NOTES

UNWARRANTED! PRIVACY IN A TECHNOLOGICAL AGE: THE FOURTH AMENDMENT DIFFICULTY IN PROTECTING AGAINST WARRANTLESS GPS TRACKING AND THE SUBSTANTIVE DUE PROCESS AND FIRST AMENDMENT BOOST

COURTNEY BURTEN*

There was of course no way of knowing whether you were being watched at any given moment. . . . 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.

—George Orwell, *1984*+

I. INTRODUCTION

Never before in history has it been so easy to follow the movements of another person with readily obtainable, reasonably-priced technology. For the mere cost of $319.99[1]—less than the pricetag of a popular Apple iPad 2[2]—you can purchase a Global Positioning System ("GPS") tracking device that has the ability to track the location of an asset, vehicle, or *person* up to every two minutes.[3] Similarly, with OnStar technology you

* Class of 2012, University of Southern California Gould School of Law; B.A. Japanese 2006, Georgetown University. I would like to thank Professor Dudziak for her guidance and advice throughout the writing process; my family and friends for their endless support and encouragement; and members of the *Southern California Interdisciplinary Law Journal* for all of their hard work and dedication in editing this piece.

+ GEORGE ORWELL, 1984 6–7 (Signet Classic 1949).

1. *GPS Mini Tracker with Cell Phone Assist Asset Tracker*, SPYVILLE, http://www.spyville.com/passive-gps.html (last visited Sept. 24, 2011) [hereinafter *GPS Mini Tracker*].

2. *iPad 2*, APPLE, http://www.apple.com/ipad/ (last visited Sept. 24, 2011).

3. *GPS Mini Tracker*, *supra* note 1.

can allow law enforcement to track your vehicle using GPS technology in case of theft.[4] Or, for only $99.97 a year, you can upload a product called "MobileSpy" onto a person's cell phone to secretly record his or her GPS locations (as well as his or her text messages and call details).[5] Many cell phone companies offer Family Plans, such as AT&T's "FamilyMap" system (only $9.99 a month to track two phones, $14.99 for up to five phones), which allow for tracking of family members within the plan through the use of global positioning chips contained within the phone (whether the phone holder wants the chip or not).[6] In fact, federal regulations actually require that cell phone makers install GPS chips or other location-tracking technology in most phones.[7] The Federal Communications Commission has required that cell phone providers in the United States make, at a *minimum*, 95 percent of their phones traceable by technology to easily and quickly locate an individual in case of emergency.[8] While this technology has the potential for good in our society, it simultaneously leaves us vulnerable to large amounts of government surveillance of which we may be unaware.

This Note will focus on this issue through the analysis of law enforcement's use of GPS tracking devices on vehicles without a warrant. Should law enforcement, without your knowledge and without a warrant, be able to monitor you through a GPS tracking device on or within your vehicle and track your location and movements for an indeterminate and virtually limitless amount of time? Or should this type of police action be considered unconstitutional? Initially, the circuits were split on this issue. The Ninth Circuit held that the placement and monitoring of a GPS tracking device on a vehicle is not a search and therefore does not violate the Constitution,[9] whereas the D.C. Circuit held that such action violates the Fourth Amendment.[10] Subsequently, the Supreme Court heard the D.C.

4. *Stolen Vehicle Slowdown & Assistance*, ONSTAR, http://www.onstar.com/web/portal/sva (last visited Sept. 24, 2011).

5. Justin Scheck, *Stalkers Exploit Cellphone GPS*, WALL ST. J., Aug. 3, 2010, http://online.wsj.com/article/SB10001424052748703467304575383522318244234.html.

6. *Id*.

7. *Id*.

8. *Id*.

9. United States v. Pineda-Moreno, 591 F.3d 1212, 1217 (9th Cir. 2010).

10. United States v. Maynard, 615 F.3d 544, 568 (D.C. Cir. 2010), *cert. granted*, United States v. Jones, 131 S. Ct. 3064 (2011) (Considering the question of "[w]hether the

Circuit case[11] and, looking toward common-law trespass jurisprudence,[12] found that the placement of the tracking device on a vehicle constituted an illegal search:[13] therefore, the Court deemed unconstitutional the warrantless placement of a tracking device on a vehicle and the subsequent use of the device to monitor the vehicle's whereabouts.[14]

This decision, however, has not settled the issue of warrantless GPS tracking because it leaves open the question of the constitutionality of extended surveillance through GPS tracking that does not involve a trespass, a question the Court explicitly chose not to answer at this time.[15] The question of whether law enforcement could track an individual through the GPS already available on the individual's phone, for example, remains unanswered. Additionally, certain vehicles already come equipped with GPS technology that could be utilized by law enforcement without the need to place a tracking device directly on the vehicle.[16] Such actions would not require the type of trespass the Court deemed unconstitutional. Additionally, to what extent would the tracking be deemed so intrusive as to constitute a search? When it is initially activated? After twenty-four hours? Forty-eight hours? One week? One month? In its recent ruling, the Court set forth no guidelines to deal with the reality that in the modern technological age, the capability to monitor an individual through GPS technology over an extended period of time goes beyond the mere placement of a tracking device. The dilemma is the ability to gather vast quantities of information on an individual's movements over an extended period of time; this is a quandary the Court will eventually have to resolve.

This dilemma combines issues of modern technology and reasonable expectations of privacy in contemporary society, particularly because the Fourth Amendment's conception of a reasonable expectation of privacy seems insufficient to protect against the intrusiveness of new technologies. Whether law enforcement *should* be able to undertake such warrantless

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government violated respondent's Fourth Amendment rights by installing the GPS tracking device on his vehicle without a valid warrant and without his consent").

11. United States v. Jones, 132 S. Ct. 945, 945 (2012).
12. *Id.* at 946, 948.
13. *Id.*at 946.
14. *Id.*
15. *Id.* at 953.
16. *See, e.g.*, *Stolen Vehicle Slowdown & Assistance*, *supra* note 4.

GPS tracking of citizens from a constitutional standpoint is the question that this Note seeks to answer.

While Orwellian "Big Brother" conspiracies may seem cliché, the facts regarding the potential for the government to easily and secretly track innocent persons—from where we are, to with whom we talk, to what we buy—are likely to shock the average citizen. Yasir Afifi, a college student, was definitely shocked when he found a tracking device attached to his car during a routine oil change.[17] Government surveillance and government requests for sensitive tracking information have become more expansive than many realize. Between September 2008 and October 2009, Sprint Nextel provided law enforcement agencies with its customers' GPS location information eight million times through a special Web portal that Sprint rolled out for law enforcement officers.[18] Verizon notes that each year it "receives tens of thousands of requests for customer records, or other customer information from law enforcement."[19] There do not appear to be any clear federal reporting requirements from the Department of Justice regarding these types of information requests.[20] Or maybe the requirements are simply being ignored.[21]

It is not just cell phones that are under attack. In 2001, Super Bowl attendees were scanned using biometric technology known as facial recognition to search for known felons.[22] Large companies, from department stores to banks, have sold off such personal information as e-

17. Kim Zetter, *Caught Spying on Student, FBI Demands GPS Tracker Back*, WIRED, Oct. 7, 2010, http://www.wired.com/threatlevel/2010/10/fbi-tracking-device/. Afifi's case will be discussed in greater detail *infra* Part IV.B. Note that one no longer has to fear finding a rogue tracking device placed on his or her vehicle by the government following the Court's decision in *United States v. Jones*; however, if one has GPS tracking pre-installed in his or her vehicle, one is still vulnerable to the government tracking the individual through this technology without the use of an externally placed tracking device. *See Jones*, 132 S. Ct. at 946.

18. Christopher Soghoian, *8 Million Reasons for Real Surveillance Oversight*, SLIGHT PARANOIA BLOG (Dec. 1, 2009, 7:00 AM), http://paranoia.dubfire.net/ 2009/12/8-million-reasons-for-real-surveillance.html.

19. *Id.*

20. *Id.*

21. *See id.*

22. John D. Woodward, Jr., *Super Bowl Surveillance: Facing Up to Bio-metrics*, RAND ARROYO CENTER (May 2001), http://www.rand.org/pubs/issue_papers/ 2005/IP209.pdf.

mail addresses, birth dates, credit card numbers and even ages of children to whomever will buy it.[23] Radio Frequency Identification Devices ("RFID") function like wireless bar codes and can essentially be used on any object: the Department of Homeland Security is looking into harnessing this technology to track people who send and receive mail through the United States Postal Service.[24] Event-Data Recorders ("EDRs" or known colloquially as "black boxes") record general telemetry data in vehicles and could be installed without the vehicle owner's knowledge.[25]

Much of this information can currently be obtained by the government without a warrant. Because the Fourth Amendment provides little protection for information that is categorized as "knowingly exposed to the public" or "voluntarily disclosed to a third party," new technology is able to gather and aggregate massive quantities of data regarding the lives, actions, and movements of individuals. This Note argues that the Fourth Amendment fails to protect society's reasonable expectation of privacy in a modern technological era, and two additional constitutional considerations—substantive due process and the First Amendment—in conjunction with the Fourth Amendment, provide better protection against invasive surveillance technology. This note focuses particularly on one specific type of technology that has become increasingly prevalent in recent years: warrantless GPS tracking of vehicles.[26]

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23. *See* DAVID H. HOLTZMAN, PRIVACY LOST: HOW TECHNOLOGY IS ENDANGERING YOUR PRIVACY 14–16 (2006).

24. *Id.* at 6.

25. *Id.* at 8; HELEN NISSENBAUM, PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE 25–26 (2010).

26. This Note is *not* arguing against the use of GPS tracking by law enforcement. The power of this technology makes it dangerous, but also makes it an immensely useful and powerful tool for aiding law enforcement in the battle against crime. This Note simply argues that due to the privacy interests at stake, if law enforcement officers want to track an individual using GPS technology they simply need probable cause and a warrant. Additionally, this Note recognizes that the placement of a tracking device on a vehicle constitutes a physical intrusion and thus constitutes a search according to recent Supreme Court jurisprudence. *See generally* United States v. Jones, 132 S. Ct. 945 (2012). When this Note henceforth discusses "warrantless GPS tracking," it refers not to the placement of a tracking device, but to government surveillance through the use of GPS technology that is not protected under *Jones*.

In *United States v. Knotts*, the Supreme Court tackled an issue analogous to the one examined in this Note.[27] In *Knotts*, the Court held that the placement and use of a "beeper"[28] device to track an item did not violate the Fourth Amendment.[29] In concluding this, the Court left open the possibility that technology could advance to the point where "twenty-four hour surveillance of any citizen of this country will be possible, without judicial knowledge or supervision."[30] The Court acknowledged that if technology were to advance to this point and "dragnet-type law enforcement practices . . . should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable."[31] That time is now.

To being this analysis, Section II of this Note traces Fourth Amendment jurisprudence relevant to GPS tracking and examines how the issue of warrantless GPS tracking should be analyzed under the Fourth Amendment. Section III looks at both the circuit court split in analyzing the issue of warrantless GPS tracking, and the Supreme Court's decision on the issue of whether warrantless GPS tracking constitutes a search under the Fourth Amendment to examine current arguments for and against the use of warrantless GPS tracking. Section IV analyzes two less obvious, but potential, sources of protection against warrantless GPS tracking: the First Amendment and substantive due process. Section IV then will explain why both of these concepts, when incorporated into a Fourth Amendment analysis, encourage a finding that warrantless GPS tracking stands against society's reasonable expectation of privacy. Section V will apply this analysis to the issue. This Note concludes by arguing that even though a bare Fourth Amendment analysis should render warrantless GPS tracking unconstitutional, it also raises both substantive due process and First Amendment concerns. Therefore, courts could and should take a closer look at warrantless GPS tracking under substantive due process and the

27. *See* United States v. Knotts, 460 U.S. 276 (1983).

28. The use of the term "beeper" here does not refer to what is commonly known today as a "pager." For the purposes of this discussion, a beeper refers specifically to a radio transmitter that emits a signal that can be picked up by a radio receiver. *Id.* at 277. Beepers allow the police to track an item or vehicle by following it. *Id.* at 277. *Knotts* and beeper technology will be discussed *infra* Part II.B, III.A–B.

29. *Id.*

30. *Id.* at 283.

31. *Id.* at 284.

First Amendment, particularly when conducted over extremely long periods of time and when the crime being investigated is less serious.

II. THE FOURTH AMENDMENT

A. FOURTH AMENDMENT JURISPRUDENCE

The Fourth Amendment states:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.[32]

Essentially, this amendment protects individuals against unreasonable searches and seizures of their persons or belongings.[33] What also follows from the Fourth Amendment is that if a "search" as envisioned by the amendment does not occur, then the police do not have to be reasonable in the action that they undertake. In the GPS vehicle tracking context, if using a GPS tracking device to monitor a vehicle's whereabouts is not a search, then the police can do so to any vehicle they like. They do not need any reasonable reason to do so—not even probable cause or reasonable suspicion—as long as the reason was not invidious or unconstitutional. The police could track a vehicle simply because they did not like its make or model. Even a vague hunch would suffice. Therefore, to determine whether there are Fourth Amendment protections against warrantless GPS tracking on vehicles, we must first determine whether using GPS tracking is a search. If the action is not a search, then there is no Fourth Amendment problem, and the action does not have to be reasonable.

The question of whether or not a search has occurred is defined by the landmark case of *Katz v. United States*.[34] Under the *Katz* test, a search

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32. U.S. CONST. amend. IV.

33. AKHIL REED AMAR, *Fourth Amendment: First Principles*, *in* THE CONSTITUTION AND CRIMINAL PROCEDURE: FIRST PRINCIPLES 1, 2 (1997).

34. *See* Katz v. United States, 389 U.S. 347 (1967*). Katz* dealt with whether a search had occurred when police placed a listening device on a phone booth. Prior to *Katz*, a search would occur only when there was a physical intrusion onto a protected area. In *Katz*, the listening device did not physically intrude into the phone booth. The Court found, however, that because Katz had a "reasonable expectation of privacy" while speaking on the telephone inside of a closed telephone booth and this was an expectation society was willing

occurs when the government invades a reasonable (or justifiable or legitimate) expectation of privacy.[35] The existence of a reasonable expectation of privacy depends on two elements: (1) whether the person has exhibited an actual expectation of privacy (which is a *subjective* test) and (2) whether society is prepared to recognize that expectation of privacy as reasonable (which is an *objective*) test.[36] While the first prong rarely controls the outcome of the case, the second prong is more dispositive in whether a particular action constitutes a search.[37] Subsequent case law helps us understand the variety of factors used to determine whether or not society recognizes the individual's privacy expectation as reasonable. These factors include: (1) whether there is a voluntary disclosure to a third party;[38] (2) the extent to which there is knowing exposure to the public;[39] (3) whether there is a societal interest in protecting the privacy;[40] (4) whether it is virtually certain nothing new will be learned by the action;[41] and (5) whether nothing of significance or only illegitimate information

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to recognize, a search could occur even if there was not a physical intrusion into the protected area. *Id.* at 360–61 (Harlan, J., concurring).

35. *See id.*

36. *See id.*

37. *See infra* notes 38–42 and accompanying text.

38. *See* United States v. White, 401 U.S. 745, 752 (1971) (holding that an individual does not have a reasonable expectation of privacy over information voluntarily disclosed to a police informant because by disclosing it, the individual assumed the risk that such information could be transmitted to someone else without his or her knowledge or consent); Smith v. Maryland, 442 U.S. 735, 746–47 (1979) (holding that individuals do not have a reasonable expectation that the phone numbers they dial are private because they voluntarily convey that information to the phone company; therefore, the use of pen registers on telephone company property to record numbers dialed is not considered a search).

39. *See* California v. Ciraolo, 476 U.S. 207, 215 (1986) (holding that an individual does not have a reasonable expectation of privacy with regard to information that is visible in his or her backyard as viewed from navigable airspace, because this information is exposed in plain view and visible to the naked eye from a space in which an individual could reasonably expect the public to be).

40. *See* Oliver v. United States, 466 U.S. 170, 179 (1984) (holding that even *if* an individual takes measures to preserve privacy in an "open field," there is no societal interest in protecting the privacy of the activities that take place there).

41. *See* United States v. Jacobsen, 466 U.S. 109, 124–26 (1984) (holding that after a package had been opened by a private company, the subsequent reopening of the package and a chemical field test of its contents by law enforcement officers was not a search because the action merely confirmed what officers already knew about the contents of the package).

will be learned.[42] The analysis of warrantless GPS tracking mainly focuses on factor (2).

B. APPLYING A FOURTH AMENDMENT ANALYSIS TO WARRANTLESS GPS TRACKING

Before delving into an analysis of the Fourth Amendment issues at stake, it should be noted that the second prong of *Katz* is, in itself, troublesome. When a court decides whether society is willing to recognize the privacy expectation as reasonable, how does it determine what society is willing to recognize? Does society legitimately expect that individuals will view our backyards from navigable airspace?[43] Are we really giving carte blanche for phone companies to hand over the numbers we dial to the police after every phone call?[44] A ruling that we never have an expectation of privacy in the totality of our movements on public streets effectively means that the moment we leave the safety of our homes, we—as a society—have determined that we no longer have any expectation of privacy in wherever we go. That is, the police can track us anytime we are not at home through GPS technology, without even the slightest reason to believe that we are involved in any illegal activity. While this Note later demonstrates how the discrepancy in Fourth Amendment doctrine and an actual legitimate expectation of privacy can be remedied by also considering the First Amendment and substantive due process, this section will adhere to current Fourth Amendment doctrine in analyzing the issue.

In considering whether society recognizes a reasonable expectation of privacy in an individual's movements in a vehicle over an extended period, the most pertinent factor is the extent to which there is knowing exposure to the public. In *Knotts*, the Court stated that a "person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another."[45] However, this statement should be put in context with the technology actually used in *Knotts*, particularly when the Court in *Knotts* left open the possibility of

42. *Id.* at 123. (holding that if the information to be learned is either of no significance (substance is not a narcotic) or is illegitimate (substance is a narcotic), the information is not something in which an individual can have a reasonable privacy interest).

43. *See* Ciraolo, 476 U.S. at 215.

44. *See* Maryland, 442 U.S. at 746–47.

45. United States v. Knotts, 460 U.S. 276, 281 (1983).

reexamining the issue should more invasive technology be invented in the future.[46]

A beeper, also known as a beacon, or transponder at issue in *Knotts*, "is a miniature, battery-powered radio transmitter that emits a recurrent signal at a set frequency. When monitored by directional finders, the beeper provides information as to the location and movement of the object to which it is attached."[47] Essentially a beeper helps the police pursue a vehicle by giving off a signal that becomes stronger as the police get closer to the vehicle, making it useful for following a vehicle through traffic—like using binoculars.[48] A beeper cannot track on its own, nor can it record its location: this device needs a police officer to be close enough to pick up the signal or the device is essentially useless.[49]

GPS technology differs significantly. GPS devices use the signals from satellites to locate the device, which contains the receiver.[50] The technology is complex, powerful, and extremely accurate.[51] Basically GPS technology provides the ability to track an individual almost anywhere on Earth.[52] Unlike with the use of beeper technology, no police officer needs to be in the vicinity of the receiver to be able to gather information about the vehicle's location. Furthermore, GPS technology constantly records information and compiles this data, something that a beeper cannot do.

The main differences between beepers and GPS devices are well explained by Helen Nissenbaum, a privacy and technology commentator, who argues that the four most pivotal transformations in database capability make GPS fundamentally different from technologies of the past:

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46. *Id.* at 284.

47. United States v. Butts, 710 F.2d 1139, 1142–43 (5th Cir. 1983). *See also* United States v. Bailey, 628 F.2d 938, 939 n.1 (6th Cir. 1980).

48. United States v. Pineda-Moreno, 617 F.3d 1120, 1124 (9th Cir. 2010).

49. *Id.*

50. HOLTZMAN, *supra* note 23, at 180.

51. Tarik N. Jallad, Recent Development, *Old Answers to New Questions: GPS Surveillance and the Unwarranted Need for Warrants*, 11 N.C. J. L. & TECH. 351, 356–57 (2010).

52. HAL ABELSON, KEN LEDEEN & HARRY LEWIS, BLOWN TO BITS: YOUR LIFE, LIBERTY, AND HAPPINESS AFTER THE DIGITAL EXPLOSION 24 (2008). Cell phone tracking tends to be less accurate than GPS technology because it tracks one's location by triangulating cell phone towers (setting the phone's location in between the nearest cell phone towers), whereas the GPS satellites are far more powerful and accurate. *Id.* at 24–25.

(1) democratization of database technologies,[53] (2) information mobility,[54] (3) information aggregation,[55] and (4) information or knowledge from data.[56] Democratization of database technologies, which involves access to information in a database to a wide variety of users, is currently the least relevant to the issue of GPS tracking because the information gleaned from the tracking device is probably not broadcast in an easily-accessible database.[57] This issue, however, is particularly relevant to mobile phone tracking, especially since phone companies have created Web portals for law enforcement access to mobile users' information.[58] As such, there is the potential for a vast system of tracking information to become available to many parts of the government. Such a system was never a risk with beeper technology.

The other three pivotal transformations mentioned by Nissenbaum are all immediately applicable to GPS technology, whereas they were not an issue with beeper technology. Information mobility, made possible by cheap storage capabilities, databases that are in a standard format, and a technologically-advanced infrastructure for information, have streamlined the transfer of information.[59] Precise information about an individual's movements in a vehicle from a GPS device is easily downloadable and transferable, thereby accessible to a virtually limitless network of individuals. Information from a beeper device, however, is not transferable. It is only accessible to the holder of the device. The democratization of database technologies and information mobility tie together to facilitate information aggregation, which is essentially the pooling together of information.[60] All of these pivotal transformations have a direct impact on privacy and are what distinguish GPS technology from beeper technology, regardless of the fact that both technologies are used for similar purposes.

The last unique aspect of new technology that is most relevant to GPS tracking cases is information from data, in other words, knowledge from information. Essentially, this is the concept that aggregation of information

53. *See* NISSENBAUM, *supra* note 25, at 36.
54. *See id.* at 40.
55. *See id.* at 41.
56. *See id.* at 42.
57. *Id.* at 38.
58. Soghoian, *supra* note 18.
59. NISSENBAUM, *supra* note 25, at 40.
60. *Id.* at 41.

has "made it possible to extract descriptive and predictive meaning from information that goes well beyond its literal boundaries"[61]—the whole being greater than the sum of its parts. The power of information gained through technology is not stored "passively," rather the information can be assembled and used. The ability of the GPS device to aggregate massive amounts of information reveals more about individuals than where they traveled on numerous individual trips. This is key to understanding what makes GPS technology different than beeper technology and why society should recognize the use of GPS technology as something over which individuals have a reasonable expectation of privacy. Beeper technology basically functions as a set of enhanced binoculars, helping police follow vehicles more accurately, but requiring officers to actively track an individual over the course of a single journey. GPS technology provides police officers mountains of information about a person, for countless journeys—all of the puzzle pieces that can be fit together to develop an intimate picture of an individual's life. This is not a picture that society intends to expose to the public on each journey an individual takes, nor is it something society would be willing to allow police officers to develop without an appropriate threshold of suspicion.[62]

These significant distinctions between the two technologies are simply not accounted for under the current reasonable expectation of privacy test. The assertion in *Knotts*, that we have no reasonable expectation in our vehicular movements on public streets, renders it difficult to protect against warrantless GPS tracking because all of the information is related to our actions in public spaces, actions that are by necessity exposed to the public. This is why some find the concept of GPS surveillance an easy case.[63] Others differ and seek to resolve the problem of public exposure and society's actual expectation of privacy through the use of the "Mosaic Theory," which can be transplanted from national security cases to analyze

61. *Id.* at 42.

62. *See, e.g.*, United States v. Maryland, 615 F.3d 544, 563–65 (D.C. Cir. 2010), *cert. granted*, United States v. Jones, 131 S. Ct. 3064 (2011) ("Society recognizes Jones's expectation of privacy in his movements over the course of a month as reasonable, and the use of the GPS device to monitor those movements defeated that reasonable expectation.").

63. *See* Jallad, *supra* note 51; Recent Case, United States v. Maynard, 615 F.3d 544 (D.C. Cir. 2010), 124 HARV. L. REV. 827 (2011) [hereinafter *Recent Case, United States v. Maynard*].

this dilemma.[64] The "Mosaic Theory" was used by one of the circuit courts to help aid their analysis.[65]

This Note seeks to support a finding that warrantless GPS tracking violates society's reasonable expectation of privacy by showing a connection between the Fourth Amendment and two other areas of constitutional law: the First Amendment and substantive due process in the Fourteenth Amendment. These areas should bolster the Fourth Amendment's protective power when either of the doctrines is implicated. First, this Note will briefly discuss two cases that illustrate how courts previously have analyzed the warrantless GPS issue.

III. THE ISSUE: WARRANTLESS GPS TRACKING, THE CIRCUIT SPLIT, AND THE SUPREME COURT'S ATTEMPT AT RESOLUTION

A. CASE LAW ANALYZING WARRANTLESS GPS TRACKING AS CONSTITUTIONAL: *UNITED STATES V. PINEDA-MORENO*

In *United States v. Pineda-Moreno*, the Ninth Circuit held that the act of affixing a GPS tracking device to a vehicle when parked in a public lot or in a driveway,[66] and the tracking of a vehicle using a GPS device over an extended period of time, were both constitutional.[67] The facts of *Pineda-Moreno* are straightforward: in 2007 an Oregon DEA agent witnessed defendant Pineda-Moreno and two other men purchasing large amounts of a particular fertilizer that was popular in other counties for growing marijuana.[68] The purchase raised the government agent's suspicion about the illegal cultivation of marijuana, so they attached GPS tracking devices,

64. *See* United States v. Maynard, 615 F.3d 544 (D.C. Cir. 2010); Bethany L. Dickman, Note, *Untying* Knotts*: The Application of Mosaic Theory to GPS Surveillance in* United States v. Maynard, 60 AM. U. L. REV. 731 (2011); Haley Plourde-Cole, Note, *Back to* Katz*: Reasonable Expectation of Privacy in the Facebook Age*, 38 FORDHAM URB. L.J. 571 (2010). This theory will be explained in the discussion of *Maynard* in *infra* Section III.B.

65. *Id.*

66. This Note is not concerned with whether the act of *affixing* a GPS tracking device is constitutional. It assumes that action to be constitutional. Furthermore, this Note does not address the difference between affixing it to a vehicle parked in public or in a private driveway. This issue is only mentioned to provide context to the cases.

67. United States v. Pineda-Moreno, 591 F.3d 1212, 1217 (9th Cir. 2010).

68. *Id.* at 1213.

which were each about the size of a bar of soap and had a magnet on the side, to Pineda-Moreno's vehicle on seven different occasions over a period of four months.[69] The agents had neither a warrant nor Pineda-Moreno's consent.[70] These tracking devices recorded and logged all of the vehicle's movements, and the agents accessed the information remotely or removed the devices and downloaded the data.[71]

With the tracking device, officers were able to locate and stop the vehicle as it was leaving a suspected marijuana growing site and received Pineda-Moreno's consent to a vehicle and home search.[72] The searches revealed that he was in fact in possession of large quantities of marijuana.[73] Using this evidence, Pineda-Moreno was indicted on one count of conspiracy to manufacture marijuana and one count of manufacturing marijuana.[74] Pineda-Moreno sought to suppress this evidence on the grounds that his Fourth Amendment rights were violated by the attachment of the device to his vehicle, as well as the continuous monitoring of his movements over an extended period of time.[75]

The Ninth Circuit ruled against Pineda-Moreno and held that:

- The defendant had no reasonable expectation of privacy to the driveway or curtilage[76] of his residence.[77]

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69. *Id.*
70. *Id.*
71. *Id.*
72. *Id.* at 1214.
73. *Id.*
74. *Id.*
75. *Id.*
76. Curtilage is a concept that "originated at common law to extend to the area immediately surrounding a dwelling house the same protection under the law of burglary as was afforded the house itself." United States v. Dunn, 480 U.S. 294, 300 (1987). However, curtilage is relevant to a Fourth Amendment analysis because the Court has determined that the Fourth Amendment protects the curtilage of an individual's house. *Id.* (citing Oliver v. United States, 466 U.S.170, 180 (1984)). The extent to which the curtilage extends beyond the home depends on factors that are relevant to whether an individual would reasonably expect the area in question to be treated as the home, and in particular, whether the area harbors "intimate activity associated with the 'sanctity of a man's home and the privacies of life.'" *Id.* at 300 (citing *Oliver*, 466 U.S. at 180) (quoting Boyd v. United States, 116 U.S. 616, 630 (1886)). This Note does not analyze whether there is a reasonable expectation of privacy with regard to the attachment of GPS devices on a vehicle in a defendant's curtilage.
77. United States v. Pineda-Moreno, 591 F.3d 1212, 1215 (9th Cir. 2010).

- The defendant had no reasonable expectation of privacy in the undercarriage of his vehicle.[78]
- The defendant had no reasonable expectation of privacy when parking his vehicle on the street or in a public parking lot.[79]
- The use of the tracking device was not a search.[80]

This Note will examine the fourth holding, as the others are outside the scope of the Note. Pineda-Moreno argued that the agents' use of the GPS device to continuously monitor his Jeep's location violated his Fourth Amendment rights "because the devices attached to his vehicle are not generally used by the public."[81] Pineda-Moreno acknowledged the Supreme Court's holding in *United States v. Knotts* that "[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another."[82] Pineda-Moreno, however, relied on *United States v. Kyllo*, in which the Supreme Court disallowed the use of thermal imaging equipment on the outer walls of a home because the equipment was not in general public use.[83] Pineda-Moreno argued that because GPS tracking devices were also not in general public use, they should be disallowed as well.[84] The Ninth Circuit distinguished *Kyllo* from *Knotts* by determining that *Kyllo*'s thermal imaging technology was a substitute for the search of a home, which was "unequivocally within the meaning of the Fourth Amendment."[85] In contrast, the court noted that in *Knotts*, as in Pineda-Moreno's case, the movements of a vehicle were involved and were not considered protected under the domain of the Fourth Amendment because they were public.[86] Therefore, despite the fact that the technology was not in common use, the use of the GPS tracking device did not entail an impermissible search under the Fourth Amendment.[87]

78. *Id.*
79. *Id.*
80. *Id.* at 1216.
81. *Id.*
82. *Id.* (quoting United States v. Knotts, 460 U.S. 276, 281–82 (1983)).
83. *Id.* (citing United States v. Kyllo, 533 U.S. 27, 34 (2001)).
84. *Id.*
85. *Id.*
86. *Id.* (citing Knotts, 460 U.S. at 284).
87. *Id.* at 1217.

Pineda-Moreno's petition for rehearing was denied.[88] Chief Judge Kozinski, however, wrote a passionate dissent advocating that the use of the GPS tracking device was a search for two reasons: (1) the attachment of the tracking device while the vehicle was in Pineda-Moreno's driveway was, in fact, a search because of an established zone of privacy in one's curtilage[89] and (2) the technology in the GPS tracking devices is so far advanced from the technology in *Knotts* that the effects of its use are not comparable with the primitive "beeper" technology.[90]

Reason (1) is not relevant to this Note; however, reason (2) most certainly is relevant. Judge Kozinski's belief that the two technologies are distinguishable is premised on the fact that GPS technology far outreaches beeper technology.[91] Whereas a GPS device requires no actual physical tracking, beeper technology is merely like an enhanced set of binoculars that requires an officer to be near the tracked vehicle constantly.[92] Thus, the justification for beeper use should not extend to GPS technology.[93] Furthermore, GPS devices create a permanent electronic record of movement, which can be used to deduce more information than can be gleaned from single trips.[94] Judge Kozinski also notes that the use of GPS tracking devices makes it absolutely impossible for an individual to maintain privacy in their movements in a car, even if the individual would like to remain anonymous through donning disguises, traveling on back roads, driving in heavy crowds, or travelling only at night.[95] Judge Kozinski gives a chilling warning: "[b]y holding that this kind of surveillance [does not] impair an individual's reasonable expectation of privacy, the panel hands the government the power to track the movements of every one of us, every day of our lives."[96]

88. *Id.* at 1121.
89. *Id.* at 1123–26.
90. *Id.*
91. *Id.*
92. *Id.* at 1124.
93. *Id.*
94. *Id.*
95. *Id.* at 1126.
96. *Id.* at 1124.

B. CASE LAW ANALYZING WARRANTLESS GPS TRACKING AS UNCONSTITUTIONAL: *UNITED STATES V. MAYNARD*

In contrast to the Ninth Circuit's holding in *Pineda-Moreno*, the D.C. Circuit in *United States v. Maynard* held that the warrantless use of a GPS device on a defendant's car for a month did constitute a search and, therefore, violated his Fourth Amendment rights.[97] The facts in this case are similar to those of *Pineda-Moreno*: police suspected the defendant of being involved in a cocaine-trafficking conspiracy and, without a warrant, affixed a GPS tracking device to his Jeep to track his movements twenty-four hours a day for four weeks.[98] The D.C. Circuit found the use of the tracking device to be a search.[99]

The court first found that *Knotts*, which 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,"[100] was not controlling.[101] This was because the *Knotts* court distinguished between a single, discrete journey being exposed to the public and the concept of twenty-four hour "dragnet-type" surveillance, leaving the latter question without resolution.[102] This court determined that while a person traveling on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another, it is not the equivalent of a person lacking a "reasonable expectation of privacy in his movements whatsoever, world without end, as the Government would have it."[103] Therefore, the court found that the difference between long-term and short-term surveillance requires a different analysis than that used in *Knotts*.[104]

The court then had to determine whether the defendant's locations were actually exposed to the public to determine whether his expectation of privacy was reasonable and therefore subject to Fourth Amendment protection.[105] The court first explained that the entirety of the defendant's

97. United States v. Maynard, 615 F.3d 544 (D.C. Cir. 2010).
98. *Id.* at 555.
99. *Id.*
100. United States v. Knotts, 460 U.S. 276, 281 (1983).
101. *Maynard*, 615 F.3d at 556.
102. *Id.*
103. *Id.* at 557.
104. *Id.*
105. *Id.* at 558.

movements was not actually exposed to the public, because even if the police were able to follow him everywhere he went over the course of a month, the question was not "what another person can physically and may lawfully do but rather what a reasonable person expects another might actually do."[106] Applying this rule to the present case, the court found that since the "whole of a person's movements over the course of a month is not actually exposed to the public because the likelihood a stranger would observe all of those movements is not just remote, it is essentially nil," the defendant's movements were not actually exposed to the public and were therefore deserving of Fourth Amendment protection.[107]

The court then examined whether the whole of the defendant's movements over the course of the month he was monitored, while not actually exposed, were "constructively" exposed in the sense that each individual movement during that time was in the public view.[108] The court noted that the Supreme Court has found that a "whole" may be something different than the sum of its parts. For example, in *United States Department of Justice v. Reporters Committee for Freedom of Press*, respondents had requested that the FBI disclose rap sheets compiling criminal records for specific individuals, but the Supreme Court sided with the FBI because even though "individual events in the summaries [were] matters of public record,"[109] the subjects still retained a privacy interest in the aggregated "whole," which was something "distinct from their interest in the 'bits of information' of which it was composed."[110] Furthermore, the

106. *Id.* at 559. *See also* Bond v. United States, 529 U.S. 334, 338–39 (2000) ("[A] bus passenger clearly expects that his bag may be handled. He does not expect that other passengers or bus employees will, as a matter of course, feel the bag in an exploratory manner. But this is exactly what the agent did here. We therefore hold that the agent's physical manipulation of petitioner's bag violated the *Fourth Amendment*."); California v. Greenwood, 486 U.S. 35, 40 (1998) ("It is common knowledge that plastic garbage bags left on or at the side of a public street are readily accessible to animals, children, scavengers, snoops, and other members of the public."); California v. Ciraolo, 476 U.S. 207, 213–14 (1986) ("In an age where private and commercial flight in the public airways is routine," defendant did not have a reasonable expectation of privacy in a location that "[a]ny member of the public flying in this airspace who glanced down could have seen").

107. *Maynard*, 615 F.3d at 560.

108. *Id.* at 560–61.

109. U.S. Dep't of Justice v. Reporters Comm. for Freedom of the Press, 489 U.S. 749, 753 (1989).

110. *Maynard*, 615 F.3d at 561 (quoting *Reporters Comm. for Freedom of the Press*, 489 U.S. at 764).

Court also addressed this issue in a Fourth Amendment context in *Smith v. Maryland*, when determining whether or not a reasonable person expects any given number he dials on his phone to be exposed to the phone company and whether he expects every single number he calls to be made into a list.[111] The D.C. Circuit determined that the Supreme Court would not have analyzed this difference if not for the fact that there may be different reasonable expectation of privacy interests at stake between isolated pieces of information and large aggregations of information.[112]

Consequently, the D.C. Circuit determined that there was a difference between a single journey as compared with the whole of an individual's movements over an extended period of time, and that:

> The whole of one's movements over the course of a month is not constructively exposed to the public because, like a rap sheet, that whole reveals far more than the individual movements it compromises. The difference is not one of degree but of kind, for no single journey reveals the habits and patterns that mark the distinction between a day in the life and a way of life, nor the departure from a routine that . . . may reveal even more.[113]

The court cited many cases in which courts have found that prolonged surveillance revealed a different type of information than that revealed by short term surveillance. This included the "Mosaic Theory" with regard to national security information[114] and that prolonged surveillance can expose a particularly intimate picture of the individual's life.[115] The court provided

111. *Id.* (citing Smith v. Maryland, 442 U.S. 735, 742–43 (1979)).

112. *Id.*

113. *Id.* at 561–62.

114. *Id*. at 562. *See* CIA v. Sims, 471 U.S. 159, 178 (1985) ("[W]hat may seem trivial to the uninformed, may appear of great moment to one who has a broad view of the scene . . . .").

115. In *Maynard*, 615 F.3d at 562–63, the D.C. Circuit cited three cases illustrating this point: (1) Galella v. Onassis, 353 F. Supp. 196, 227–28 (S.D.N.Y. 1972), in which the court held that the "[p]laintiff's endless snooping constitutes tortious invasion of privacy. . . . In short, [he] has insinuated himself into the very fabric of Mrs. Onassis' life . . . ."; (2) People v. Weaver, 909 N.E.2d 1195, 1199–1200 (N.Y. 2009), holding that prolonged GPS monitoring yields "a highly detailed profile, not simply of where we go, but by easy inference, of our associations—political, religious, amicable and amorous, to name only a few—and of the pattern of our professional and avocational pursuits"); and (3) State v. Jackson, 76 P.3d 217, 223 (Wash. 2003) (en banc), in which the court noted that "[i]n this age, vehicles are used to take people to a vast number of places that can reveal preferences,

a simple example illustrating this point, noting that even the sequence of someone's movements is more revealing than the instances taken individually: "a single trip to a gynecologist's office tells little about a woman, but that trip followed a few weeks later by a visit to a baby supply store tells a different story."[116]

Because the court concluded that the totality of an individual's movements over a period of time is not actually or constructively exposed, these movements are therefore something in which an individual has a reasonable expectation of privacy.[117] While the government argued that the GPS tracking did not reveal anything about the defendant when he was inside his home, but only about his movements in public, the court reiterated that "[a] person does not leave his privacy behind when he walks out his front door,"[118] and acknowledged that *Katz* recognized that "what [one] seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected."[119] Because GPS monitoring reveals "an intimate picture of the subject's life that he expects no one to have—short perhaps of his spouse," the expectation of privacy in the totality of one's movements in a vehicle over an extended period of time is a reasonable expectation of privacy that society is willing to recognize.[120]

The court's final point in its discussion of this issue distinguished GPS surveillance from general visual surveillance, concluding that a holding for the defendant in the present case does not logically prohibit much visual surveillance.[121] This is because visual surveillance of persons and vehicles located in public places and exposed to public view is still not considered a search when it reveals what is already exposed to the public, such as a person's movements during a single journey.[122] The court noted that "[c]ontinuous human surveillance for a week would require all the time and expense of several police officers, while comparable photographic surveillance would require a net of video cameras so dense and so

alignments, associations, personal ails and foibles. The GPS tracking devices record all of these travels, and thus can provide a detailed picture of one's life."

116. *Maynard*, 615 F.3d at 562.
117. *Id.* at 563.
118. *Id.*
119. *Id.* (quoting Katz v. United States, 389 U.S. 347, 351 (1967)).
120. *Id.*
121. *Id.* at 565.
122. *Id.*

widespread as to catch a person's every movement, plus the manpower to piece the photographs together."[123] Lastly, the court noted that *Kyllo* asserted that means do matter when it comes to gathering private information:[124] for example, it is constitutional for the police to record an individual's conversation through the use of an undercover agent in the vicinity,[125] but it is not constitutional to do the same by wiretapping the individual's phone.[126]

C. THE SUPREME COURT WEIGHS IN: *UNITED STATES V. JONES*

Jones was the appeal of the *Maynard* case from the D.C. Circuit, wherein the Supreme Court unanimously affirmed the D.C. Circuit's holding that the warrantless GPS tracking was unconstitutional.[127] The Supreme Court, however, found the action unconstitutional on significantly different grounds than the D.C. Circuit, rejecting the Mosaic Theory concept, and focusing on the placement of the GPS tracking device on the vehicle as an unconstitutional physical intrusion amounting to a search.[128] While this decision to affirm the D.C. Circuit was unanimous, there was no consensus on the reasoning for why warrantless GPS tracking in this context should be considered unconstitutional.[129]

The plurality opinion, authored by Justice Scalia, looked to common-law trespass in finding that the installation of the tracking device on the vehicle constituted a search.[130] In particular, the plurality found that because "[t]he Government physically occupied private property for the purpose of obtaining information," there was "no doubt that such a physical intrusion would have been considered a 'search' within the meaning of the Fourth Amendment when it was adopted."[131] Justice Scalia additionally noted that "[t]he text of the Fourth Amendment reflects its close connection to property, since otherwise it would have referred simply to the 'the right of the people to be secure against unreasonable searches and seizures'; the

123. *Id.*
124. *Id.* at 566 (citing United States v. Kyllo, 533 U.S. 27, 35 n.2 (2001)).
125. *Id.* (citing Lopez v. United States, 373 U.S. 427, 429 (1963)).
126. *Id.* (citing Katz v. United States, 389 U.S. 347, 353 (1967)).
127. United States v. Jones, 132 S. Ct. 945 (2012).
128. *Id.* at 949–52.
129. *Id.* at 948, 954, 957.
130. *Id.* at 949–53.
131. *Id.* at 949.

phrase 'in their persons, houses, papers, and effects' would have been superfluous."[132]

Justice Scalia acknowledged that the more modern search cases have moved away from "that exclusively property-based approach."[133] He noted that the Supreme Court had explicitly stated that "the Fourth Amendment protects people, not places," and that modern Fourth Amendment jurisprudence revolves around the reasonable expectation of privacy test originating from the *Katz* case.[134] Justice Scalia, however, explained that *Katz* was not meant to erode previously recognized Fourth Amendment protections based around property, stating that "*Katz* did not narrow the *Fourth Amendment's* scope."[135] Likewise, Justice Scalia notes that trespass is not the exclusive test for determining if a search occurs, and that "[s]ituations involving merely the transmission of electronic signals without trespass would *remain* subject to *Katz* analysis."[136]

Justice Scalia concluded by acknowledging that this resolution ultimately does not resolve the issue of the constitutionality of warrantless GPS tracking over an extended period of time that does not involve a trespass, stating that "the present case does not require us to answer that question."[137] Thus, while the Supreme Court has decisively determined that the placement of a GPS tracking device on a vehicle and subsequent use of the device to monitor the vehicle's whereabouts constitutes an impermissible search, the broader issue of warrantless GPS monitoring of an individual without a trespass remains unresolved.

Justice Sotomayor authored the first concurring opinion, agreeing with Justice Scalia that a search occurred in this case because of the physical intrusion onto the defendant's constitutionally protected property.[138] Justice Sotomayor, however, remains concerned about the fact that "physical intrusion is now unnecessary to many forms of surveillance," noting that "[w]ith increasing regularity, the Government will be capable of duplicating the monitoring undertaken in this case by enlisting factory- or

132. *Id.*
133. *Id.*
134. *Id.* (quoting Katz v. United States, 389 U.S. 347, 351 (1967)).
135. *Id.* at 951
136. *Id.* at 953.
137. *Id.*
138. *Id.* at 954 (Sotomayor, J., concurring).

owner-installed vehicle tracking devices or GPS-enabled smartphones."[139] Thus, she acknowledges that "the majority opinion's trespassory test may provide little guidance" in "cases of electronic or other novel modes of surveillance that do not depend upon a physical invasion on property."[140]

Understanding that aspects of warrantless GPS surveillance make it capable of amassing a "precise, comprehensive record of a person's public movements that reflects wealth of detail about her familial, political, professional, religious, and sexual associations," Justice Sotomayor contends that she would take these attributes "into account when considering the existence of a reasonable expectation of privacy in the sum of one's public movements."[141] It is particularly important to Justice Sotomayor that these considerations are taken into account because she recognizes that "[a]wareness that the Government may be watching [one's movements] chills associational and expressive freedoms."[142] Thus, she "would ask whether people reasonably expect that their movements will be recorded and aggregated in a manner that enables the Government to ascertain, more or less at will, their political and religious beliefs, sexual habits, and so on."[143]

Justice Sotomayor also considers that it may be appropriate to rethink the principle that "an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties."[144] She asserts that this principle 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," such as the phone numbers we dial, which are transmitted to our cellular providers, the websites we visit, which are collected by our Internet providers, and so forth.[145] Thus, Justice Sotomayor "would not assume that all information voluntarily disclosed to some member of the public for a limited purpose is, for that reason alone, disentitled to Fourth Amendment protection."[146]

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139. *Id.* at 955.
140. *Id.*
141. *Id.*
142. *Id.* at 956.
143. *Id.*
144. *Id.* at 957.
145. *Id.*
146. *Id.*

Ultimately, however, she determines that "because the Government's physical intrusion on [the defendant's] Jeep supplies a narrow basis for the decision," a there is no need to resolve the answers to the difficult questions she poses in her opinion.[147]

Justice Alito, joined by Justice Ginsburg, Justice Breyer, and Justice Kagan, authored another concurring opinion, which held fast to the *Katz* test.[148] Justice Alito stated that he would analyze the case "by asking whether [the defendant's] reasonable expectations of privacy were violated by the long-term monitoring of the movements of the vehicle he drove."[149] And unlike Justice Sotomayor, Justice Alito is unconvinced that basing the case around "18th-century tort law" is a legitimate resolution of the issue, finding the trespass analysis to be an unsatisfactory and inappropriate way of deciding the case and thus rejecting it entirely.[150] To Justice Alito, this is particularly so considering *Katz* and *United States v. Karo*, which found that "an actual trespass is neither necessary *nor sufficient* to establish a constitutional violation."[151]

Like Justice Sotomayor, Justice Alito recognizes that the majority's trespass-based analysis fails to provide constitutional protection in situations where warrantless GPS tracking can occur without the use of a trespass.[152] Justice Alito, however, also finds the *Katz* test to be problematic, particularly due to the difficulty of objectively determining society's reasonable expectation of privacy without the subjective speculation of judges.[153] Additionally, technological advances can in fact change society's reasonable expectation of privacy in a way that does not accord with principles stated in prior case law.[154] Justice Alito even considers whether the best solution to this dilemma may actually be legislative, as opposed to judicial.[155]

147. *Id.*
148. *Id.* (Alito, J., concurring).
149. *Id.* at 958 (Alito, J., concurring).
150. *Id.*at 953–54.
151. *Id.* at 960 (quoting United States v. Karo, 468 U.S. 705, 713 (1984)).
152. *Id.* at 961–62.
153. *Id.* at 962.
154. *Id.*
155. *Id.* at 962–64.

Ultimately, however, Justice Alito concedes that at present, the best solution to the issue of warrantless GPS tracking would be to continue to "apply existing *Fourth Amendment* doctrine and to ask whether the use of GPS tracking in a particular case involved a degree of intrusion that a reasonable person would not have anticipated."[156] For example, "[u]nder this approach, relatively short-term monitoring of a person's movements on public streets accords with expectations of privacy that our society has recognized as reasonable," whereas "the use of longer term GPS monitoring in investigations of most offenses impinges on expectations of privacy."[157] This is because, as Justice Alito states, "society's expectation has been that law enforcement agents and others would not—and indeed, in the main, simply could not—secretly monitor and catalogue every single movement of an individual's car for a very long period."[158] Thus, Justice Alito "conclude[s] that the lengthy monitoring that occurred in this case constituted a search under the *Fourth Amendment*."[159]

D. WHY NONE OF THESE APPROACHES ADEQUATELY RESOLVES THE ISSUE

The two circuits and the Supreme Court took very different approaches to resolving the warrantless GPS tracking issue and came to a variety of conclusions. The Ninth Circuit, applying the reasoning in *Knotts*, found that because the accused's journeys were public, there was no reasonable expectation of privacy and, thus, no protection under the Fourth Amendment.[160] This result is simplistic and unsatisfactory because it fails to provide a minimum level of protection against widespread, invasive, long-term surveillance. The D.C. Circuit took a different approach, adopting the "Mosaic Theory" from other case law and applying it to GPS tracking.[161] This is a sound theory because it helps to define a reasonable

156. *Id.* at 964.
157. *Id.*
158. *Id.*
159. *Id.*
160. For sources that approve of this approach, see Jallad, *supra* note 51, at 368–69 and Recent Case, United States v. Maynard, *supra* note 63 (discussing the D.C. Circuit's recent GPS tracking case which set forth a test that conflicts with other circuits).
161. For sources that approve of this approach, see *In re* Application of the United State for Historical Cell Site Data, 2010 WL 4286365 (S.D. Tex. 2010) (applying the reasoning of *Maynard* to government requests to compel cell phone companies to provide

expectation of privacy in a technological era. This Note, however, argues that while this theory has its merits, it does not suffice; rather, two established constitutional considerations can contribute to a more complete protection of privacy under the Fourth Amendment. The Supreme Court, however, rejected both of these analyses, finding that the placement of the GPS tracking device and its subsequent use constituted an illegal search based upon a trespass analysis.[162] As previously discussed, this analysis is unsatisfactory because it fails to account for the myriad of ways in a modern technological world that invasive long term tracking can be instituted without the use of a trespass to acquire such information. Thus, this Note seeks to devise an understanding of the reasonable expectation of privacy, incorporating the additional constitutional considerations of substantive due process and the First Amendment to analyze the broad concept of warrantless GPS surveillance.

IV. ADDITIONAL SOURCES OF PROTECTION: SUBSTANTIVE DUE PROCESS AND THE FIRST AMENDMENT

Two additional constitutional considerations should factor into Fourth Amendment reasonableness with regard to searches, particularly in the case of GPS tracking: substantive due process and the First Amendment. Because other constitutional rights are implicated in the use of GPS surveillance technology, including these additional constitutional considerations in the analysis will create a more comprehensive approach that better accounts for the potential impact of warrantless GPS tracking. Furthermore, these considerations are particularly important because they help shape an understanding of a reasonable expectation of privacy in modern society.

The idea that the Fourth Amendment is incomplete when standing alone is not novel. Professor and Constitutional Law Scholar Akhil Amar addresses this topic in *Fourth Amendment First Principles*.[163] He emphasizes that because Fourth Amendment issues are "emphatically constitutional law," a standard technique of constitutional interpretation is to analyze one constitutional provision in light of other constitutional

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cell site information for target cell phones under the name the "prolonged surveillance doctrine"); Dickman, *supra* note 64, at 738–42; Plourde-Cole, *supra* note 64, at 614–21.

162. United States v. Jones, 132 S. Ct. 945 (2012) (majority opinion).

163. AMAR, *supra* note 33, at 35.

provisions.[164] He refers to this type of analysis as "constitutional reasonableness," whereupon other clauses in the constitution "can furnish benchmarks against which to measure reasonableness and components of reasonableness itself."[165] Then, if a law or government action is too close to violating one of these independent clauses (though it would not violate this clause on its own), it can become constitutionally unreasonable.[166]

To be clear, this Note does *not* argue that GPS tracking is unconstitutional based on an analysis of these other constitutional considerations alone, but that these constitutional protections help inform the reasonableness dimension of the Fourth Amendment analysis, under which GPS tracking should constitute a search.

A. SUBSTANTIVE DUE PROCESS

The first constitutional consideration related to GPS surveillance and privacy is substantive due process. Substantive due process finds substantive privacy rights in the due process clauses of the Fifth and Fourteenth Amendments; rights that are not specifically enumerated in the Constitution. The concept of a "right to privacy" was expounded famously in Warren and Justice Brandeis's *The Right to Privacy*, which emphasizes that "the right to life has come to mean the right to enjoy life,―*the right to be let alone; the right to liberty secures the exercise of extensive civil privilege . . . .*"[167] The Supreme Court adopted this principle and the "right to be let alone" today comprises a small class of recognized substantive due process rights―unenumerated rights the Court is nevertheless willing to protect if there is indeed a violation of one of these constitutionally protected liberties "to engage in particular activities or enjoy a given status without undue interference by government."[168] Most of these rights have to do with family and intimate relationships, for example, contraception,[169]

164. *Id.*
165. *Id.*
166. *Id.*
167. Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L REV. 193 (1890) (emphasis added).
168. Sherry F. Colb, *The Qualitative Dimension of Fourth Amendment "Reasonableness*, 98 COLUM. L. REV. 1642, 1642 (1998).
169. *See* Griswold v. Connecticut, 381 U.S. 479, 485 (1965) (finding law that criminalized the use of contraceptives violated the right to marital privacy).

abortion,[170] family,[171] and consensual adult sexual relations.[172] If the Court recognizes a substantive privacy interest, that means the government can only regulate against the protected privacy if there is a *sufficient justification* for the government's infringement of the right and if the *means* instituted to accomplish the government's goal are sufficiently related to the *purpose* of the regulation.[173] Usually if a right is considered fundamental, the government needs a compelling reason for the regulation and the regulation must be necessary to fulfill the objective.[174]

The Supreme Court, however, has been extremely conservative in its adoption of new substantive due process rights, and has tended to reserve the expansion of the doctrine for issues related to intimate personal relationships and the family.[175] While GPS tracking clearly implicates personal privacy, it does not fit into either of these categories so it is highly unlikely that the Court would adopt a new substantive due process right "to be free from surveillance" to protect an individual's movement through public areas. Nor does this Note argue that such an entirely new, independent substantive due process right should be recognized.

Rather, this Note contends that the substantive due process concept of privacy can be incorporated into Fourth Amendment doctrine. One commentator, Sherry Colb, a professor at Cornell University Law School, has suggested one way of accomplishing this.[176] She explains that "[u]nder the Fourth Amendment, the government's obligation to respect individual privacy has generally amounted to a prohibition against such direct perception of individuals' physical or mental states, activities,

170. *See* Roe v. Wade, 410 U.S. 113, 153 (1973) (finding a woman's right to choose to terminate her pregnancy to be protected by the right to privacy).

171. *See* Moore v. City of East Cleveland, 431 U.S. 494, 499 (1977) (finding city ordinance violated right to keep family together).

172. *See* Lawrence v. Texas, 539 U.S. 558, 578 (2003) (finding right to privacy protects sexual relations between consenting adults).

173. ERWIN CHEMERINKSY, CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES 797 (3d ed. 2006).

174. *Id.*

175. *See* Peter J. Rubin, *Square Pegs and Round Holes: Substantive Due Process, Procedural Due Process, and the Bill of Rights*, 103 COLUM. L. REV. 833, 837–38 (2003) ("Yet while the Court's opinions show reluctance to recognize 'new' substantive due process rights, its decisions do also describe a continuing expansion under the substantive due process heading of autonomy- or personhood-related rights.")

176. Colb, *supra* note 168, at 1643–45.

conversations, and other personal experiences that are manifestly hidden from observation, absent some justification that would qualify a proposed inspection as 'reasonable.'"[177] She notes several examples of instances where the court has recognized a *substantive reasonableness*: for example, regarding use of deadly force and extraordinary bodily intrusions by police.[178] A substantive reasonableness analysis would "take account of the strength or weakness of the interests supporting an allegedly unreasonable search or seizure" and "weigh[] these interests against the intrusiveness of challenged police activity."[179]

In *Tennessee v. Garner*, a police officer shot and killed a burglary suspect who was fleeing the scene of the crime and cited a Tennessee statute allowing an officer to use "all the necessary means to effect the arrest," if the suspect was fleeing or resisting arrest, to justify his action.[180] The Supreme Court first determined that deadly force constituted a seizure.[181] Subsequently, the Court decided that a higher than usual reasonableness standard was necessary because the "intrusiveness of a seizure by means of deadly force is unmatched," and the "suspect's fundamental interest in his own life need not be elaborated on."[182] Therefore, officers could only use deadly force if the suspect's actions rose to the level of threatening an officer with a weapon or if the officer had probable cause to believe the suspect committed a crime involving the infliction or threatened infliction of serious bodily harm—a heightened standard of reasonableness.[183]

Similarly, in *Winston v. Lee*, the government attempted to compel a suspect to undergo surgery to look for evidence in his body (in this case, a bullet fired by a shop owner protecting himself from the alleged suspect).[184] Again, the Court found that a "compelled surgical intrusion into an individual's body for evidence . . . implicates expectations of privacy and security of such magnitude that the intrusion may be

177. *Id.* at 1666.
178. *Id.* at 1673–78.
179. *Id.* at 1647.
180. *See* Tennessee v. Garner, 471 U.S. 1, 24 (1985).
181. *Id.* at 7.
182. *Id.* at 9.
183. *Id.* at 11.
184. Winston v. Lee, 470 U.S. 753, 755–57 (1985).

'unreasonable' even if likely to produce evidence of a crime."[185] Therefore the usual standard of probable cause to search for evidence was heightened due to the dramatic nature of the intrusion and invasion of privacy.[186]

Dramatic bodily intrusions are not the only instances in the Court's Fourth Amendment jurisprudence in which it has balanced the reasonableness of an intrusion or protected substantive privacy rights against the government's legitimate interests. Balancing tests are not an uncommon theme in Fourth Amendment law—for instance, courts sometimes weigh the intrusiveness of a police action and the violation of privacy to the individual against the legitimate law enforcement needs of the state. A landmark case using a balancing test is *Terry v. Ohio*, the famous "stop and frisk" case.[187] A *Terry* stop essentially allows for a lesser type of seizure (stop) and search (frisk) on less than probable cause and without a warrant. The police officers, however, must have an articulable suspicion that the individual is armed and dangerous.[188] Thus, the individual's right to be free from government intrusion is balanced with law enforcement's justifiable need for the safety of officers and others nearby.[189]

Another illustration of this type of balancing approach is *Welsh v. Wisconsin*. *Welsh* held that because the police arrested the individual in his home at night for a minor civil offense, his privacy interest in his home was greater than the state's interest in prosecuting the offense.[190] Accordingly, the police should not have entered the defendant's home without a search warrant.[191] A substantive privacy right cannot be divorced from the Fourth Amendment, and courts should stop acting as if the two are not intertwined. These types of balancing procedures set the groundwork for incorporating a more robust substantive reasonableness standard into our understanding of the Fourth Amendment.[192]

185. *Id.* at 759.
186. *Id.* at 758–59.
187. *See* Terry v. Ohio, 392 U.S. 1 (1968).
188. *Id.* at 27.
189. *Id.*
190. *See* Welsh v. Wisconsin, 466 U.S. 740, 750 (1984).
191. *Id.*
192. Colb, *supra* note 168, at 1706.

Furthermore, the Supreme Court has recognized the importance of a reasonable expectation of privacy in an automobile on public streets. In *Delaware v. Prouse*, the Court found that a stop and seizure of a motorist, however brief, without at least an articulable and reasonable suspicion that the motorist is unlicensed, that the automobile is not registered, or that the vehicle or an occupant is otherwise subject to seizure for violation of law, was a violation of the Fourth Amendment.[193] In a passage particularly relevant to this Note, the Court stated:

> An individual operating or traveling in an automobile does not lose all reasonable expectation of privacy simply because the automobile and its use are subject to government regulation. Automobile travel is a basic, pervasive, and often necessary mode of transportation to and from one's home, workplace, and leisure activities. Many people spend more hours each day traveling in cars than walking on streets. Undoubtedly, many find a greater sense of security and privacy in traveling in an automobile than they do in exposing themselves by pedestrian or other modes of travel. Were the individual subject to unfettered government intrusion every time he entered an automobile, the security guaranteed by the Fourth Amendment would be seriously circumscribed. As *Terry v. Ohio*, recognized, people are not shorn of all Fourth Amendment protection when they step from their homes onto public sidewalks. Nor are they shorn of those interests when they step from the sidewalks into their automobiles.[194]

This passage implies a substantive level of privacy rights regarding one's use and movements in a vehicle. The Court, however, seems to have forgotten this passage in *Knotts*.[195] While the cases involve different Fourth Amendment considerations (stop and seizure versus searches), it is difficult to reconcile the notion that a person does not lose all reasonable expectations of privacy by virtue of being in a vehicle *and* that a person has no reasonable expectation of privacy in his or her movements in a vehicle because the vehicle is in plain view. This is particularly so because it is easy to see that where you go (an unpopular political or religious group meeting, abortion clinic, swingers party, or trip to a medical marijuana

193. *See* Delaware v. Prouse, 440 U.S. 648, 661 (1979).

194. *Id.* at 662–63 (footnote omitted).

195. In *United States v. Knotts*, 460 U.S. 276, 281(1983), the Court stated that "a person travelling in an automobile . . . has no reasonable expectation of privacy in his movements from one place to another."

clinic),[196] may be more private to you than what is in your vehicle (a gym bag with sweaty clothing, coins for parking meters, empty fast food bags, or emergency umbrella). The Court in *Prouse* acknowledged that motor vehicles have become a *necessary* mode of transportation and that if motorists are subjected to unfettered government intrusion, they would lose their Fourth Amendment security.[197] It is difficult to understand how the government's ability to follow and observe every movement a motorist makes months on end is not an unfettered government intrusion, and this substantive right of privacy in a vehicle helps make sense of why this is so.

Colb's suggestion to help fuse Fourth Amendment and substantive interests in privacy was that "the intrusiveness of a search or seizure would drive the Fourth Amendment analysis," and if police action is substantial, then a substantive weighing of the gravity of crime against the invasiveness of the police action would become necessary.[198] Colb is not the only commentator to look toward substantive weighing; Vanderbilt University Law Professor Christopher Slogobin refers to this concept as "proportionality."[199] Proportionality in this context means: "(1) the interest the Fourth Amendment protects is security from unjustified government infringement on [an] individual's property, autonomy (in the sense of ability to control one's movements), and privacy; and (2) the greater the threat to that security, the greater justification the government should have to show" for violating the individual's privacy (or other interest).[200]

Another view of how the Fourth Amendment and substantive due process intersect is expounded upon by Thomas P. Crocker, a law professor at the University of South Carolina School of Law.[201] He notes that while both doctrines seek to protect privacy, each currently is viewed in isolation of the other; however, the Court's decision in *Lawrence v. Texas*,[202] finding a right to certain private, intimate conduct in substantive due process,

196. See *infra* Section III.B for further elaboration on this concept with regard to the First Amendment.

197. *Prouse*, 440 U.S. at 633.

198. Colb, *supra* note 168, at 1647.

199. CHRISTOPHER SLOBOGIN, PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT 23 (2007).

200. *Id.*

201. *See* Thomas P. Crocker, *From Privacy to Liberty: The Fourth Amendment After* Lawrence, 57 UCLA L. REV. 1 (2009).

202. *See* Lawrence v. Texas, 539 U.S. 558 (2003).

provides a useful way of "reorienting Fourth Amendment Protection."[203] He argues that Fourth Amendment jurisprudence should follow a trajectory from privacy (an amorphous term that has been used to describe many different things),[204] to liberty; the heart of substantive due process.[205] He seeks to tie the "interpersonal" privacy that is protected by substantive due process to the Fourth Amendment in terms of whether we truly "assume the risk" of certain actions we undertake that the Fourth Amendment does not protect because they are considered open to the public—namely, do we intend them to really be communicated to the greater public at large.[206] He implies that a narrow understanding of Fourth Amendment privacy, one that does not take into account substantive considerations, allows for many transactions we likely intend to be privately conveyed to one party (like phone numbers we dial to a phone company) to be voluntarily conveyed to a third party (such as from the phone company to the government).[207] Adding a substantive due process dimension to the Fourth Amendment analysis helps resolve this dichotomy.[208]

While Crocker looks at substantive due process issues pertaining to interpersonal relationships and the right to be let alone, he also notes that substantive due process rights tend to be rooted in tradition, something the Court has emphatically stressed.[209] While automobiles were not around at the time of the framing, the right to travel has arisen in cases as far back as 1849 when the Supreme Court struck down a state law that forced a tax on aliens arriving from foreign ports.[210] While a line of case law and constitutional doctrine has developed around the concept of the right to travel found in the Privileges and Immunities Clause of the Fourteenth

203. Crocker, *supra* note 201, at 3–4.

204. *Id.* at 9 (citing Daniel J. Solove, *Conceptualizing Privacy*, 90 CALIF. L. REV. 1087, 1095 (2002)).

205. *Id.* at 10.

206. *Id.* at 32, 34–35.

207. *Id*. at 39.

208. *Id*. at 69.

209. *Id.* at 22 (citing Washington v. Glucksberg, 521 U.S. 707 (1997); Cruzan v. Dir., Mo. Dep't of Health, 497 U.S. 261 (1990)).

210. *See generally* The Passenger Cases, 48 U.S. 283 (1849) (striking down state laws infringing upon the right to travel). Even one of the dissenting Justices acknowledged that "[w]e are all citizens of the United States; and, as members of the same community, must have the right to pass and repass through every part of it without interruption, as freely as in our own States." *Id.* at 472 (Taney, C.J., dissenting).

Amendment,[211] this Note does not focus on the subsequent jurisprudence of this right. Instead, this doctrine is simply used to highlight how there *is* a tradition in our history and constitutional doctrine that recognizes the importance of free movement—something inextricably tied to automobile travel on public roads.[212]

A new understanding of the Fourth Amendment will emerge if we consider substantive due process rights, the right to be let alone, substantive balancing, and the actual effects of current surveillance technology. These factors, considered together, yield a test to help courts determine whether the use of warrantless GPS tracking constitutes a search. Due to the invasiveness of prolonged GPS tracking, the necessity of using a vehicle to move about freely in this country, and the important rights protected by substantive due process—such as the right to be let alone, and to have autonomy and privacy—the use of GPS devices should trigger a heightened standard of consideration when determining if it violates reasonable expectations of privacy. Substantive balancing can resolve this. This approach would help resolve the dilemma of Fourth Amendment doctrine created by the current lack of a reasonable expectation of privacy on public streets alongside practical considerations regarding the intrusion into privacy resulting from GPS surveillance.

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211. U.S. CONST. amend XIV, § 1, cl. 2.

212. Commentator Christopher Slobogin highlights some of the best statements by the Court setting forth this proposition, including *Williams v. Fears*, 179 U.S. 270 (1900), *Kent v. Dulles*, 357 U.S. 116 (1958), and *Shapiro v. Thompson*, 394 U.S. 618 (1969). *See* SLOBOGIN, *supra* note 199, at 101–02, 261. In *Williams*, 179 U.S. at 274, the Court noted that:

> [u]ndoubtedly the right of locomotion, the right to remove from one place to another according to inclination, is an attribute of personal liberty, and the right, ordinarily, of free transit from or through the territory of any state is a right secured by the Fourteenth Amendment and by other provisions of the Constitution.

In *Kent*, 357 U.S. at 126 (quoting ZECHARIAH CHAFEE, JR., THREE HUMAN RIGHTS IN THE CONSTITUTION OF 1787, at 197 (1956)), the Court explained:

> Freedom of movement across frontiers in either direction, and inside frontiers as well, was a part of our heritage . . . . Freedom of movement is basic in our scheme of values . . . . '[O]utside areas of plainly harmful conduct, every American is left to shape his own life as he thinks best, do what he pleases, go where he pleases.'

And lastly, in *Shapiro*, 394 U.S. at 629, the Court held, "our constitutional concepts of personal liberty unite to require that all citizens be free to travel throughout the length and breadth of our land uninhibited by statutes, rules, or regulations which unreasonably burden or restrict this movement."

B. FIRST AMENDMENT

The First Amendment provides that: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances."[213]

While it may be unclear how this relates to GPS surveillance, this Note is far from the first to find a logical connection between the First and Fourth Amendments.[214] George Washington University Law Professor Daniel Solove's article, *The First Amendment as Criminal Procedure*, sets out a history of First Amendment cases with principles that are relevant to criminal cases, government surveillance, and information gathering.[215] Two of these principles are particularly relevant to the case at hand: surveillance of political activities[216] and revealing associational ties to political groups.[217] Both of these considerations tie into the First Amendment right to freedom of association.

NAACP v. Alabama clearly explains this right. In this case, the state attempted to compel disclosure of records relating to NAACP's members.[218] The Supreme Court held:

> [C]ompelled disclosure of affiliation with groups engaged in advocacy may constitute [an effective] restraint on freedom of association . . . . [There is a] vital relationship between freedom to associate and privacy in one's associations. . . . [Inviolability] of privacy in group association may in many circumstances be indispensable to preservation of freedom of association, where a group espouses dissident beliefs.[219]

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213. U.S. CONST. amend. I.

214. *See* AMAR, *supra* note 33, at 36; Daniel J. Solove, *The First Amendment as Criminal Procedure*, 82 N.Y.U. L. REV. 112, 114 (2007) [hereinafter *The First Amendment as Criminal Procedure*].

215. *The First Amendment as Criminal Procedure*, *supra* note 214, at 143–51.

216. *Id.* at 143 (citing *Laird v. Tatum*, 408 U.S. 1, 11 (1972), a case in which the Supreme Court held that army surveillance of lawful and peaceful civilian activity did not violate the First Amendment, but noted that "constitutional violations may arise from the deterrent or, 'chilling,' effect of governmental regulations that fall short of a direct prohibition against the exercise of First Amendment rights").

217. *Id.* at 147 (citing NAACP v. Alabama ex rel. Patterson, 357 U.S. 449 (1958)).

218. *Patterson*, 357 U.S. at 451.

219. *Id.* at 462.

The holding highlights an important concept: even if conduct by the state is not specifically directed at expression, it still can be in violation of the First Amendment if it has an incidental effect on speech or association—for example, through a chilling or silencing effect, or by creating reluctance to participate in constitutionally protected expression through fear of government action.[220] However, the chilling doctrine mandates proof of impact that a chilling effect actually occurred, whereas the Fourth Amendment only requires that a recognized privacy right will be infringed; thus, the standard for a First Amendment claim is higher.[221] Using First Amendment considerations to bolster the Fourth Amendment can help set a proper balance.

Numerous theories have evolved to explain how surveillance and a chilling effect are intertwined. One theory—popular with surveillance theorists and First Amendment scholars—of understanding potential effects of surveillance is British Philosopher Jeremy Bentham's "Panopticon" and French Philosopher Michel Foucault's interpretation.[222] Bentham's Panopticon was a utopian vision of a prison seeking to cure the ills of society: the prison architecture allowed inmates to be viewed by guards they could not see, making the prisoners aware that at any given moment they could be under scrutiny, thereby inducing them to change their behavior for fear of being under surveillance.[223]

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220. *Id.* at 462–63.

221. Patrick P. Garlinger, *Privacy, Free Speech, and the Patriot Act: First and Fourth Amendment Limits on National Security Letters*, 84 N.Y.U. L. REV. 1105, 1129–30 (2009).

222. *See* David Lyon, *The Search for Surveillance Theories*, *in* THEORIZING SURVEILLANCE: THE PANOPTICON AND BEYOND 3 (David Lyon ed., 2006); NISSENBAUM, *supra* note 25, at 82–85; A. Michael Froomkin, *The Death of Privacy?*, 52 STAN. L. REV. 1461, 1463 (2000); Matthew Lynch, *Closing the Orwellian Loophole: The Present Constitutionality of Big Brother and the Potential for a First Amendment Cure*, 5 FIRST. AMEND. L. REV. 234, 269–70 (2007).

223. Kevin D. Haggerty, *Tear Down the Walls: On Demolishing the Panopticon*, *in* THEORIZING SURVEILLANCE: THE PANOPTICON AND BEYOND 23, 25 (David Lyon ed., 2006). Foucault's mediation on the Panopticon explains how surveillance can shape the behavior of society stating that its function is:

> To induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power. So to arrange things that the surveillance is permanent in its effects, even if it is discontinuous in its action; that the perfection of power should tend to render its actual exercise unnecessary; that this architectural apparatus should be a machine for creating and sustaining a power relation

The Panopticon has led to a whole subset of surveillance theory that seeks to determine and understand the effects of unseen surveillance on society.[224] This subset of surveillance theory posits that the inability to know if you are being watched at any given time forces you to change your behavior all of the time to conform to the will of the watcher.[225] While impractical to cover all permutations and interpretations of the Panopticon, in this Note the concept that surveillance affects behavior and can potentially lead to a loss of autonomy is a relevant consideration in analyzing the chilling effects of surveillance. The modern theory of panopticism posits that "[p]anopticism . . . leads to a high degree of self-censorship and self-regulation, further enforced by the law,"[226] and that "the loss of subjective privacy conditions the human mind toward submission, and unpredictable surveillance can be just as effective in controlling human behavior as visible locks and chains."[227] While the power of the Panopticon may be subject to debate, it is nevertheless relevant as a theory in understanding how surveillance can affect the autonomy of individuals.[228]

Civil law provides another context in which to examine surveillance and its actual effects on autonomy; take, for example, stalking. Recently, a state court found that a man's use of a GPS to track his wife was relevant to

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> independent of the person who exercises it; in short, that the inmates should be caught up in a power situation of which they themselves are the bearers.

MICHEL FOUCAULT, DISCIPLINE AND PUNISH: THE BIRTH OF THE PRISON 195, 201 (Alan Sheridan trans., Vintage Books 1977) (1979).

224. *See* Haggerty, *supra* note 223, at 23, 25; David Lyon, *Surveillance Studies: Understanding Visibility, Mobility, and Phenetic Fix,* 1 SURVEILLANCE & SOC'Y 1, 2–3 (2002).

225. *Id.*

226. Lokman Tsui, *The Panopticon as the Antithesis of a Space of Freedom: Control and Regulation of the Internet in China*, 17 CHINA INFO. 65 (2003).

227. Lynch, *supra* note 222, at 270.

228. There are not many studies analyzing the actual negative effects of surveillance in terms of the Panopticon, particularly in a law enforcement context. However, one study of surveillance in the workplace found that workers who believed they were under surveillance felt less privacy, less certain about their role in the workplace, experienced lower self-esteem, and communicated less in the workplace. *See* Carl Botan, *Communication Work and Electronic Surveillance: A Model for Predicting Panoptic Effects*, 63 COMMC'N MONOGRAPHS 293, 293–94 (1996).

his conviction for stalking.[229] The court found "no significant difference" between using a GPS to track someone's movements and physically following him or her.[230] The court acknowledged that the use of the GPS on the defendant's wife had the actual effect of instilling fear in her "by demonstrating that [the defendant] had the ability to know where she was and what she was doing at any time."[231] Furthermore, because the wife believed her husband was watching her (even though she did not initially know it was through GPS) she suffered actual physical and emotional distress: she had stomach pains, insomnia, and anxiety.[232] Moreover, she changed her behavior by taking alternate routes to destinations and leaving work to go to a safe house.[233] Arguably, the fear and anxiety caused by her husband's constant surveillance of her activities diminished her personal autonomy.[234]

Clearly, this lack of autonomy reverberates with such First Amendment considerations as deterring people from lawful and innocent activities that we as a free society have the right to pursue, solely to avoid the appearance of impropriety.[235] The First Amendment is highly concerned with a "marketplace of ideas" to help promote the interests of democracy.[236] Autonomy is essential to utilizing this right.[237] The small body of social science research aimed at the impact of surveillance tends to show that there can be psychological and behavioral impacts that result from such surveillance.[238]

GPS surveillance falls into the broader category of surveillance, and current technology allows for a myriad of ways to gather data and, therefore, monitor someone through digital means. For example, video camera surveillance, cell phone monitoring, vehicle monitoring, electronic

229. Mark Tunick, *Privacy in Public Places: Do GPS and Video Surveillance Provide Plain Views?*, 35 SOC. THEORY & PRAC. 597, 611 (2009) (citing People v. Sullivan, 53 P.3d 1181 (Colo. App. 2002)).

230. *Sullivan*, 53 P.3d at 1184.

231. *Id.*

232. *Id.* at 1185.

233. *Id.*

234. Tunick, *supra* note 229, at 612.

235. *Id.* at 613–14.

236. CHEMERINSKY, *supra* note 173, at 927 (citing Abrams v. United States, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting)).

237. *Id.* at 929.

238. *See* SLOBOGIN, *supra* note 199, at 95; Botan, *supra* note 228, at 293–94.

communications monitoring, online tracking, biometric tracking, satellite monitoring (where GPS fits in), and x-ray body scanning[239] are some of the many ways in which the government could perform both small- and large-scale surveillance on individuals. As shown in practice and theory, surveillance, including GPS surveillance, can rob individuals of their autonomy and prevent them from engaging in a lawful activity.[240] This could cause the "chilling effect" that the Supreme Court has recognized can implicate the First Amendment.[241] Such a chilling effect was indeed recognized by Justice Sotomayor in her concurring opinion in the *Jones* case, where she explicitly acknowledges that knowing the government could be watching dampens "associational and expressive freedoms." She adds:

> And the Government's unrestrained power to assemble data that reveal private aspects of identity is susceptible to abuse. The net result is that GPS monitoring—by making available at a relatively low cost such a substantial quantum of intimate information about any person whom the Government, in its unfettered discretion, chooses to track—may "alter the relationship between citizen and government in a way that is inimical to democratic society."[242]

One commentator, A. Michael Froomkin, a law professor at the University of Miami School of law, has noted that the use of GPS can supplement other types of data-based surveillance (hereinafter referred to as "dataveillance") in the government's use of profiling, which has become increasingly common in the post-Columbine, post-9/11 world.[243] This type of profiling may also lead to a chilling effect. Froomkin notes, "[i]n a world where . . . profiling is common, who will dare act in a way that will cause red flags to fly."[244] This ties into the fact that part of what makes new technology so invasive is its ability to aggregate data, store data, and transfer data—all of which are capabilities of GPS tracking devices.

239. *See* Froomkin, *supra* note 222, at 1473–1501.
240. Tunick, *supra* note 229, at 612–14.
241. *Id.*
242. United States v. Jones, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring) (quoting United States v. Cuevas-Perez, 640 F.3d 272, 285 (7th Cir. 2011) (Flaum, J., concurring)).
243. Froomkin, *supra* note 222, at 1471.
244. *Id.*

Froomkin is not the only one worried about aggregation of information with new technology and its potential effect on First Amendment rights. New York University Law Professor Katharine Strandburg also looks to some areas where the Fourth Amendment provides only weak checks for law enforcement: government access to domestic call traffic data (non-content based data that reveals information about times, dates, and numbers called), Internet traffic data (such as ISP logs, which contain data regarding e-mail senders and recipients, instant messages, chat room usage, and Internet surfing),[245] and the government's ability to analyze the data through computer technology in order to "map" networks of associations.[246] Strandburg refers to this analysis as "relational surveillance," and explains that it has "great potential to chill [an] increasingly important emergent association [among networks of individuals associating only or primarily electronically], particularly for those who are members of, or associate with members of, religious or political minority groups."[247] She explains:

> Extensive government relational surveillance using network analysis data mining techniques poses a serious threat to liberty because of its potential to chill unpopular, yet legitimate, association, and also because of the chilling of legitimate association caused by possibly incorrect assessment of both legitimate and illegitimate associational membership. The potential for similar "guilt by association" to chill protected association is quite evident in the response to increased surveillance and targeting of Muslims and Arabs following the September 11, 2001 tragedy.[248]

Should this fear seem too farfetched, this concept of unwarranted, long-term surveillance is particularly relevant today. For example, the FBI put under surveillance a group of Muslims in California without their knowledge.[249] In fact, they claim that the FBI violated their First Amendment rights when an FBI informant performed "indiscriminate surveillance" on mosque-goers, without actual knowledge that any

245. Katherine J. Strandburg, *Freedom of Association in a Networked World: First Amendment Regulation of Relational Surveillance*, 49 B.C. L. REV. 741, 755 (2008).

246. *See id.* at 756.

247. *Id.* at 745.

248. *Id.* at 794.

249. Patrik Jonsson, *Muslim Group Sues FBI over Surveillance at California Mosques*, THE CHRISTIAN SCIENCE MONITOR, Feb. 23, 2011, http://www.csmonitor.com/USA/Justice/2011/0223/Muslim-group-sues-FBI-over-surveillance-at-California-mosques.

particular individual was suspected of criminal activity.[250] Tying this back to relational surveillance, GPS technology, and the potential for First Amendment chilling effects, take the curious case of Yasir Afifi, an Arab-American college student who got quite a surprise when he took his Ford Lincoln LS into a mechanic's shop for a routine oil change.[251] Attached to the bottom of his car was a GPS tracking device, an "Orion Guardian ST820," to be exact, a device sold exclusively to law enforcement.[252] Even more surprising was when the FBI showed up at his door to retrieve their expensive device and to speak with him.[253]

During this exchange it was clear that the FBI had been doing far more than just following Afifi's movements in his vehicle: the agents showed him a blog post written by a friend that they had printed out, commented to him about a restaurant where he and his girlfriend frequented, congratulated him on a new job, and referred to a business trip he was planning.[254] Six months before, the FBI had approached Afifi and sought to question him. He agreed—if he could have an attorney present.[255] He did not hear back until after he discovered the device on his car.[256]

Unsurprisingly, Afifi is suing the FBI.[257] Two aspects of the suit, however, are noteworthy. First, Afifi's suit appears to be constructed on First Amendment grounds, not Fourth Amendment grounds. It states that the "[d]efendant's unlawful intrusions into Afifi's life—initiated as the result of his heritage, lawful associations, and disclosed political views—create an objective chill on Afifi's First Amendment activities."[258] This is

250. *Id*.

251. Kim Zetter, *Caught Spying on Student, FBI Demands GPS Tracker Back*, WIRED, Oct. 7, 2010, http://www.wired.com/threatlevel/2010/10/fbi-tracking-device/.

252. *Id*. As previously discussed, after the *Jones* decision, law enforcement will no longer be able to place such a device on an individual's vehicle. *See* United States v. Jones, 132 S. Ct. 945 (2012). The ensuing discussion and the analysis of the chilling effect, however, remains relevant in situations not explicitly protected by the *Jones* decision where GPS surveillance can be utilized without the need to physical place a tracking device.

253. *Id*.

254. *Id*.

255. *Id*.

256. *Id*.

257. Ryan J. Reilly, *Arab-American Student Sues FBI over GPS Tracking Device*, TPMMUCKRAKER.COM (Mar. 3, 2011, 8:30 AM), http://tpmmuckraker.talkingpointsmemo.com /2011/03/arab-american_sues_fbi_over_gps_tracking_device.php.

258. *Id*.

the exact chilling effect that commentators and this Note believe is created by the indiscriminate use of surveillance techniques. Secondly, this chill appears to be directly attached to the use of the tracking device, as the suit seeks:

> [A]n injunction instructing the feds to refrain from attaching a tracking device to Afifi's vehicle; abandon[ment of] the policy of using tracking devices without a search warrant; expunge[ment] of all records collected without a warrant; and [an] award [of] damages to Afifi for the "emotional pain, suffering, reputational harm, economic injury, and anxiety caused by Defendant's unlawful actions."[259]

This implies Afifi may be less concerned with other tracking the FBI was doing (cell phone data, Internet tracking) and most disturbed by the warrantless use of the tracking device.

By holding that one's movements in a vehicle over an extended period of time are not protected by the Fourth Amendment, the Court signals that law enforcement could be monitoring any one of us at any time. This signal renders it impossible for one to ever travel in a vehicle without fear of being under surveillance, which can have an actual impact on the ability to associate freely under the First Amendment.

The dilemma then becomes how can the First Amendment complement the Fourth Amendment? Some commentators argue that potential chilling effects of surveillance itself can trigger distinct First Amendment concerns, particularly with regard to membership in unpopular groups.[260] Others argue that issues regarding free speech and First Amendment could strengthen the Fourth Amendment doctrine by giving courts a rationale for a reasonable expectation of privacy in information that, at first blush, is not directly related to communication.[261]

This Note leans toward the second suggestion. The first alternative may be too difficult a fit for First Amendment jurisprudence, particularly because the use of GPS tracking is generally not related to speech, despite its potential chilling effects on protected activity and associations. Instead, courts should interpret the Fourth Amendment's reasonable expectation of privacy with an eye toward First Amendment principles when analyzing

259. *Id.*
260. *See* Lynch, *supra* note 222, at 235; Strandburg, *supra* note 245.
261. *See* Garlinger, *supra* note 221, at 1105.

GPS tracking cases.[262] If First Amendment rights are implicated by an instance of GPS surveillance, then a presumption should arise that the act violates reasonable expectations of privacy. Then, actions that would have fallen below the requirements to necessitate the finding of a search under a bare Fourth Amendment analysis will be more closely scrutinized for a heightened degree of protection for individuals in our current technological society.[263]

C. NEITHER THE FIRST AMENDMENT NOR SUBSTANTIVE DUE PROCESS ALONE PROTECTS AGAINST WARRANTLESS GPS TRACKING

As free-standing doctrines, substantive due process and First Amendment jurisprudence are unlikely to provide sufficient safeguards against warrantless GPS tracking. This Note does not suggest that they should act as independent barriers against police ability to use GPS to track vehicles. Rather, this Note argues that both doctrines, when viewed in light of their history and connection to the Fourth Amendment, facilitate a better understanding of what society is willing to recognize as a reasonable expectation of privacy under the *Katz* test. They are also useful tools in seeing, on a practical level, how GPS tracking entails more than simply observing what an individual does on public roads. Each of these considerations, when incorporated into a Fourth Amendment analysis, may be the push needed to render police action—which under a current Fourth Amendment analysis might not be considered a search—into an action that is considered a search, thereby triggering the need to obtain a warrant before the search takes place.

V. APPLICATION

Because the defendant in *Maynard*/*Jones* won his case, and the facts of *Maynard*/*Jones* and *Pineda-Moreno* are so similar, this Section applies the two strengthened Fourth Amendment tests to *Pineda-Moreno*'s case.[264]

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262. A similar approach was suggested by Garlinger with regard to the Fourth Amendment and National Security Letters. *Id.* at 1141–42.

263. *Id.* at 1144–45.

264. Under the *Jones* analysis, the police action in *Pineda-Moreno* would clearly be unconstitutional due to the physical intrusion of placing the tracking device on the vehicle and its subsequent use to track Pineda-Moreno's location over an extended period of time. As this Note has explained, however, the constitutionality of warrantless GPS tracking

A. FOURTH AMENDMENT + SUBSTANTIVE DUE PROCESS

Under this test, due to the invasiveness of prolonged GPS tracking and the importance of substantive due process considerations, the use of GPS devices should trigger a heightened standard of consideration when determining if its use violates reasonable expectations of privacy. This, in turn, can be resolved through substantive balancing—weighing the privacy interest and avoidance of undue interference into citizens' lives, against the government's interest in the use of the tracking device.

Here, the invasiveness on Pineda-Moreno's privacy was dramatic: every single movement he made in his vehicle over four months was not only precisely tracked for review, but also was digitally recorded.[265] The amount of data gleaned about his life was significant. The information gathered was not only about illegal actions but also consisted of many innocent actions, journeys that the police had no reason to believe had any relation to illegal activity.[266]

In contrast, the burden on law enforcement to obtain a warrant is minimal and a routine part of police procedure. While police are given flexibility to proceed without a warrant in such exigent circumstances as the hot pursuit of an individual suspected of committing a crime,[267] prevention of a threat that an individual poses to public safety,[268] preservation of evidence,[269] or assistance of persons who are seriously injured or threatened with such injury,[270] none of these situations arose in Pineda-Moreno's case.[271]

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performed without a prior trespass remains unsettled. For purposes of the subsequent analysis, assume a case where no such prior trespass had occurred.

265. United States v. Pineda-Moreno, 591 F.2d 1212, 1213–14 (9th Cir. 2010).

266. *See id.*

267. *See* Warden, Md. Penitentiary v. Hayden, 387 U.S. 294, 294–95 (1967).

268. *See* Welsh v. Wisconsin, 466 U.S. 740, 741 (1984).

269. *See id.*

270. Brigham City, Utah v. Stuart, 547 U.S. 398, 400 (2006).

271. Most of these considerations tend not be a serious issue regarding GPS tracking on vehicles. There is generally a lesser risk that the evidence will immediately disappear or be destroyed because tracking aims to establish patterns over an extended period of time, which in turn implies that law enforcement officials have little fear that the evidence will be lost in the short run. Furthermore, because GPS tracking is extremely difficult to detect, there is a lesser risk that suspects will become aware of it and dispose of evidence. There has yet to be a case where the police used GPS tracking to locate someone, protect some who is injured or may be injured, or prevent some kind of large, imminent threat to society.

Furthermore, while the war on drugs in this country is serious, the prosecution of a marijuana grower should not be the highest priority for law enforcement, particularly because in this case, at least, there likely was no serious, immediate threat to persons or society.

Based on this analysis, Pineda-Moreno's right to, and reasonable expectation of, privacy in the aggregation of his movements in his vehicle over an extended period of time outweighs the government's interest in determining whether he was involved in marijuana production. Therefore, the police action constituted a search, and they should have acquired a warrant based upon probable cause before tracking his location.

B. FOURTH AMENDMENT + FIRST AMENDMENT

In Pineda-Moreno's case, First Amendment considerations do not appear to have been implicated. Police action did not seem to affect Pineda-Moreno's First Amendment freedoms in any meaningful way and appear unrelated to any lawful associational considerations in his life.[272]

Hot pursuit has not yet been brought up as a reason for GPS tracking, and it seems counterintuitive for police to track a vehicle belonging to someone of whom they are in pursuit instead of waiting near the vehicle to apprehend the individual in person. Currently, none of these exigent circumstance rationales are seriously implied in the warrantless GPS tracking cases that courts have dealt with.

However, that does not mean that these exigent circumstances would never be applicable to a GPS tracking situation. For example, the officers might be worried that they have no other way of tracking a suspect who intends to move or flee in a vehicle in the immediate future. Or it is possible that the police would need to place a tracking device to try to discover the location of a kidnapping victim or a bomb. In this case the balance may be tipped toward the needs of law enforcement. There is, however, a solution that would prevent the warrantless long term tracking of an individual. The officer could place the tracking device and begin the monitoring, and then immediately seek out a warrant. If the warrant is granted, the police may continue tracking the individual for as long as the warrant allows. However, if the warrant is not granted, the officer could turn off the tracking capabilities or simply stop tracking the individual. This Note does not argue that the harm comes from the placement of the tracking device, but from the long term warrantless tracking of the individual—the monitoring of their movements and amalgamation of information gleaned from an individual's movements that make up the mosaic of the individual's life. This solution gives officers some flexibility should there be exigent circumstances, without allowing long term continuous warrantless tracking.

272. While the First Amendment is not particularly relevant to Pineda-Moreno's case, the combined Fourth Amendment and First Amendment analysis described in Section III.B. would surely apply to Afifi's situation and others like his, who are targeted for surveillance based on their race, family, and background. Here, because First Amendment issues are

VI. CONCLUSION

When the Supreme Court assessed the issue of warrantless GPS tracking in *Jones*, it declined to address the issue of warrantless GPS tracking beyond that which occurs subsequent to a trespassory physical intrusion.[273] Thus, society remains vulnerable to extensive warrantless GPS surveillance through technology such as the GPS capabilities of our cellular phones or vehicles. Thus, when determining the constitutionality of warrantless GPS tracking through the use of such technology that does not require as a prerequisite a physical intrusion, courts should examine the issue by accounting for substantive due process and First Amendment considerations when analyzing a defendant's reasonable expectation of privacy. When the Supreme Court held open the question of whether "dragnet type law enforcement" practices should be held to different constitutional principles, it is difficult to imagine what is more dragnet than the idea of police officers being able to electronically track an individual's vehicle for any reason, to follow his or her every movement, for an indefinite amount of time. Current Fourth Amendment doctrine is unable to protect against these intrusions. This Note has shown how substantive due process and the First Amendment can inform the Fourth Amendment to protect against modern privacy violating technologies.

implicated, there would be a heightened presumption that the use of the tracking device violated Afifi's reasonable expectation of privacy.

273. United States v. Jones, 132 S. Ct. 945, 954 (2012) ("It may be that achieving the same result through electronic means, without an accompanying trespass, is an unconstitutional invasion of privacy, but the present case does not require us to answer that question.").