6:12–53–DCR, 2013 WL 412626 (E.D. Ky. Feb. 1, 2013); People v. Moorer, 959 N.Y.S.2d 868, 876 (Monroe Cnty. 2013).

[164] *Barrera-Barron*, 2013 WL 3989182; *Moorer*, 959 N.Y.S.2d 868.

[165] *Barrera-Barron*, 2013 WL 3989182, at *6.

[166] *Id.* at *6. Like the *Skinner* court, there was no concern with the Fourth Amendment protections advancing along with technological changes.

[167] *Id.*

[168] *Moorer*, 959 N.Y.S.2d at 876.

with no warrant under the Fourth Amendment.[169] The court followed *Knotts*, but rejected other Fourth Amendment case law on the basis that it involved installed GPS technology, rather than "voluntary utilization" of "tracking technology."[170] The court's distinction is hypocritical because *Knotts*, like the case law it rejected, involved installed GPS technology, not a "voluntary utilization" of "tracking technology."[171]

The *Moorer* court further stated,

> public ignorance about cell phone technology can no longer be maintained in this day and age—cell phones are voluntarily carried by their users and may be turned on or off at will. People are not so oblivious that they are not aware that cell phones purchased today come with GPS technology which can pinpoint the location of the phone at any given time so long as it is turned on and the GPS technology has not been deactivated or disabled. . . . By a person's voluntary utilization, through GPS technology, of a cell phone, a person necessarily has no reasonable expectation of privacy with respect to the phone's location—vis-à-vis the pinging—even though he maintains what may be a reasonable expectation of privacy in the content of his phone conversations.[172]

The *Moorer* court does not consider the obvious fact that knowledge about governmental privacy intrusions does not mean that the person has no reasonable expectation of privacy. If anything, the opposite is true—knowledge creates not only awareness of possible constitutional violations, but also a desire for privacy.[173]

In a separate case, the Supreme Court of New Jersey recently held that individuals "have a reasonable expectation of privacy in their cellphone [GPS data], and that police must obtain a search warrant before accessing that information . . . ."[174] Although the court based its decision on the New Jersey State Constitution,[175] the reasoning supports the many arguments in favor of requiring a warrant based on probable cause prior to government collection of GPS data from one's smartphone.

Like the concurrences in *Jones*, the court recognized the intrusiveness of using a smartphone to locate the phone's owner:[176] "Using a cell phone to determine the location of its owner . . . is akin to using a tracking device and can function as a substitute for 24/7 surveillance without police having to confront the limits of their resources. It also involves a degree of intrusion that a reasonable person would not anticipate."[177] In addition, the court followed *Pitt* and *Wyatt*, stating that collection of GPS data from a smartphone "can reveal not just where people go . . . but also the

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[169] *Id.* at 879-81.

[170] *Id.* at 881.

[171] United States v. Knotts, 460 U.S. 276 (1983).

[172] *Moorer*, 959 N.Y.S.2d at 881.

[173] Acohido, *supra* note 98.

[174] State v. Earls, 70 A.3d 630, 633 (N.J. 2013).

[175] *Id.*

[176] *Id.* at 642.

[177] *Id.*

people and groups they choose to affiliate with and when they actually do so[, which] cuts across a broad range of personal ties . . . ."[178]

The New Jersey Supreme Court also recognized the problem with applying *Knotts* to cases where law enforcement uses a smartphone to locate an individual using the phone's GPS data,[179] stating, "[m]odern cell phones also blur the historical distinction between public and private areas because cell phones emit signals from both places. . . . [L]aw enforcement [has] no way of knowing in advance whether [a] defendant's cell phone was being monitored in a public or private space."[180] This reasoning shows the difficulty in relying on *Knotts* in the modern age of technology.

Following the courts in *Pitt* and *Wyatt,* the New Jersey Supreme Court recognized that smartphones have "become an indispensable part of modern life," in direct contrast to the court in *Moorer*.[181] Unlike the *Moorer* court, the New Jersey Supreme Court recognized that "[p]eople buy cell phones to communicate with others, to use the Internet, and for a growing number of other reasons. But no one buys a cell phone to share detailed information about their whereabouts with the police."[182] The court also rejected any notion that society's knowledge about GPS data collection negates a reasonable expectation of privacy.[183] However, like the *Pitt* court, the New Jersey Supreme Court made a general assumption that "most people do not realize the extent of modern tracking capabilities and reasonably do not expect law enforcement to convert their phones into precise, possibly continuous tracking tools."[184] Like *Pitt*, the New Jersey Supreme Court fails to address whether a smartphone user has a reasonable expectation of privacy if he is aware that his smartphone GPS data can be tracked.[185]

Fourth Amendment case law clearly shows different approaches to the issue of smartphone GPS monitoring. First, courts will either follow *Jones* and Justices Sotomayor's and Alito's concurrences and hold that collection of GPS data requires a warrant under the Fourth Amendment, or distinguish *Jones* and follow *Knotts*, holding that no warrant is required to collect GPS data. Factual issues of concern to these courts are the type of information that could be collected, the government's burden, the criminality of the defendant, and the length of time the defendant was tracked. These are important factors for courts to consider when deciding whether a

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[178] *Id.*

[179] *See id.*

[180] *Id.*

[181] *See id.*

[182] *Id.* at 643.

[183] *Id.* at 643-44.

[184] *Id.*

[185] With the recent unveiling that the National Security Agency ("NSA") is collecting certain electronic records, the American public is more aware than ever that the government has the ability to, and does, collect certain "private" information. The recent uproar and debate about the constitutionality of this collection is proof that although the public has knowledge of such practices, the public still has a privacy interest in the information collected. This is also true of GPS data collected from smartphones. Although Americans now understand that the government can collect the GPS data, there is still a privacy interest in the data.

Fourth Amendment warrant based on probable cause is required when tracking an individual through the collection of smartphone GPS data.

IV. REQUIRING A WARRANT UNDER THE FOURTH AMENDMENT FOR SMARTPHONE GPS

This Section argues that a warrant based on probable cause is required prior to law enforcement's collection of smartphone GPS data to track individuals. This Section then explains why the ECPA, with its lesser standard of proof, should not be used as a substitute for the Fourth Amendment's requirement of probable cause for the collection of smartphone GPS data. This Section also shows which Fourth Amendment legal standards should apply to smartphone GPS monitoring by looking at case law and public policy. Additionally, this Section addresses arguments against a Fourth Amendment warrant requirement, similar to the arguments made in *Skinner*, *Barrera-Baron*, and *Moorer*. Lastly, this Section proposes solutions to the growing problem of warrantless smartphone GPS data collection and uncertain case law.

A. The ECPA and Smartphone GPS Data: Applying the Past to the Present

The ECPA is inapplicable to the collection of smartphone GPS data for three reasons. First, the collection of GPS data emanating from a smartphone does not, as the ECPA requires, "pertain to the subscriber's use of the provider's electronic communication service."[186] An electronic communication service is any service that provides to its users the ability to send or receive electronic or wire communication.[187] Some would argue that smartphones are electronic communication services and that collection of GPS data from this source would therefore fall under "electronic communications."[188] However, because GPS-embedded phones act as tracking devices when used by law enforcement to monitor individuals' whereabouts, and because tracking devices do not fall under the definition of "electronic communication,"[189] collection of this data does not in fact fall under the scope of the ECPA. That smartphone GPS data is not a wire

[186] *In re* Application for Pen Register and Trap/Trace Device with Cell Site Location Auth., 396 F. Supp. 2d 747, 758 (S.D. Tex. 2005).

[187] 18 U.S.C.A. § 2510(15) (West 2014).

[188] *See In re* Application of the U.S. for an Order (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 411 F. Supp. 2d 678, 682 (W.D. La. 2006) (finding that the Pen Register Statute and the SCA allowed collection of GPS data).

[189] *See id.*; 18 U.S.C.A. § 2510(12)(C) (West 2014).

communication[190] is also evident by the fact that there is no transfer of a human voice—only GPS data is involved.[191]

Second, case law that applied the ECPA to smartphone GPS data made distinctions between historical and prospective GPS data.[192] This distinction, however, is irrelevant because over time prospective GPS data will become historical GPS data, and the distinction is made only because of the ECPA's language rather than privacy concerns.[193] Statutes that focus on electronic surveillance—Wiretap and Pen Register and Trap statutes—pertain to *prospective* collection of GPS information, which differs from that of the SCA, which pertains to *historical* GPS data.[194] These statutes do not take into account the privacy invasions that may occur through collecting smartphone GPS data. It is highly unlikely that Congress contemplated legislating about smartphones when enacting the ECPA because smartphones did not exist; therefore, it is likewise unlikely that that ECPA should apply to smartphone GPS data.

Third, the ECPA's standard of proof is not sufficient for protecting smartphone users' constitutional rights. The specific and articulable standard under the SCA, a lesser standard than the Fourth Amendment's probable cause, does not provide enough protection to a smartphone user's privacy interest in their GPS data. A standard less exacting than probable cause does not sufficiently protect smartphone users from unreasonable collections of GPS data because it allows the government to collect data so long as the facts demonstrate reasonable grounds to believe that the information sought is relevant and material to an ongoing criminal investigation; under probable cause, the government would have to prove a reasonable amount of suspicion, supported by circumstances sufficiently strong to justify a prudent and cautious person's belief that certain facts are probably true. Additionally, the most current cases regarding government collection of GPS data have applied the Fourth

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[190] *See Application for Pen Register*, 396 F. Supp. 2d at 758. "Wire communication" is defined as any transfer containing the human voice made through the use of facilities for the transmission of communications by the aid of wire, cable, or other like connection between the point of origin and the point of reception furnished or operated by any person engaged in providing or operating such facilities for the transmission of interstate or foreign communications or communications affecting interstate or foreign commerce. 18 U.S.C.A. § 2510(1), (18) (West 2014).

[191] GPS data is transmitted over a different control channel than the voice channel. *In re* Application of the U.S. for an Order Authorizing the Installation and Use of a Pen Register and Trap and Trace Device; and (2) Authorizing Release of Subscriber Info. and/or Cell Site Info., 396 F. Supp. 2d 294, 308 (E.D.N.Y. 2005) (citing United States v. Forest, 355 F.3d 942, 949 (6th Cir. 2004)).

[192] *Application of the U.S.*, 411 F. Supp. 2d at 682.

[193] "A governmental entity may require the disclosure by a provider of electronic communication service of the contents of a wire or electronic communication, that is in electronic storage . . . ." 18 U.S.C.A. § 2703(a) (West 2014). The term "electronic storage" means that the electronic communication must have been stored, implying that the information is not prospective, but already exists. *See* 18 U.S.C.A. § 2510(17) (West 2014).

[194] *Application for Pen Register*, 396 F. Supp. 2d at 757-58.

Amendment's probable cause standard because those courts recognize that the ECPA does not apply to government collection of GPS data.[195]

The Fourth Amendment avoids these three issues by requiring a warrant based on probable cause. For the foregoing reasons, therefore, the ECPA should not be applied to the government's collection of GPS data from a smartphone user's phone.

B. Fourth Amendment Case Law and Public Policy: Following the Signals

Knotts, *Karo*, *Katz*, and *Jones* laid the foundation for current GPS tracking cases. All of these cases recognize that a search occurs: (1) when a person expects privacy in the thing searched or seized, and society believes that expectation is reasonable; or (2) when law enforcement trespasses on a searched or seized person's property.[196] In the case of nearly all smartphone users, law enforcement does not place a GPS device on the suspect's phone. Rather, the phone contains a factory-embedded GPS device.[197] Because there is no trespass by law enforcement, therefore, the *Jones* majority and *Ortiz*, whose holdings were based on a trespass by law enforcement, have limited applicability.

1. Why *Knotts* is Not Applicable to Smartphone GPS Monitoring

Applying *Knotts*, which allowed law enforcement to track individuals without a warrant while they are traveling on public roads, to cases where GPS data is collected by law enforcement should cease because such allowance results in major invasions of privacy. Furthermore, *Knotts* should not apply to such cases because the facts in *Knotts* are clearly distinguishable.

The distinction between smartphone GPS and the GPS used in *Knotts* is that there is no governmental trespass in the former—the GPS in a smartphone is factory-installed without the defendant in mind, whereas the GPS in *Knotts* was placed on the car by the government specifically for the purpose of tracking the defendant.[198] If *Knotts* were applied to GPS data collection from smartphones, the government would not have to track an individual through the use of a tracking device planted on the individual or his belongings. Rather, law enforcement could track smartphone users whenever they are on public thoroughfares, meaning that whenever individuals are carrying their smartphone on their person in public, the government may legally follow their every move without a warrant.

Allowing this to happen is a clear violation of the Fourth Amendment. In addition, smartphones blur the distinction between public and private places because smartphones emit signals from both places.[199] Law enforcement therefore does not

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[195] *See* United States v. Skinner, 690 F.3d 772 (6th Cir. 2012) (applying the *Katz* Fourth Amendment reasonableness test); United States v. Money, No. 6:12-53-DCR, 2013 WL 412626 (E.D. Ky. Feb. 1, 2013) (applying the Fourth Amendment).

[196] *See* United States v. Jones, 132 S. Ct. 945, 950-52 (2012); Katz v. United States, 389 U.S. 347, 361 (1967).

[197] I. Herbert, *supra* note 85, at 477 (citing Darren Handler, *An Island of Chaos Surrounded by a Sea of Confusion: The E911 Wireless Device Location Initiative*, 10 VA. J.L. & TECH 1 (2005)); *see also* L. C. Herbert, *supra* note 93, at 34 (stating that most smart phones are "preloaded with GPS-enabled technology").

[198] United States v. Knotts, 460 U.S. 276, 276 (1983).

[199] State v. Earls, 70 A.3d 630, 642 (N.J. 2013).

have a way of knowing in advance whether they are monitoring a person in a public or private place, which would violate the ruling in *Karo* that prevents the government from monitoring a tracking device in a private residence. Even if a person was in public, however, as Justice Sotomayor and the majority in *Jones* concluded, a person might have a reasonable expectation of privacy in their public movements.[200] Justices Sotomayor and Alito concluded that continuous monitoring of individuals' public movements violates their reasonable expectation of privacy.[201] After the *Jones* decision, therefore, the rule expressed in *Knotts* was substantially weakened. If a person can be tracked while in public without requiring a warrant, only the hermit would have an advantage. *Knotts* has run its course and is no longer applicable to cases where law enforcement collects individuals' smartphone GPS data because tracking individuals without a warrant based on probable cause on public thoroughfares results in a breach of privacy in individuals' public movements.

2. A Reasonable Expectation of Privacy in Smartphone GPS Data

Katz provides the two-step inquiry of whether there are subjective and objective expectations of privacy.[202] The first inquiry, the subjective question, is fact based and can be determined by looking at whether the individual who claimed a violation of his Fourth Amendment rights actually believed he had privacy rights in the GPS data emanating from his smartphone.[203]

Many individuals are unaware that making a call or sending a text message on their smartphone will create a record of their whereabouts, which clearly weighs in favor of finding a subjective expectation of privacy. However, more smartphone users are becoming aware that such activity does create a location record. Although this fact is known, individuals with such knowledge may still have a reasonable expectation of privacy in their smartphone GPS data, even when such a belief is erroneous.[204] Privacy is slowly diminishing due to the invasiveness of technology. However, not recognizing an expectation of privacy when one knows that their privacy can be infringed upon will eventually result in no privacy expectations as technology becomes more invasive. Therefore, knowledge that smartphones create a location record should not mean that individuals do not have a subjective expectation of privacy in their smartphone's GPS data.

The second inquiry, the objective question, is much more difficult to address. Whether there is an objective view of expectation of privacy, or whether society believes that an individual's expectation of privacy is reasonable, will change over

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[200] *See* United States v. Jones, 132 S. Ct. 945, 957 (2012).

[201] *See id.* at 957, 963-64.

[202] Katz v. United States, 389 U.S. 347, 361 (1967).

[203] For instance, it must first be determined whether Mr. Russell believed that he had privacy interests in the GPS data radiating from his phone. It would be reasonable to assume from the facts that he in fact did believe that law enforcement could not track his movements using the GPS in his smartphone. Testimony of a subjective belief would render the first prong satisfied, as will almost always be the case.

[204] As was explained by Justice Donald in *Skinner*, an erroneous belief that an individual has an expectation of privacy in their smartphone's GPS data does not end the inquiry. United States v. Skinner, 690 F.3d 772, 784 (6th Cir. 2012). It is up to society to determine whether the person's "erroneous" belief was reasonable. *Id.*

time. Currently, smartphone GPS data can provide information twenty-four hours a day for months at a time, encouraging "dragnet-type law enforcement practices."[205] Furthermore, the vast majority of individuals with smartphones carry their phones on their person, in essence, creating a tracking device that they carry with them daily.[206] This allows law enforcement to collect GPS data without concern about who is carrying the phone, where the phone is located, or whether government agents are actively monitoring the phone.[207] It grants the government the opportunity to trace our every movement.

Additionally, social media websites and the extended use of GPS-embedded devices in our everyday lives should not degrade the privacy expectations that society values. Compilation of "public" information from multiple or continual tracking gives law enforcement information that a normal person could not otherwise obtain.[208] This was seen in *Jones*, where Justice Alito stated that continuous monitoring violates an objective expectation of privacy and thus constitutes a search.[209] When a stranger sees a person running, for example, the stranger may infer that the individual is conscious of their health, but little more. When law enforcement has this same information, in addition to information previously and prospectively collected, the government can make inferences that the stranger cannot. This is a clear invasion of privacy.

It is apparent that when government collects smartphone GPS data, the smartphone user has a subjective and objective expectation of privacy in the GPS data. Therefore, the Fourth Amendment is implicated and a warrant based on probable cause is required.

3. Public Policy for Privacy

Apart from case law, public policy also supports the fact that a warrantless collection of smartphone GPS data violates the Fourth Amendment. For instance, a person may be in their home when the GPS information is collected. The only way to ensure that an individual is not in a private residence is to take note of this through visual surveillance. Without visual surveillance, the government could collect data unconstitutionally, pursuant to the court's ruling in *Karo*.[210] Law enforcement likely will not know the identity of their suspect, the type of transportation in which the suspect is traveling, or where the suspect is located without surveillance. A warrantless collection of GPS data violates the purpose behind the Fourth Amendment, which is to restrict the government's use of general warrants, and

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[205] *See* L. C. Herbert, *supra* note 93; *see also Jones*, 132 S. Ct. at 954; Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, *5 (Mass. App. Div. 2012).

[206] *In re* Application of the U.S. for an Order Authorizing Disclosure of Location Info. of a Specified Wireless Tel., 849 F. Supp. 2d 526, 541 (D. Md. 2011).

[207] United States v. Ortiz, 878 F. Supp. 2d 515, 536-37 (E.D. Penn. 2012).

[208] *See* Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270, *3 (Mass. App. Div. 2012).

[209] *Jones*, 132 S. Ct. at 963-64.

[210] If no visual surveillance is done, how will law enforcement know when to stop collecting GPS data from the suspect's smartphone? How will law enforcement know whether Mr. Russell is in a private residence, therefore violating the principle set forth in *Karo*? United States v. Karo, 468 U.S. 705, 706 (1984).

permits government intrusion without identifying the person targeted or where the warrant will be executed.[211] The problem with collecting smartphone GPS data while in a private residence is easily circumvented by requiring a warrant based on probable cause, which could in part be established through visual surveillance.

As mentioned in the previous sub-section, GPS data reveals private information such as individuals' religion, sexual orientation, habits, and personal values.[212] Allowing law enforcement to discover this information through GPS data is similar to having a person that you do not know follow you for possibly weeks on end, or permitting the government to place a GPS tracking device on your person. It is extremely unlikely that anyone would condone and welcome such behavior. Therefore, there likely exists an objective expectation of privacy, which raises concerns about what information the government collects and why it is collected.

Another policy concern is abuse of power by the government. This was discussed in Justice Sotomayor's concurring opinion in *Jones*:[213]

> [T]he Government's unrestrained power to assemble data that reveal private aspects of identity is susceptible to abuse. The net result is that GPS monitoring [gives law enforcement] a relatively low cost and substantial quantum of intimate information about any person whom the government, in its unfettered discretion, chooses to track, and may "alter the relationship between citizen and government in a way that is inimical to democratic society."[214]

She further stated that this unwelcomed power would defeat the purpose of the Fourth Amendment, which is to "curb arbitrary exercises of police power to and prevent 'a too permeating police surveillance.'"[215]

The government described by Justice Sotomayor sounds eerily similar to the one in George Orwell's novel, *1984*.[216] In *1984*, Orwell wrote,

> [t]he telescreen received and transmitted simultaneously. . . . There was of course no way of knowing whether you were being watched at any given moment. How often, or on what system, the [police] plugged in on any individual wire was guesswork. It was even conceivable that they watched everybody all the time. But at any rate they could plug in your wire whenever they wanted to. You had to live—did live, from habit that became instinct—in the assumption that every sound you made was overheard, and, except in darkness, every movement scrutinized.[217]

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[211] The U.S. Supreme Court recently supported an individual's Fourth Amendment rights in Florida v. Jardines, 133 S. Ct. 1409 (2013).

[212] *See Commonwealth v.* Pitt, 29 Mass. L. Rptr. 445, *8 (Mass. App. Div. 2012).

[213] *Jones*, 132 S. Ct. at 955-56.

[214] *Id.* at 956 (citing United States v. Cuevas-Perez, 640 F.3d 272, 285 (7th Cir. 2011) (Flaum, J., concurring)).

[215] *Id*. (citing United States v. Di Re, 332 U.S. 581, 595 (1948)).

[216] GEORGE ORWELL, 1984, at 3 (1949).

[217] *Id.*

Although Orwell's recital may seem extreme or farfetched, it no longer is considering the fact that law enforcement can monitor smartphone users' every move at any given moment.[218]

Orwell's telescreen is the modern-day smartphone. Allowing the government to collect smartphone GPS data by any means other than with a finding of probable cause contradicts the concerns of the drafters of the Fourth Amendment. It was for this reason that the probable cause standard was adopted for warrants.[219] Without requiring a warrant based on probable cause, law enforcement can track a smartphone user for days at a time without them knowing and for any reason the government desires. The longer the individual is monitored, the more information will be collected. In addition, the more information that is collected, the greater the likelihood that the information collected will reveal non-relevant, or "intimate," information or come from a private residence.[220] The fact that GPS data can expose "intimate knowledge" about a user's personal life is enough to intrude on an objective expectation of privacy, requiring a warrant based on probable cause.[221]

A separate policy concern is whether the requirement of a warrant based on probable cause under the Fourth Amendment, in comparison to one based on a lesser standard under the ECPA or not requiring a warrant at all, unduly burdens law enforcement. Requiring the government to obtain a warrant based on probable cause does not create an unreasonable burden for law enforcement because law enforcement can deviate from this requirement if exigent circumstances exist.[222] Because this exception to the requirement of a warrant based on probable cause exists, this requirement does not unduly burden the government, but protects smartphone users from unreasonable searches.

C. Rejecting Arguments that a Warrant under the Fourth Amendment is Not Required to Collect GPS Data

Many counter-arguments have been made as to why smartphone users should not have any expectation of privacy in the GPS data collected from their phone. Many of these arguments were made in *Skinner* and cases that followed. Due to the fallacy of these arguments, a warrant pursuant to the Fourth Amendment is required.

One argument, made by the courts in *Skinner* and *Barrera-Barron*, is that requiring a warrant based on probable cause unreasonably burdens the government to the advantage of criminals.[223] In other words, law enforcement surveillance techniques must advance with technological advancements.[224] There is no doubt that law enforcement tactics must advance with technological changes. However, this advancement must not come at the expense of personal liberties. If law enforcement

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[218] *See supra* text accompanying note 219.

[219] *See supra* Part II.B.

[220] Commonwealth v. Pitt, 29 Mass. L. Rptr. 445, *8 (Mass. App. Div. 2012).

[221] *Id.*

[222] *See supra* note 32 and accompanying text.

[223] United Sates v. Skinner, 690 F.3d 772, 778 (6th Cir. 2012); United States v. Barrera-Barron, No. 12–20066–22–KHV, 2013 WL 3989182, at *6 (D. Kan. Aug. 1, 2013).

[224] *Skinner*, 690 F.3d at 778; *Barrera-Barron*, 2013 WL 3989182, at *6.

tactics advance, so too must the protections guaranteed under the Fourth Amendment. Otherwise, the government could circumvent the Constitution, eliciting "Orwellian consequences."[225] Doing otherwise is contrary to American liberty and freedom.[226] As Justice Sotomayor noted in her concurrence in *Jones*, "because GPS monitoring is cheap in comparison to conventional surveillance techniques and, by design, proceeds surreptitiously, it evades the ordinary checks that constrain abusive law enforcement practices: 'limited police resources and community hostility.'"[227]

Furthermore, the Fourth Amendment already accounts for any burden that the warrant requirement may pose to law enforcement by allowing for circumstances where a warrant is not required.[228] Requiring a warrant based on probable cause, therefore, does not impede law enforcement's task of arresting criminals. In addition, it is not unreasonable to require the government to obtain a warrant based on probable cause because warrants are required for other types of searches and seizures.[229]

Another argument, made in *Skinner*, *Moorer*, and *Graham*, is that smartphone location information is voluntarily disclosed to a third party and therefore there is no reasonable expectation of privacy in the GPS data.[230] Under the business records and third party doctrine, a person has no expectation of privacy in information voluntarily shared with third parties.[231] Justice Sotomayor noted, however, this doctrine is "ill suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks."[232]

Along the same lines, the *Moorer* court argued that people have no expectation of privacy in smartphone GPS data because more people are aware that smartphone

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[225] *Pitt*, 29 Mass. L. Rptr. 445, at *9; Commonwealth v. Wyatt, 30 Mass. L. Rptr. 270, at *7 (Mass. App. Div. 2012).

[226] *Id.*

[227] United States v. Jones, 132 S. Ct. 945, 956 (2012).

[228] Such exceptions include: exigent circumstances, arrests *outside* the home, searches *incident* to arrest, inventory searches, automobiles, and street stops and frisks. BRADLEY, *supra* note 24, at 328. As stated in footnote 22, "exigent circumstances" is the exception most likely to be applied to collection of a burner's GPS information. It does not seem as if this exception would be applied often because exigent circumstances are present in limited situations such as preventing the destruction of evidence, ensuring safety when police are in pursuit of a fleeing suspect, "or when other emergency circumstances exist, such as the need to assist injured individuals." Patterson v. North Carolina, No. 5:12–cv–182–RJC, 2013 WL 170431, at *3 (W.D.N.C. Jan. 16, 2013). The standard under "exigent circumstances" is a "reasonable suspicion" standard—a lower standard than probable cause. *Id.*

[229] *See Jones*, 132 S. Ct. 945 (holding that the government's physical intrusion required a warrant); *see also* Illinois v. McArthur, 531 U.S. 326 (2001) (police obtained a warrant to search defendant's home).

[230] United States v. Skinner, 690 F.3d 772, 777 (6th Cir. 2012); People v. Moorer, 959 N.Y.S.2d 868, 879 (2013); United States v. Graham, 846 F. Supp. 2d 384, 397 (D. Md. 2012).

[231] *Graham*, 846 F. Supp. 2d at 397.

[232] *Jones*, 132 S. Ct. at 957.

GPS technology can pinpoint their location.[233] The court also found no expectation of privacy because GPS technology can be turned off.[234] The *Moorer* court stated:

> public ignorance about cell phone technology can no longer be maintained in this day and age—cell phones are voluntarily carried by their users and may be turned on or off at will. People are not so oblivious that they are not aware that cell phones purchased today come with GPS technology which can pinpoint the location of the phone at any given time so long as it is turned on and the GPS technology has not been deactivated or disabled. . . . By a person's voluntary utilization, through GPS technology, of a cell phone, a person necessarily has no reasonable expectation of privacy with respect to the phone's location—vis-à-vis the pinging—even though he maintains what may be a reasonable expectation of privacy in the content of his phone conversations.[235]

The *Moorer* court, however, ignores the fact that just because a person has knowledge about GPS data collection, it does not mean that the person has no reasonable expectation of privacy.[236] People buy smartphones to communicate, use the Internet, for its GPS capability, and for a growing number of other reasons.[237] No one buys a smartphone to share detailed information about his or her whereabouts with the government.[238] Additionally, disabling the GPS renders the smartphone useless to many of its users.

A second reason that the *Moorer* court's argument is flawed is that it states that there is a reasonable expectation of privacy in one's phone conversation, but not the GPS data.[239] This seriously contradicts the court's reasoning against finding an expectation of privacy in smartphone GPS data because most people are aware that their phone conversation may be listened to and people have the choice to not speak on the phone. The court appeared to ignore the subjective prong of the *Katz* test. A user's subjective expectation of privacy is just that: subjective.[240] Because a user's subjective expectation is based on or influenced by personal feelings, tastes, or opinions, it is easy for another to determine that these feelings, tastes, or opinions were irrational. However, just because an individual's expectation is irrational does not mean that that individual did not subjectively have that expectation.

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[233] *Moorer*, 959 N.Y.S.2d at 881.

[234] *Id.*

[235] *Id.*

[236] State v. Earls, 70 A.3d 630, 631-32 (2013).

[237] *Id.*

[238] *Id.*

[239] *Moorer*, 959 N.Y.S.2d at 881.

[240] Subjective means judgment that is "[p]eculiar to a particular person and based on the person's individual views and experiences." BLACK'S LAW DICTIONARY 712 (9th ed. 2009). In simpler terms, subjective means personal or individual. *Id.*

Another argument, made by the *Skinner* and *Powell* Courts, is that short-term smartphone GPS tracking does not implicate the Fourth Amendment.[241] This argument is flawed for two reasons. First, it is difficult to determine short-term tracking. Is it a couple of days? A week? Drawing a bright line rule to determine short-term monitoring would be arbitrary and conflate the already varied case law on the subject.[242]

Second, short-term smartphone GPS monitoring still presents Fourth Amendment concerns. A person's Fourth Amendment rights can be violated within minutes of tracking via collection of GPS data if such collection is done without a warrant based on probable cause. Time is not discriminatory. Allowing warrantless collection of the GPS data for short periods of time does not sufficiently protect individuals from having their Fourth Amendment rights violated. It is for the above reasons that the arguments made in *Skinner* and the courts that followed are flawed.

D. Solutions to the Issue of Warrantless Collection of Smartphone GPS Data

There are three proposed solutions to ensure that individuals' Fourth Amendment rights are not violated by the warrantless tracking of their smartphone GPS data. The first option is to allow the states to rule on the issue independently. States could choose to do so through the courts or legislature. State court rulings would not necessarily solve the issue, however, as a few state courts have found no expectation of privacy in smartphone GPS data.[243] Therefore, the state legislatures may be a better solution than the courts. In 2013, Montana and Maine passed laws requiring police to obtain a warrant demonstrating probable cause to access cellphone data.[244] Laws, however, may vary between states, creating possible issues when law enforcement is tracking a person through multiple states.

A more practical option may be for the United States Supreme Court to take up the issue that it avoided in *Jones*, despite being briefly touched upon by both Justices Sotomayor and Alito in their concurring opinions. This would resolve the various court rulings throughout the country. A possible issue could arise, however, if there is a plurality opinion, causing even more confusion in an already muddled area of law.

The third and most viable option is for Congress to pass legislation dealing with the collection of smartphone GPS data. Justice Alito stated in *Jones* that, "[i]n circumstances involving dramatic technological change, the best solution to privacy

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[241] United States v. Skinner, 690 F.3d 772, 779 (6th Cir. 2012); United States v. Powell, 943 F. Supp. 2d 759, 780 (E.D. Mich. 2013).

[242] *Skinner*, 690 F.3d 772 (finding no reasonable expectation of privacy in smartphone GPS data); United States v. Graham, 846 F. Supp. 2d 384 (D. Md. 2012) (finding that the ECPA, not the Fourth Amendment, applies to collection of smartphone GPS data); Commonwealth v. Pitt, 29 Mass. L. Rptr. 445 (Mass. App. Div. 2012) (finding that smartphone users have a reasonable expectation of privacy in their smartphone GPS data).

[243] *Skinner*, 690 F.3d at 772; United States v. Money, No. 6:12-53-DCR, 2013 WL 412626 (E.D. Ky. Feb. 1, 2013); United States v. Barrera-Barron, No. 12–20066–22–KHV, 2013 WL 3989182 (D. Kan. Aug. 1, 2013); *Moorer*, 959 N.Y.S.2d at 868.

[244] John Kelly & Susanne Cervenka, *Cell Data Dumps: A Legally Fuzzy Area,* USA TODAY (Dec. 8, 2013), http://www.usatoday.com/story/news/nation/2013/12/08/cellphone-data-legal-issues-court/3902859/.

concerns may be legislative."[245] For one, Congress is better situated than the courts to gauge public attitudes.[246] Additionally, Congress can draw detailed lines and balance privacy and public safety better than the courts.[247]

Failing to resolve the differing case law would result in violations of the Fourth Amendment. Furthermore, *Skinner* will become the foundation for bad law in a growing area of jurisprudence. *Skinner* has already influenced numerous courts to find that an individual has no expectation of privacy in their smartphone GPS data.[248] It is through any of these three solutions that the proper protections will be afforded to smartphone users.

V. CONCLUSION

Technological advancements are continuing to modify and influence criminal law. Smartphones provide individuals greater access to the world, but permit the government greater access into their private lives. It is important that the law surrounding smartphone surveillance advance with technology to protect people in society, like Mr. Russell. In Mr. Russell's situation, a warrant based on probable cause should have been obtained prior to the collection of his smartphone GPS data. Allowing otherwise reduces Fourth Amendment protections and raises privacy concerns.

This Note argued that a warrant pursuant to the Fourth Amendment is required before the government can monitor an individual by collecting the GPS data in the individual's smartphone. Part II presented a legal background of information, focusing on the Fourth Amendment, the ECPA, and early case law dealing with the government's electronic surveillance. Part III presented recent case law on law enforcement's collection of smartphone GPS data. Part IV explained why a warrant based on probable cause is required to monitor smartphone GPS data, focusing on legal and public policy arguments. Part IV also illustrated various solutions to resolve the problem of courts not requiring a warrant based on probable cause prior to the government's collection of GPS data.

To avoid "Orwellian consequences" and uphold individuals' privacy rights, it is necessary that a warrant under the Fourth Amendment be required prior to the government's collection of GPS data emanating from any smartphone. *Jones* laid the foundation by refusing to apply *Knotts*, weakening *Knotts*' holding, as well as the arguments of the courts that relied on it. The Fourth Amendment, case law, and public policy require a warrant based on probable cause, ensuring constitutional protection for all people of the United States. For these reasons, a warrant based on probable cause under the Fourth Amendment must be obtained before law enforcement can track an individual using the GPS embedded in that person's smartphone.

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[245] United States v. Jones, 132 S. Ct. 945, 964 (2012).

[246] *Id.*

[247] *Id.*

[248] *Money*, 2013 WL 412626; *Barrera-Barron*, 2013 WL 3989182; *Moorer*, 959 N.Y.S.2d at 868.