

Vehicular GPS Surveillance: The Death of Autonomy and Anonymity or a Variation on the Status Quo?

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I. INTRODUCTION

A healthy mistrust of government is engrained in our national psyche. From our days as a British colony, we have always been wary of expanding government, with a near reflexive resistance to any infringement upon personal autonomy. The Fourth Amendment embodies this sentiment, erecting a legal fortress to protect our basic individual freedom: “The right of people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . . but upon probable cause”¹ This barrier, however formidable, has been eroded by an equally fundamental concern: the prosecution of crime. Throughout the twentieth century, rapidly evolving technology has defined a large part of the Fourth Amendment debate framed by these two considerations. The warrantless use of GPS tracking technology by law enforcement is one of the latest developments and the subject of recent debate.

Relatively cheap, commercially available GPS vehicle tracking devices can be purchased for under \$250 and can track vehicle movements for weeks at a time.² Such technology provides a

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1. U.S. CONST. amend. IV.

2. *GPS Tracking Key Pro*, LAND AIR SEA, <http://www.landairsea.com/gps-tracking-systems/gps-tracking.html> (last visited Mar. 5, 2012). The \$250 estimate represents the price for a typical consumer model. See *LandAirSea Tracking Key Pro Micro GPS Passive Tracking System*, J&R, http://www.jr.com/landairsea/pe/LNA_LAS1507/ (last visited on Apr. 9, 2012);

powerful yet cost effective means for law enforcement to track the location of a suspect. It requires little in the sense of upfront expense or in ongoing maintenance efforts. Moreover, GPS tracking devices are now relatively small,³ making them difficult to detect in addition to being more effective and less visible than an officer physically trailing a suspect on foot or in a squad car.

The Supreme Court in *United States v. Jones* recently—and unanimously—declared unconstitutional the use of GPS tracking devices to monitor vehicle movements by warrantlessly *installing* such devices on vehicles.⁴ The unanimity of the decision, however, is incredibly misleading since the Fourth Amendment doctrine underpinning the majority’s opinion and the two concurrences are *vastly* different, leading to incredibly different consequences by extension.

The opinion of the Court written by Justice Antonin Scalia, on the one hand, focuses on the trespassory nature of installing an external GPS to a vehicle, effectively holding that vehicles are “effects” or constitutionally protected areas under the Search and Seizure Clause; therefore a warrant is required before tracking devices can be installed.⁵ Justice Scalia’s reasoning—while appealing for its clarity—is nothing more than an analytical punt which avoids the thorny issues posed by GPS tracking. As Justice Samuel Alito asserts in his concurrence, it is not the government’s use of personal property (in a very technical and limited sense) that is most concerning about GPS tracking, but it is *the information gathered* by such GPS tracking that is truly troublesome.⁶ Moreover, Justice Alito incisively points out that the majority’s narrow holding can be factually distinguished in a very trivial fashion, further undermining the strength of their reasoning.⁷

GPS Tracking Systems, LAND AIR SEA, <http://www.landairsea.com/gps-tracking-systems/index.html> (last visited Mar. 5, 2012).

3. See *GPS Tracking Key Pro*, *supra* note 2.

4. *United States v. Jones*, 132 S. Ct. 945, 949, 954 (2012) (reserving the question of warrantless GPS tracking where physical installation of a GPS device is not required).

5. *Id.* at 949, 952–53 (stating that “[b]y attaching the device to the Jeep, officers encroached on a protected area,” and referring to vehicles as “effects”).

6. See *id.* at 957–58, 961 (Alito, J., concurring).

7. *Id.* at 961–62 (reasoning that the holding of the majority would be different if (a) the device had been installed with the permission of the person possessing the car, who had then

As Justice Alito contends, the primary concern about continuous tracking should be the inferences that can be made through the aggregation of location data:

[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. A person who knows all of another's travels can deduce whether he is a weekly church goer, a heavy drinker, a regular at the gym, an unfaithful husband, an outpatient receiving medical treatment, an associate of particular individuals or political groups—and not just one such fact about a person, but all such facts.⁸

As illustrated above, long-term monitoring can reveal deeply personal information that many would prefer and expect to remain private. As an autonomy-loving society, allowing such monitoring to continue unchecked—even for well-intentioned law enforcement reasons—could significantly affect our personal independence and the government's relationship with its individual citizens.⁹

What is the solution to firmly address the problems of long-term monitoring? This Note posits that reasonable suspicion as a threshold requirement for all warrantless vehicular GPS tracking, with a strict two-week time limitation, would squarely and uniformly address this Fourth Amendment issue. Substantially more lax than probable cause, this low level of justification would be sufficient to curb concerns about capricious or even ubiquitous tracking, while still enabling law enforcement to utilize GPS early in investigations, maximizing its usefulness. Furthermore, the relatively short time limitation will minimize intrusion upon individual privacy.

Part II of this Note outlines the pertinent Fourth amendment history both to show how the search warrant requirement is

given possession to the defendant or (b) the police accessed a tracking system that was previously installed on the vehicle).

8. *Maynard v. United States*, 615 F.3d 544 (D.C. Cir. 2010), *rev'd sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012). The aggregation of individual pieces of information to form a more comprehensive picture is commonly referred to as the “mosaic theory.” *E.g., Id.* at 562; David E. Pozen, *The Mosaic Theory, National Security, and the Freedom of Information Act*, 115 *YALE L.J.* 628, 630 (2005).

9. *See infra* Part III.C.

constitutionally framed and to address pertinent decisions regarding tracking technology. However, because *Jones* fails to address the important Fourth Amendment implications of GPS tracking, it is easily distinguishable, and this Note's analysis of *Jones* focuses on the more helpful contributions of Justice Samuel Alito's and Justice Sonia Sotomayor's concurrences.

Part III analyzes the holdings of pertinent cases and scholarship to illustrate that GPS tracking does not have a clear solution either in favor of requiring a warrant based upon probable cause or unchecked, warrantless tracking. Finally, Part IV argues that a compromise between the two opposing views—allowing a tracking device to be used without a warrant based upon reasonable suspicion for a limited time—would accommodate the competing concerns surrounding this issue.

II. FOURTH AMENDMENT BACKGROUND

The Fourth Amendment provides that the “right of the people to be secure . . . against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause . . . particularly describing the place to be searched, and the persons or things to be seized.”¹⁰ The crux of Fourth Amendment “unreasonable search” jurisprudence typically rests upon the action’s classification as a “search” alone: warrantless searches are, as a general matter, unconstitutional.¹¹ Furthermore, the Supreme Court has long held that

10. U.S. CONST. amend. IV.

11. *Katz v. United States*, 389 U.S. 347, 357 (1967); *see also* *Agnello v. United States*, 269 U.S. 20, 33 (1925). Such a presumption of unreasonableness can be rebutted given that a recognized exception applies. *See, e.g.*, *Carroll v. United States*, 267 U.S. 132 (1925) (holding that warrantless automobile searches are constitutionally permissible because of their inherent mobility).

The justifications for the presumption against the constitutionality of warrantless searches are primarily two-fold. First, the Court wanted to avoid post hoc evaluations of whether probable cause existed prior to a search out of the fear that such determinations would be colored by the evidence obtained *during* the search. *Katz*, 389 U.S. at 358 (citation omitted). Second, judges provide a more neutral assessment of the evidence supporting probable cause than law enforcement, who have a vested interest in carrying out the search. *Id.*; *see also* *United States v. Jeffers*, 342 U.S. 48, 51 (1951).

Moreover, the presumption of unreasonableness for warrantless searches may also justify the Court’s focus on the word “search” in the Fourth Amendment, as opposed to whether a search is “unreasonable.” Justice Scalia has indicated that by focusing on whether police

in instances where the government executes searches in violation of the Fourth Amendment, the evidence obtained from such a search may not be used as direct evidence of guilt at trial.¹²

A. What Is a Fourth Amendment Search, and How Should It Be Analyzed?

With its decision in *Katz v. United States*,¹³ the Supreme Court articulated the primary test for Fourth Amendment search jurisprudence. *Katz* held that the warrantless wiretap of a conversation held inside a public telephone booth was unconstitutional,¹⁴ famously reasoning that the Constitution “protects people, not places.”¹⁵ However, it was Justice John Harlan’s concurrence that provided one of the definitive tests for determining when Fourth Amendment protection exists: “[T]here is a twofold requirement, first that a person have exhibited [a subjective] expectation of privacy, and second, that the expectation be one that society is prepared to recognize as ‘reasonable.’”¹⁶

That being said, *Katz* implicitly recognized two different conceptions of privacy rights: considering privacy as both an individual right and as a condition to be obtained.¹⁷ On the condition

activity constitutes a “search,” the Court can better allow for warrantless police activity that would intuitively qualify as “searching” but still preserves the general rule that warrantless searches are unconstitutional. *Kyllo v. United States*, 533 U.S. 27, 32 (2001).

12. *E.g.*, *United States v. Havens*, 446 U.S. 620, 624–25 (1980); *Weeks v. United States*, 232 U.S. 383, 394 (1914). Interestingly, government violations of the Fourth Amendment have not always excluded the evidence obtained. Until 1914, courts were not required to exclude evidence that ran afoul of the Fourth Amendment’s protection against “unreasonable searches and seizures.” *See Weeks*, 232 U.S. at 390. Instead, civil liability provided the primary deterrent for law enforcement to avoid warrantless searches. *See United States v. Garcia*, 474 F.3d 994, 996 (7th Cir. 2007) (citations omitted) (stating that the framers were more concerned that warrants would protect law enforcement from tort suits, as opposed to championing warrants as protections against law enforcement abuse).

13. 389 U.S. 347 (1967).

14. *Id.* at 359.

15. *Id.* at 351. The Court previously ruled that such wiretapping was constitutional since the phone booth and wires were publically accessible. *Olmstead v. United States*, 277 U.S. 438 (1928).

16. *Katz*, 389 U.S. at 361 (Harlan, J., concurring).

17. This distinction is illustrated in the following example:

One way to clarify this distinction is to think of a case in which the term “privacy” is used in a [conditional] way: “When I was getting dressed at the doctor’s office the

side, the Court repeatedly highlighted that the Defendant did not expose his conversation to the public; thus his conversation should be entitled to Fourth Amendment protection.¹⁸ The Court also played up the rights-based understanding of privacy and emphasized the “vital role that the public telephone has come to play in private communication,” communication that is separate and apart from public exposure.¹⁹ When considering Fourth Amendment jurisprudence, it is useful to break the Court’s prior decisions and analysis into these two different camps as opposed to using the murky “expectation of privacy” test.

B. Defining the Condition of Privacy

Giving information to a third party enables law enforcement to obtain that information through the third party without conducting a search.²⁰ In *United States v. Miller*,²¹ the Court held that the voluntary

other day, I was in a room with nice thick walls and a heavy door—I had some measure of privacy.” Here it seems that the meaning is [conditional]—the person is reporting [her actual state of privacy]. Had someone breached this zone, the person might have said, “You should not be here. Please respect my privacy!” In this latter case, [a right to privacy] would be stressed.

ADAM D. MOORE, *PRIVACY RIGHTS: MORAL AND LEGAL FOUNDATIONS* 14 (2010). It should be noted that in his original example, Moore is actually discussing two different, but related, subjects. In his first example, he makes the distinction between the normative and non-normative categories of privacy. *Id.* at 14–15. However, his example is equally illuminating for the rights versus condition contrast.

18. *Katz*, 389 U.S. at 351.

19. *Id.* at 352.

20. In response to the judicial decisions below, Congress enacted legislation limiting the authority of law enforcement officers to access phone number information without a warrant. For example, under the Electronic Communications Privacy Act of 1986, Pub. L. No. 99-508, § 2709, 100 Stat. 1848, 1867 (1986), Congress required that law enforcement show a court that relevant information is likely to be uncovered. JON L. MILLS, *PRIVACY: THE LOST RIGHT* 49 (2008) (citing Christopher Slobogin, *Transaction Surveillance by the Government*, 75 *MISS. L.J.* 139 (2005)). Following *Miller v. United States*, Congress provided even more stringent protection for bank records. Under the Right to Financial Privacy Act of 1978, Pub. L. No. 95-630, §§ 1102(5), 1104–06, 92 Stat. 3641, 3697–3700 (1978), Congress required that law enforcement write a “formal written request” or obtain one of the following: “voluntary authorization by the customer; administrative summons; search [warrant]; [or] judicial subpoena.” *Id.* (citing George B. Trubow & Dennis L. Hudson, *The Right to Financial Privacy Act of 1978: New Protection from Federal Intrusion*, 12 *J. MARSHALL J. PRAC. & PROC.* 487, 494 (1979)).

21. 425 U.S. 435 (1976).

conveyance of financial information to a bank enabled the government to access that information without a warrant,²² because those giving it up “tak[e] the risk . . . that the information will be conveyed by that [third] person to the Government.”²³ Similarly, the Court has held that the warrantless installation of a device to record phone numbers dialed from a specific phone and the warrantless recording of conversations by a police informant were constitutional because the defendants in both cases voluntarily conveyed the information at issue to another party.²⁴

In addition to the voluntary conveyance of information, the Court considers access important as well: the public exposure of information weighs against the classification of police activity as a search. For example, the Supreme Court held in *California v. Ciraolo*²⁵ that aerial surveillance of property is not a search because “[a]ny member of the public flying in this airspace who glanced down could have seen everything that these officers observed.”²⁶

22. *Id.* at 443.

23. *Id.*

24. *Smith v. Maryland*, 442 U.S. 735, 743–44 (1979); *United States v. White*, 401 U.S. 745, 749, 752 (1971) (citing *Hoffa v. United States*, 385 U.S. 293 (1966); *Lewis v. United States*, 385 U.S. 206 (1966)).

Notably, Justice Stewart proffered two arguments in his *Smith* dissent that are applicable to GPS surveillance. First, he reasoned that the numbers themselves are “an integral part of the telephonic communication” that “easily could reveal the identities of the persons and the places called . . . [revealing] the most intimate details of a person’s life.” *Smith*, 442 U.S. at 747–48 (Stewart, J., dissenting). Second, he observed: “I doubt there are any who would be happy to have broadcast to the world a list of the local or long distance numbers they have called.” *Id.* at 748.

In cases where conversations were recorded by an undercover operative, the Court took the position that even though the defendant may subjectively believe that the information he divulges in a conversation will not fall into government hands, that belief is irrelevant; the surrender of the information to a third party was the constitutionally dispositive factor. *White*, 401 U.S. at 749 (quoting *Hoffa*, 395 U.S. at 302).

25. 476 U.S. 207 (1986).

26. *Id.* at 213–14; *see also* *Dow Chem. Co. v. United States*, 476 U.S. 227 (1986). As the D.C. Circuit later contended, however, it could be argued that the *Ciraolo* decision is limited in applicability. *United States v. Maynard*, 615 F.3d 544, 559 (2010), *rev’d sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012). Indeed, the *Ciraolo* Court emphasized the routine nature of air travel: “[W]here private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect [constitutional protection].” *Ciraolo*, 476 U.S. at 215 (emphasis added). However, earlier in *Ciraolo*, the Court disposed of the primary issue without addressing the frequency of public flight, indicating that consideration of the frequency of flight is analytically relevant, but not fundamental. *Id.* at 214–15. Finding a strong frequency limitation in *Ciraolo* is suspect for another reason as well. In *California v. Greenwood*, 486

Moreover, the Court decreed in *California v. Greenwood*²⁷ that one does not have a reasonable expectation of privacy in garbage placed street-side for pickup because of the possibility that the public would become privy to its contents.²⁸ More recently, however, in *Bond v. United States*²⁹ the Court held that even though carry-on baggage in an overhead compartment was exposed to movement and control by the public (i.e. the other passengers), the squeezing baggage inspection of a police officer constituted a search.³⁰

Related to a condition-based inquiry is the sensory augmentation doctrine. Essentially, if law enforcement uses technology that is sufficiently similar to the natural capabilities of a police officer without such technology, the investigation is constitutional. For example, in *Texas v. Brown*,³¹ the Court held that the use of a flashlight to illuminate the interior of a car did not violate the Fourth Amendment, likening its use to using binoculars, which merely enhances eyesight.³² This doctrine is discussed at greater length *infra* Part II.E.³³

C. Defining Privacy as a Matter of Right

Since *Katz*, the Court has specifically recognized certain instances where the right to privacy exists, regardless of whether the condition of privacy can actually be obtained. Most notably, the Court has vigorously restricted government access to information about activities occurring inside the home. In *Kyllo v. United States*,³⁴ the

U.S. 35 (1988), the Court emphasized that a possibility of observation is the dispositive factor, not the probability that something will actually be observed. *See id.* at 41 (stating that *Ciraolo* turned on the possibility that anyone flying over could have seen what law enforcement observed, not the popularity of flight).

27. 486 U.S. 35 (1988).

28. *Id.* at 40–41. The Court also found it significant that the garbage would be surrendered to a third party (the garbage man) who could have sorted through the refuse or allowed the police to access it. *Id.*

29. 529 U.S. 334 (2000).

30. *Id.* at 338–39. In so holding, the Court specifically considered the intrusive nature of physical inspection and the decision of the passengers to keep carry-on luggage nearby. *Id.* at 337–38.

31. 460 U.S. 730 (1983).

32. *Id.* at 739–40 (quoting *United States v. Lee*, 274 U.S. 559, 563 (1927)).

33. *See infra* text accompanying notes 53–55.

34. 533 U.S. 27 (2001).

Court ruled that the use of equipment to detect heat emitted from the home was a search,³⁵ reasoning that as a “constitutionally protected area,”³⁶ “all details [about the interior of the home] are intimate details.”³⁷ In *United States v. Karo*,³⁸ the Court similarly ruled that the government could not track the location of objects within a home without a warrant.³⁹

Privacy rights can limit public surveillance based on the type or intimate nature of information revealed as well. In *Dow Chemical Co. v. United States*,⁴⁰ the Court recognized that the constitutional analysis could vary depending upon the level of detail depicted in aerial photographs.⁴¹ More importantly, *Katz* emphasized the “vital role that the public telephone has come to play in private communication” when holding that phone tapping constituted a search.⁴²

D. Multi-Factor Analysis

The Court took yet another approach in *Oliver v. United States*,⁴³ looking to a combination of factors bearing on both condition and rights-based conceptions of privacy to affirm that an investigation upon wide swaths of land outside the immediate area of a home was not a search.⁴⁴ The Court considered not only the general inability of field owners to exclude others and the ease with which the public can access the fields but also the lack of “intimate activity” that occurs in the area.⁴⁵ Further, the Court noted the lack of policy justifications for

35. *Id.* at 41.

36. *Id.* at 34 (quoting *Silverman v. United States*, 365 U.S. 505 (1961)).

37. *Id.* at 37.

38. 468 U.S. 705 (1984).

39. *Id.* at 714-16.

40. 476 U.S. 227 (1986).

41. *Id.* at 238-39.

42. *Katz v. United States*, 389 U.S. 347, 352 (1967).

43. 466 U.S. 170 (1984).

44. *Id.* at 178-79. Note the relationship between tortious activity and constitutional protections lurking underneath the *Oliver* rationale. Implicit within the Court’s holding is that trespass on behalf of the government *does not* necessarily qualify as a search.

45. *Oliver*, 466 U.S. at 179.

protection under the Fourth Amendment and the ease with which the same information could be obtained through flyovers.⁴⁶

E. The Humble Beginnings of Vehicle Tracking: Beepers

While the decisions above give a taste of pertinent Fourth Amendment jurisprudence, most do not directly address the issues presented by tracking technology. The Supreme Court first to analyzed the use of tracking technology by law enforcement nearly thirty years ago in *United States v. Knotts*.⁴⁷ *Knotts* involved “beeper” technology, which does not pinpoint or record location data, unlike the conventional understanding of tracking technology today. Instead, beepers emit radio signals in a periodic fashion, requiring that a receiver be within a certain distance in order to register the signal and track the device's location.⁴⁸ In *Knotts*, law enforcement officers used a beeper to obtain evidence that led to a search warrant, which culminated in Defendant Knotts' conviction.⁴⁹ On appeal, the Court ruled that the warrantless use of such tracking devices was constitutional.⁵⁰

The Court arrived at its conclusion in part because it found visual surveillance to be indistinguishable from beeper use. By emphasizing law enforcement's limited use of the beeper, the Court reasoned that

46. *Id.*

47. 460 U.S. 276 (1983).

48. *See id.* at 277.

49. *Id.* at 279. The facts underlying *Knotts* are standard fare for tracking decisions. One defendant, Armstrong, bought chemicals that could be used for manufacturing drugs and delivered them to a co-defendant, Petschen. *Id.* at 278. Without a warrant, law enforcement officers placed a beeper inside one of the containers of chemicals being bought by Armstrong, which was subsequently placed in Petschen's vehicle. *Id.* at 277–78. The beeper was installed with consent of the retailer. *Id.* at 278. While following Petschen, the officers cut off their visual surveillance of Petschen in reaction to his evasive maneuvers; law enforcement officers lost the beeper's signal as well. *Id.* at 278. After approximately one hour, law enforcement regained contact with the beeper, eventually using it to identify Knotts' cabin as the ultimate destination. *Id.* at 278. The police then relied on the beeper to locate the destination of Petschen and the chemicals—a cabin occupied by the third codefendant, Knotts. *Id.* at 278.

The record did not reflect that the beeper had been used after location of the cabin, so the Court was not presented with concerns over tracking items contained within the home, *id.* at 278–79, which would give rise to other constitutional implications. *See United States v. Karo*, 468 U.S. 705 (1984) (holding that using a beeper to detect its location within a home is unconstitutional).

50. *Knotts*, 460 U.S. at 285.

the information obtained through the beeper could easily have been revealed through visual surveillance.⁵¹ Therefore, warrantless beeper tracking was constitutional because “a person traveling . . . on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”⁵²

The Court further buttressed this conclusion, holding that if the technology at issue is “augmenting the sensory faculties bestowed upon [law enforcement officers] at birth,” then it is constitutional.⁵³ Under this rule, the Court analogized the beeper’s improvement on tracking technology—the ability to track location without line-of-sight contact—to the magnification provided by telescopes and the illumination provided by searchlights, which are undoubtedly constitutional.⁵⁴ The Court declared, “We have never equated police efficiency with unconstitutionality, and we decline to do so now.”⁵⁵

It is also noteworthy that *Knotts* alleged that beepers would allow continuous surveillance of “any citizen” without any judiciary oversight⁵⁶—an argument that was somewhat ahead of its time, as it resonates with great force in the area of GPS tracking.⁵⁷ However, the

51. *Id.* at 281–82.

52. *Id.* at 281. *But see* *Kyllo v. United States*, 533 U.S. 27, 35 n.2 (2001) (reasoning that “[t]he fact that equivalent information could sometimes be obtained by other means does not make lawful the use of means that violate the Fourth Amendment.”). This *Kyllo* quote could be read as disposing of the sensory augmentation analysis once and for all. However, *Kyllo* simply set an upper limitation on the sensory augmentation doctrine, stating that it was not dispositive over every other consideration, such as the character of the information revealed.

Additionally, following *Knotts*, Congress enacted a statute addressing “mobile tracking devices.” 18 U.S.C.S. § 3117 (LexisNexis 2010). Oddly enough, as the D.C. Circuit indicated in *United States v. Gbemisola*, 225 F.3d 753 (2000), unlike the statute barring the use of evidence obtained from an unauthorized wiretap, § 3117 does not bar the use of evidence obtained without authorization, despite specifying that such authorization may be provided. *Id.* at 758 (citing 18 U.S.C.S. §§ 2515, 3117 (LexisNexis 2010)). Therefore, the statute does not seem to have a substantial effect on tracking device usage in law enforcement, since sanctions do not follow from unauthorized tracking.

53. *Knotts*, 460 U.S. at 282–83. The Court also analogized the use of beepers to the phone number recording device in *Smith v. Maryland*, 442 U.S. 735 (1979), reasoning that since the device did not change the constitutional inquiry, neither should the beeper. *Knotts*, 460 U.S. at 283. The court also cited *Smith* for the related proposition that simply because machines perform tasks that used to be required of humans, the constitutional analysis does not change. *Id.*

54. *See Knotts*, 460 U.S. at 282–83.

55. *Id.* at 284.

56. *Id.* at 283 (quoting Brief for Respondent at 9, *Knotts*, 460 U.S. 276 (No. 81-1802)).

57. *See infra* text accompanying notes 121–22, 141–42.

Court dismissed this concern based on the contemporary law enforcement use of beepers, stating that “the reality hardly suggests abuse.”⁵⁸ The Court did not disregard *Knotts*’ concerns entirely, though, and explicitly reserved judgment on “dragnet-type law enforcement practices” such as “twenty-four hour surveillance of any citizen of this country” because it recognized that unique constitutional concerns could arise in such situations.⁵⁹

F. The Latest and Greatest: GPS Tracking Technology

The advent of cheap GPS technology changes the tracking game significantly. Information can be obtained from GPS devices independent of any contemporaneous law enforcement action because GPS tracking devices can record location information over the long-term.⁶⁰ This stands in stark contrast to beepers, which require law enforcement to actively be within range of the beeper in order to track the signals emitted.⁶¹

In *United States v. Garcia*,⁶² the Seventh Circuit erected one pole of the debate, holding that the use of GPS tracking devices does not require a warrant.⁶³ To begin, the court cited *Knotts*, stating that tracking movements on a public street does not constitute a search under the Fourth Amendment.⁶⁴ It continued by analogizing GPS surveillance to video surveillance of public places or satellite imaging, stating that the “only difference is that in the imaging case nothing touches the vehicle But it is a distinction without any

58. *Knotts*, 460 U.S. at 283 (quoting *Zurcher v. Stanford Daily*, 436 U.S. 547, 566 (1978)).

59. *Id.* at 284 (quoting in second quotation Brief for Respondent at 9, *United States v. Knotts*, 460 U.S. 276 (1983) (No. 81-1802)). In fact, the most debated portion of *Knotts* concerns the potential abuse of warrantless beeper tracking. *See infra* note 71.

60. *See United States v. Garcia*, 474 F.3d 994, 995 (7th Cir. 2007) (describing police use of a “memory tracking device” to determine a vehicle’s travel history). That said, GPS devices can, of course, emit live-action tracking of one’s location as well. *Victoria GPS Tracking System*, LAND AIR SEA, <http://www.landairsea.com/gps-tracking-systems/gps-tracking-victoria.html> (last visited Mar. 5, 2012).

61. *See Knotts*, 460 U.S. at 281.

62. 474 F.3d 994 (7th Cir. 2007).

63. *See id.* at 997-98. Other circuits held similarly prior to *United States v. Jones*. *See, e.g., United States v. Marquez*, 605 F.3d 604, 610 (8th Cir. 2010); *United States v. Pineda-Moreno*, 591 F.3d 1212 (9th Cir. 2010), *vacated and remanded*, 132 S. Ct. 1533 (2012).

64. *Garcia*, 474 F.3d at 996.

practical difference.”⁶⁵ Expounding further, the court held that GPS technology, like beepers, is merely a substitute for following a car on a public street, which “is unequivocally *not* a search.”⁶⁶ Despite having disposed of individual warrantless tracking as constitutional, the court reserved the question of mass GPS surveillance by emphasizing that law enforcement currently uses GPS tracking only upon suspects, not random citizens.⁶⁷

The D.C. Circuit in *United States v. Maynard*⁶⁸ (the appellate decision preceding *United States v. Jones*⁶⁹), on the other hand, held that extended warrantless GPS surveillance is a search and is unconstitutional by extension.⁷⁰ After distinguishing *Knotts*,⁷¹ the

65. *Id.* at 997.

66. *Id.* at 997. The court reasoned that this “substitution” makes GPS tracking distinguishable from *Kyllo*, *see supra* text accompanying notes 34–39, because the technology in *Kyllo* is a substitute for a kind of search that is governed by the Fourth Amendment. *Garcia*, 474 F.3d at 997.

67. *Id.* at 998. The scope of *Garcia*’s holding is somewhat ambiguous. On one hand, the tone throughout the opinion is quite cut-and-dry in favor of constitutionality. For example the Seventh Circuit stated that the “only difference [between satellite imaging and GPS tracking] is that in the imaging case nothing touches the vehicle. . . . A distinction without any practical difference.” *Id.* at 997. On the other hand, there is somewhat more hesitant language at the end of the opinion: “[Law enforcement] do GPS tracking only when they have a suspect in their sights. [Law enforcement in this case] had, of course, abundant grounds for suspecting the defendant.” *Id.* at 998.

Some have interpreted this language to mean that the Seventh Circuit only intended to hold that GPS tracking was constitutional upon reasonable suspicion. *See, e.g.*, *United States v. Marquez*, 605 F.3d 604, 610 (8th Cir. 2010). While the reasonable suspicion standard is a satisfactory solution given the issues surrounding GPS tracking, *see infra* text accompanying notes 153–61, the context in which the Seventh Circuit’s statements were made undermines this interpretation. Their statements regarding suspicion come amid repeated references to “mass surveillance,” *Garcia*, 474 F.3d at 998, and thus were meant to ease concerns about such a turn of events.

68. 615 F.3d 544 (D.C. Cir. 2010), *rev’d sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012).

69. *See Jones*, 132 S. Ct. at 949.

70. *Id.* at 568.

71. To distinguish itself from *Knotts*, the court reasoned that the Supreme Court explicitly reserved the issue of extended vehicle tracking. By stating that the Court would address “dragnet-type law enforcement” when the issue arose, *see supra* text accompanying note 59, the D.C. Circuit argued that the Court was responding directly to *Knotts*’ allegation that warrantless beeper tracking would allow limitless intrusion upon the affairs of individual citizens, and therefore the Court did not simply reserve the concern of mass surveillance. *Maynard*, 615 F.3d at 556–67.

This interpretation is not universally accepted. For example, the government in *Maynard* argued that the “dragnet-type” surveillance referred to in *Knotts* was meant to address *mass* surveillance and did not concern use upon an individual suspect. *Maynard*, 615 F.3d at 556; *see*

court in *Maynard* analyzed the degree to which movements are exposed to the public (and thus not entitled to Fourth Amendment protection). First, the court considered the probability that a single individual would actually witness every movement of a person over an extended period of time.⁷² Holding that this consideration is only defined by “what a reasonable person expects another might actually do,” the court concluded that the chance that a single person would see the entirety of one’s movements over an extended period of time is almost nil.⁷³ Therefore, an individual’s movements over a period of time are not exposed to the public.⁷⁴

Second, the court addressed whether the exposure of individual journeys to the public constituted exposure of all journeys in combination.⁷⁵ Once again, the court reasoned that because

also Tarik N. Jallad, *Old Answers to New Questions: GPS Surveillance and the Unwarranted Need for Warrants*, 11 N.C. J.L. & TECH. 351, 371–72 (2010).

The decision in *Garcia* could be read as endorsing this second viewpoint, because the Seventh Circuit primarily justified its ruling in terms of analogy to other, constitutional means of surveillance, as opposed to starting its analysis anew. See *supra* text accompanying notes 62–67. However, the D.C. Circuit in *Maynard* reasoned that the Defendant in *Garcia* explicitly conceded that his movements would be covered by *Knotts* and thus the Seventh Circuit did not have the occasion to reconsider *Knotts*. *Maynard*, 615 F.3d at 557 (quoting Brief for Petitioner at 22, *United States v. Garcia*, 474 F.3d 994 (2007) (No. 06-2741)).

The interpretation of the Government in *Maynard* seems dubious, given the conventional definitions for “dragnet.” As defined in the American Heritage Dictionary, a “dragnet” is “a system of coordinated procedures to catch wanted persons such as criminals.” THE AMERICAN HERITAGE COLLEGE DICTIONARY 426 (4th ed. 2004). In the Webster’s International Dictionary, dragnet is defined as “a network of measures for apprehension (as of criminals).” WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 684 (3d ed. 1993). Most importantly though, the majority of the Court in *Jones* indicated that the proper interpretation of the “dragnet” phrase in *Knotts* was meant to encompass the surveillance of individuals. See *United States v. Jones*, 132 S. Ct. 945, 952 n.6 (2012) (referring to “dragnet” surveillance as the type made possible in the *Jones* case).

72. *Maynard*, 615 F.3d at 558–59.

73. *Id.* at 559–60 (citing *Bond v. United States*, 529 U.S. 334 (2000); *Florida v. Riley*, 488 U.S. 445 (1989); *California v. Greenwood*, 486 U.S. 35 (1988); *California v. Ciraolo*, 476 U.S. 207 (1986); *United States v. Gbemisola*, 225 F.3d 753 (D.C. Cir. 2000)).

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

75. *Id.* at 558, 560. The D.C. Circuit’s precedential support for this facet of its analysis is rather weak. Although it does cite a case in which the Supreme Court held that a collection of related information reveals different information than the individual parts, *Dep’t of Justice v. Nat’l Reporters Comm.*, 489 U.S. 749 (1989) (holding that while a person’s individual crimes were part of the public record, a person’s “rap sheet” listing all such offenses was not), the D.C. Circuit contended that *Smith v. Maryland*, 442 U.S. 735 (1979), recognized this proposition in the Fourth Amendment context. *Maynard*, 615 F.3d at 561. This argument is unfounded. In *Smith*, all phone numbers dialed were exposed to a single party—the phone company. *Smith*,

individuals do not expect anyone to record all their movements over an extended time, such movements are not inherently public.⁷⁶ Moreover, in reaching its conclusion, the court emphasized that “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.”⁷⁷

Third, the court addressed the analogy of GPS tracking to visual surveillance, reasoning that underpinned both *Garcia* and *Knotts*.⁷⁸ After reasoning that prolonged visual surveillance is generally beyond the capabilities of law enforcement,⁷⁹ the court ultimately declined to address the constitutionality of long-term visual surveillance.⁸⁰ The court reasoned that the precise issue was not in front of the court because GPS presents a different means of attaining location data than does visual tracking.⁸¹

Finally, the court directly addressed the Defendant’s reasonable expectation of privacy from a rights-based perspective, aside from the condition of being exposed to the public.⁸² Initially, the court noted that the personal information revealed through such long-term surveillance reveals more intimate information than in other Supreme Court cases where Fourth Amendment protection was afforded based on the intimate nature of information alone.⁸³ Ultimately, however, after considering state legislation and other court decisions, the court concluded that individuals possessed expectation of privacy in their movements in the long-term.⁸⁴

442 U.S. at 743–45. Therefore, the Court was not presented with a fact pattern to make such a sum versus parts distinction.

76. *Maynard*, 615 F.3d at 563.

77. *Id.* at 562. The court continued to offer especially powerful illustrations of this principle: “[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.” *Id.* at 562.

78. *Id.* at 565.

79. *Id.*

80. *Id.* at 566.

81. *Id.*

82. *Id.* at 563.

83. *Id.* 563–64 (citing *Kyllo v. United States*, 533 U.S. 27 (2001); *Bond v. United States*, 529 U.S. 334 (2000); *Skinner v. Ry. Labor Execs’ Ass’n*, 489 U.S. 602 (1989); *Katz v. United States*, 389 U.S. 347 (1967)).

84. *Maynard*, 615 F.3d at 564–65.

Justice Alito's concurrence in *United States v. Jones* following the appeal of *Maynard* was somewhat narrower in scope than the D.C. Circuit's holding. After heavily criticizing the majority, Justice Alito reasoned that four weeks of continuous monitoring certainly exceeded what society was prepared to recognize as private.⁸⁵ However, he added a wrinkle to the Fourth Amendment analysis, channeling the sensory augmentation doctrine to account for the offense being investigated:

We . . . need not consider whether prolonged GPS monitoring in the context of investigations involving *extraordinary* offenses would similarly intrude on a constitutionally protected sphere of privacy. In such cases, long-term tracking might have been mounted using previously available techniques.⁸⁶

Justice Sotomayor, while agreeing with the majority opinion, presented another relevant issue: the chilling effect of tracking. She contended: "Awareness that the Government may be watching chills associational and expressive freedoms. . . . GPS monitoring . . . may alter the relationship between citizen and government in a way that is inimical to democratic society."⁸⁷

III. ANALYSIS

As is evidenced above, courts have not agreed on a single-tack approach to Fourth Amendment analysis. In fact, in *Oliver v. United States*,⁸⁸ the Court endorsed a multi-factor consideration to these issues: "No single factor determines whether an individual legitimately may claim under the Fourth Amendment that a place should be free of government intrusion not authorized by warrant."⁸⁹ This Note follows the Court's lead in *Oliver* and covers many applicable Fourth Amendment doctrines in an effort to pinpoint the

85. *United States v. Jones*, 132 S. Ct. 945, 964 (Alito, J., concurring).

86. *Id.* (emphasis added).

87. *Id.* at 956 (Sotomayor, J., concurring) (citations omitted) (internal quotation marks omitted).

88. 466 U.S. 170 (1984).

89. *Id.* at 177. Also recall that the Court considered a number of factors to reach its holding. *See supra* Part II.D.

most pertinent considerations surrounding GPS surveillance. Many issues must be considered: the likelihood a single civilian could become privy to the same information GPS gathers, a driver's control over the information about her vehicle's location, whether GPS can be characterized as mere enhancement of efficiency or sensory augmentation, the intimate nature of information divulged, and government need for GPS tracking as weighed against the social consequences of GPS tracking.

A. The Condition-Related Inquiries

1. Likelihood a Single Civilian Could Obtain Similar Location Information Unaided by Tracking Devices

Maynard's assessment that a third party would be unlikely to uncover the information recorded by GPS tracking devices is correct. The validity of *Maynard's* reasoning becomes readily apparent once the holding is tweaked to reflect a less stringent test that is more consistent with the "public exposure" logic in *Knotts*: the ease that one *can* lose a condition of privacy,⁹⁰ as opposed to whether others *will likely* cause that condition to be lost.⁹¹ To illustrate this point,

90. See *supra* note 17 for a discussion of the condition of privacy as contrasted to privacy as a right.

91. This distinction is not mere semantics. It is true that *Maynard* and a more recent Supreme Court decision couch their rules in terms of the probability that others will behave in a certain fashion. See *Bond v. United States*, 529 U.S. 334, 338–39 (2000) (regarding physical inspection of carry-on luggage); *Maynard*, 615 F.3d at 559–60. However, if *Knotts* is still to be considered good Fourth Amendment law for tracking cases, then the standard must center upon the ease of accessing the same information. The facts in *Knotts* quickly illustrate the necessity to make this distinction.

In *Knotts*, law enforcement followed Petschen for over one hundred miles, across state lines, likely changing highways multiple times, and ultimately ending up at a remote cabin outside a town of under 1,500 people. See *United States v. Knotts*, 460 U.S. 276, 278 (1983); Driving Directions from St. Paul, MN to Shell Lake, WI, GOOGLE MAPS, <http://maps.google.com> (last visited Mar. 5, 2012) (enter search term "St. Paul, MN to Shell Lake, WI"); SHELL LAKE, WISCONSIN, <http://www.shelllakewi.com> (last visited Mar. 5, 2012). Surely, no one should reasonably expect that a single person would see the entirety of a single trip like this. This is especially true considering the route taken in St. Paul, Minnesota to access the highway and the route taken off of the highway after nearing Knotts' cabin. (In fact, the likelihood of *anyone* seeing the *entirety* of a shorter trip seems quite unlikely as well.)

Based upon Petschen's remote destination and somewhat complicated route, it seems that the risk of anyone physically following someone like the suspect in *Knotts* is incredibly small.

consider the ease of obtaining all of the location information uncovered by GPS.⁹²

Even under the easier test, *Maynard* is correct: the likelihood that an individual could have all of her long-term movements actually uncovered without police involvement is incredibly small. Even ignoring the high possibility of being discovered, gathering the same information as a long-term GPS tracker would require continuous visual surveillance for weeks at a time. Such a dedicated effort to observe another is beyond the capabilities of nearly all civilians and indicates that GPS surveillance is a search. Thus, it naturally follows that because long-term surveillance is inherently difficult, the risk of someone successfully conducting such visual surveillance—the *Maynard* standard—is incredibly small.⁹³

2. Control of Location Information

The notion of personal control over information is crucial to Fourth Amendment analysis.⁹⁴ The cases that discuss control break the concept into two rough categories: cases where control of

Therefore, the logical foundation of the *Knotts* decision lies with the ease by which information can be uncovered, rather than the risk that someone will actually do so. *See also supra* note 26.

92. Both Sherry Colb and Ric Simmons show that the risk of losing information and the ease that such information can be obtained are different yet logically related concepts. Sherry Colb argues that in *Knotts*, *Greenwood*, and *Oliver*, “[T]he Court made the logical leap from the fact that it is ‘easy’ to victimize (and therefore risky to be in that person’s shoes) to the conclusion” that the police can access the same information. Sherry F. Colb, *What is a Search? Two Conceptual Flaws in Fourth Amendment Doctrine and Some Hints of a Remedy*, 55 STAN. L. REV. 119, 136–37 (2002). Simmons implicitly recognized this distinction while discussing the *Ciraolo* decision, reasoning that the Court “conflates what modern technology has made possible (which by itself does not change what society views as public or private) with how modern technology has changed society” by equating flyovers with aerial examinations. Ric Simmons, *From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies*, 53 HASTINGS L.J. 1303, 1333 (2002).

93. Disturbingly, a variation of extended observation in the United States is a relatively common occurrence: stalking. According to the Stalking Victim’s Center, 3.4 million people are stalked each year, with 11 percent of victims having been stalked for over five years, and 10 percent of victims having been stalked with the assistance of GPS tracking. *Stalking Facts*, STALKING RESOURCE CENTER, http://www.ncvc.org/src/main.aspx?dbID=DB_statistics195 (last visited Feb. 10, 2012) (citing Katrina Baum et al., *Stalking Victimization in the United States*, United States Dep’t of Justice: Office of Justice Programs (2009), available at <http://www.ncvc.org/SRC/AGP.Net/Components/DocumentViewer/Download.aspxnz?DocumentID=45862>).

94. *See supra* text accompanying notes 20–30.

information was directly given to a third party and cases where information was not *given* to others, but was available for the taking.⁹⁵

In the first category, where information was readily conveyed to a third party, the relinquishment of control completely nullified any expectation of privacy, no matter what information was revealed.⁹⁶ Those handing over the information “take[] the risk . . . that the information will be conveyed by that [third] person to the Government.”⁹⁷

Using external GPS tracking devices is not the same because as a general rule, individuals do not turn over logs of their vehicular movements to a third party. Even those with a GPS device or a safety system such as OnStar do not land in this category. The emphasis here is on the word “voluntary.” While it seems that most people understand that their movements *can* be tracked by cell phone technology, it does not appear that users of these systems understand their movements to *actually* be recorded unless they explicitly authorize third parties to do so.⁹⁸

Regarding the exposure facet, case law is inconsistent. In cases like *Greenwood* (the trash bag case), the lack of control over information completely determines whether police action is entitled to Fourth Amendment protection.⁹⁹ However, in other cases that are more analogous to GPS tracking, exposure acts only as a partial surrender of Fourth Amendment protection. For example, in *Knotts*,

95. See *supra* text accompanying notes 20–30. The discussion for the exposure element of control is very similar to the discussion regarding the likelihood of another obtaining the same information as GPS devices. However, the analysis for the former discusses the ability for another to *obtain* information, while the exposure discussion in this part covers the degree to which information is *given up* by a suspect—the two parts look at the dissemination of information from two different perspectives.

96. See *supra* text accompanying notes 20–24.

97. *United States v. Miller*, 425 U.S. 435, 443 (1976).

98. Although most users may not believe their location to be recorded—which is the constitutionally relevant consideration for the first category of the control factor—that does not mean that it is true. Even basic cell phones record location data for every call. Service providers record “the location of the antenna tower and, where applicable, which of the tower’s ‘faces’ carried a given call at its beginning and end and, inter alia, the time and date of a call.” *In re Application of the United States for an Order Directing a Provider of Elec. Comm’n Serv. to Disclose Records to the Gov’t*, 620 F.3d 304, 308 (3d Cir. 2010).

99. See *supra* notes 27–28 and accompanying text.

to reach the conclusion that one does not have any expectation of privacy in movements from point to point, the Court noted that activities involving cars generally are not thought to rise to the level of intimacy that requires Fourth Amendment protection,¹⁰⁰ in addition to reasoning that the driver “voluntarily conveyed” the details of his trip “to anyone who wanted to look.”¹⁰¹ Then, in *Oliver*, the Court considered the minimally intimate nature that the information obtained as well as the public’s ease of access to open fields.¹⁰² Lastly, and crucially, in *Dow Chemical Company*,¹⁰³ (an aerial photograph companion case to *Ciraolo*) the Court considered the level of detail provided by aerial photographs in addition to the fact that they were taken from public airspace.¹⁰⁴

Therefore, because vehicular location information is not given directly to a third party, the control factor is not dispositive. However, GPS surveillance is simply tracking one’s movements on public roads as examined from the perspective of the suspect. Whether considering a trip from home to the grocery store, or from the gynecologist’s office to Kids R Us, or the entirety of one’s vehicular movements over the course of a month, the driver’s relinquishment of control—independent of the actions of others—is exactly the same. The lack of complete control over information surrounding vehicle location indicates that GPS tracking should not be considered a search, and the 7th Circuit in *Garcia*¹⁰⁵ was on the right track.

3. Sensory Augmentation

The more readily a technology can be classified as merely “augmenting” the senses, the less likely the use of a technology will

100. *United States v. Knotts*, 460 U.S. 276, 281 (1983) (quoting *Cardwell v. Lewis*, 417 U.S. 583, 590 (1974) (plurality)) (“One has a lesser expectation of privacy in a motor vehicle because its function is transportation and it seldom serves as one’s residence or as the repository of personal effects.”).

101. *Id.*

102. *Oliver v. United States*, 466 U.S. 170, 179 (1984).

103. *Dow Chem. Co. v. United States*, 476 U.S. 227 (1986).

104. *Id.* at 238–39.

105. *See supra* text accompanying notes 62–67.

be classified as a search.¹⁰⁶ What exactly the court has meant by sense augmentation is quite difficult to peg down, however. On the one hand, the Court in *Knotts* declared that “[w]e have never equated police efficiency with unconstitutionality” and relied significantly on the fact that all of the information gathered through the beeper could have been obtained through visual surveillance.¹⁰⁷ *Garcia* utilized a similar analogy to visual surveillance.¹⁰⁸ Thus both *Knotts* and *Garcia* seem to indicate that if the information can theoretically be obtained through other means without infringing upon Fourth Amendment rights, then the use of the technology does not constitute a search. On the other hand, there is the implied standard underlying *Maynard*, which suggests that police would need to be practically capable of gathering such information without the sensory enhancement technology.¹⁰⁹

Justice Alito’s concurrence in *Jones* lands somewhere in the middle. He asked whether the offense would have garnered the attention required of law enforcement to conduct long-term, continuous surveillance in the absence of GPS tracking capabilities.¹¹⁰ While implicitly operating under the presumption that similar information could be obtained by non-electronic means,¹¹¹ Alito restricted the breadth of the sensory augmentation doctrine by requiring that law enforcement would actually be willing to invest the time and effort required to obtain similar information.¹¹²

106. See *supra* text accompanying notes 31–32, 53–55.

107. See *United States v. Knotts*, 460 U.S. 276, 281–85 (1983).

108. See *United States v. Garcia*, 474 F.3d 994, 997 (7th Cir. 2007).

109. The D.C. Circuit in *Maynard* did not explicitly address the issue of sensory augmentation analysis. However, the court compared visual surveillance and GPS tracking, alluding that there was no connection between the two because “practical considerations” severely limit the effectiveness of visual surveillance in comparison to GPS. *United States v. Maynard*, 615 F.3d 544, 565 (D.C. Cir. 2010), *rev’d sub nom. United States v. Jones*, 132 S. Ct. 945 (2012); see also text accompanying *supra* notes 78–81. This sort of comparison and conclusion follows the augmentation analysis suggested by the Court in *Knotts* and *Brown*. See text accompanying *supra* notes 31–32, 53–55.

110. *Jones*, 132 S. Ct. at 963–64 (Alito, J., concurring).

111. See *id.* at 964 (Alito, J., concurring) (discussing surveillance techniques that could have been used before the advent of GPS tracking which could possibly reveal the same information as GPS tracking).

112. *Id.* (stating that “society’s expectation has been that law enforcement . . . could not . . . secretly monitor and catalogue every single movement . . .” of a vehicle “*in the main*,” and that

Regardless of which sensory augmentation standard is correct, law enforcement is capable of *some* long-term surveillance, albeit on a shorter and less continuous basis than that afforded by GPS.¹¹³ For example, in *United States v. Rivera*,¹¹⁴ DEA agents conducted a nineteen-month investigation with repeated physical surveillance of several different suspects.¹¹⁵ And, in *United States v. Williams*,¹¹⁶ the Third Circuit encountered long-term surveillance:

Physical surveillance conducted *between December 1992 and April 1993* revealed that an individual took a pouch believed to contain numbers slips on a twice-daily basis from a gym located on Fifth Avenue to another location and then to the Foxcroft Road residence, where he would stay for up to one hour.¹¹⁷

As these two cases indicate, GPS surveillance is better characterized as increasing the efficiency of law enforcement rather than enabling otherwise unavailable information to be gathered. Therefore, at least pursuant to the investigation of some offenses,¹¹⁸ the augmentation factor should weigh against GPS surveillance being classified as a search.

long-term surveillance “might [be] mounted” during investigations of extraordinary offenses) (emphasis added).

113. The D.C. Circuit in *Maynard* suggests otherwise. *Maynard*, 615 F.3d at 565 (“[P]ractical considerations prevent visual surveillance from lasting very long. Continuous human surveillance for a week would require all the time and expense of several police officers [but] prolonged GPS monitoring is not similarly constrained.”).

114. *United States v. Rivera*, 527 F.3d 891 (9th Cir. 2008).

115. *Id.* at 901, 903.

116. *United States v. Williams*, 124 F.3d 411 (3d Cir. 1997).

117. *Id.* at 421 (emphasis added).

118. As stated above in Part II.F, Justice Alito’s concurrence in *Jones* throws a new facet into the sensory augmentation consideration by implying that he would consider whether a police department would be willing to gather the same kind of information through long-term non-GPS surveillance. *Jones*, 132 S. Ct. at 964 (Alito, J., concurring). *But see id.* at 954 (stating “[t]here is no precedent for the proposition that whether a search has occurred depends on the nature of the crime being investigated”). However, considering which offenses would be acceptable for warrantless GPS tracking is beyond the scope of this Note. Therefore, it is assumed—to the extent it is a relevant consideration—that the “extraordinary offense” threshold has been satisfied.

*B. The Rights-Based Inquiry: The Intimate Nature of Location Information*¹¹⁹

GPS tracking from a rights-based perspective focuses on the character of the information revealed. Simply put, the information gathered from watching a single trip versus a month or even week-long observation is fundamentally different. Aggregation gives rise to inferences that would not be possible from examining random, shorter trips. In *Maynard*, for example, the D.C. Circuit noted that prolonged surveillance is different from short-term surveillance because it reveals “what a person does repeatedly, what he does not do, and what he does ensemble.”¹²⁰ University of Maryland Law Professor Renee McDonald Hutchins also recognizes this concern. She reasons that the “question of constitutional protection turns on the quantity of information revealed” because the “collection of

119. While Part III.B primarily addresses the character of the information obtained through using GPS surveillance, there is another Fourth Amendment privacy right that could be implicated: privacy rights based upon location. As implied in *Kyllo*, the home is a “constitutionally protected area”; thus, any warrantless surveillance of activities of the home would constitute a Fourth Amendment search. *Kyllo v. United States*, 533 U.S. 27, 34 (2001) (quoting *Silverman v. United States*, 365 U.S. 505 (1961)). The constitutional protection given to the home extends to immediately surrounding areas, *Oliver v. United States*, 466 U.S. 170, 178 (1984), possibly even including driveways, see *United States v. Pineda-Moreno*, 591 F.3d 1212, 1215 (9th Cir. 2010), *vacated and remanded*, 132 S. Ct. 1533 (2012). Therefore, it would seem that monitoring a vehicle’s location while in an attached garage, much like the beeper in *Karo*, would violate the Fourth Amendment by providing information about the garage contents. See *United States v. Karo*, 468 U.S. 705, 719 (1984).

Even though warrantless GPS monitoring in such places would technically violate the Fourth Amendment, it is a violation without consequence. Intuitively speaking, it would seem that the primary benefit of GPS surveillance is to determine location, not to determine where an object remains. Therefore, because the illegally obtained evidence is generally only barred from being introduced as evidence of guilt, *United States v. Havens*, 446 U.S. 620, 624–28 (1980), and the government is unlikely to want use the evidence in question anyway, it is unlikely that these violations will have a large impact upon case proceedings. However, the “fruit of the poisonous tree” doctrine could possibly lead to significant exclusions if the information about an item remaining within the protected area has a close connection with (and is a but-for cause of) evidence being obtained by the police. *Hudson v. Michigan*, 547 U.S. 586, 592–93 (2006). That being said, information from GPS monitoring that is gathered after keeping tabs on a vehicle in a constitutionally protected area will not be excluded as a “fruit of the poisonous tree.” See *Karo*, 468 U.S. at 720 (holding that the illegal use of a beeper to locate objects within a house does not lead to the exclusion of information gained from monitoring after a beeper leaves the house).

120. *United States v. Maynard*, 615 F.3d 544, 562 (D.C. Cir. 2010), *rev’d sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012).

seemingly unexceptional data by the government may become objectionable by virtue of its sheer volume” as it could reveal personal information that may otherwise be unavailable.¹²¹ The part is distinct from the whole,¹²² and the intimacy analysis of long-term surveillance must center on all vehicular trips collectively.

That being said, is the sensitive character of this information really dispositive? The fact is, similar information is readily available to nearly anyone¹²³ and a wealth of personal information is already available from third party sources.¹²⁴ In fact, a prominent private industry has arisen with the purpose of making all kinds of personal information readily available, spanning the gamut from height and weight information to financial records and leisure activities.¹²⁵

Furthermore, camera surveillance on a scale that can rival GPS in aggregation capabilities is on the rise. For example, an area encompassing central London is famously referred to as the “ring of steel” since photographs are taken of every vehicle entering and

121. See Renee McDonald Hutchins, *Tied Up in Knotts? GPS Technology and the Fourth Amendment*, 55 UCLA L. REV. 409, 453–54, 457–58 (2007).

122. See also *supra* notes 75–77 and accompanying text.

123. In fact, some have expressed that privacy as a condition can no longer be attained. In 1999, the CEO of Sun Microsystems rather flippantly declared “You have zero privacy anyway. . . . Get over it.” JON L. MILLS, *PRIVACY: THE LOST RIGHT* 76 (2008) (quoting *Sun on Privacy: ‘Get Over It,’* WIRED (Jan. 26, 1999), <http://www.wired.com/politics/law/news/1999/01/17538>).

124. For example, according to Jon Mills in *Privacy: The Lost Right*, the credit card system has a second purpose aside from giving ready access to credit: selling the information about how that credit is used. MILLS, *supra* note 123, at 61. Moreover, Mills contends that “bank records can provide a ‘virtual current biography’ of the individual.” *Id.* at 65.

125. Laura K. Donohue, *Anglo-American Privacy and Surveillance*, 96 J. CRIM. L. & CRIMINOLOGY 1059, 1142 (2006). The amount of personal information available to both the government and third parties through commercial aggregation services is truly staggering:

[A]ge, income, real property data, children’s data. . . [,] education levels, occupation, height, weight, political affiliation, ethnicity, race, hobbies[,], net worth. . . [,] social security number, previous addresses . . . neighbors, driver records, current address and phone number, current employer . . . license plates/vehicle VIN numbers, unlisted numbers, beepers, cell phone numbers, fax numbers, bankruptcy and debtor filings, employment records, bank account balances and activity, stock purchases, corporate bank account, and credit card activity.

Id. at 1142 (citations omitted) (internal quotation marks omitted). Donahue also notes that these private aggregation companies have connections with the government as well as other private industry. *Id.*

exiting¹²⁶ and cameras fill the public areas inside.¹²⁷ New York has instituted similar surveillance programs, such as the Lower and Midtown Manhattan Security Initiative, which includes around 3,000 cameras.¹²⁸

As these examples suggest, our expectation of privacy can and does change with the advent of new technologies.¹²⁹ In his article, *From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies*,¹³⁰ Ric Simmons illustrates this concept effectively. Using electric lights as an example, he argues that in the eighteenth century, it would have been quite easy to argue that activities conducted outdoors, in the dark, would have been

126. See Marc Jonathan Blitz, *Video Surveillance and the Constitution of Public Space: Fitting the Fourth Amendment to a World that Tracks Image and Identity*, 82 TEX. L. REV. 1349, 1351 (2004).

127. *Id.*

128. *Press Release: Midtown Manhattan Security Initiative*, NYPD: NEW YORK'S FINEST (Sept. 20, 2010), http://www.nyc.gov/html/nypd/html/pr/pr_2010_midtown_security_initiative.shtml.

129. As is evident from the *Jones* oral arguments, the Supreme Court is currently struggling with how much technology has changed expectations of privacy. Justice Alito explicitly said, "I don't know what society expects and I think it's changing. Technology is changing people's expectations of privacy." Transcript of Oral Argument at 43, *United States v. Jones*, 132 S. Ct. 945 (2012) (No. 10-1259).

A 1993 study by Christopher Slobogin and Joseph Schumacher provides quantifiable evidence of the changing expectations of society. Among many things, the study measured two very comparable police actions: "[r]ummaging through [a] suitcase at [an] airport" and "[b]oarding a bus and asking to search luggage." Christopher Slobogin & Joseph E. Schumacher, *Reasonable Expectations of Privacy and Autonomy in Fourth Amendment Cases: An Empirical Look at 'Understandings Recognized and Permitted by Society'*, 42 DUKE L.J. 727, 738-39 (1993). Despite largely being facially analogous—both entail the search of luggage by law enforcement while the luggage owners are traveling—those that took the survey ranked the relative intrusiveness of each search quite differently. Among fifty hypothetical scenarios, the airport search ranked as the twenty-sixth least intrusive, while the bus search ranked forty-fourth least intrusive. *Id.* On a 1-100 scale, 100 being the most intrusive, the searches received mean intrusiveness ratings of 60.93 and 77.22, respectively. *Id.* at 736, 738.

A possible explanation for this disparity is expectation. Perhaps individuals did not react as strongly to airport searches because it was to be expected based on years of past experience, while a luggage search on a bus was not expected and thus elicited a stronger reaction.

Declining concern over privacy has more recently been measured in the internet context. According to a May 2010 poll, only 33 percent of internet users were concerned about their privacy while online, down from 40 percent in 2006. Mary Madden & Aaron Smith, *How People Monitor Their Identity and Search for Others Online*, PEW INTERNET (May 26, 2010), <http://www.pewinternet.org/Reports/2010/Reputation-Management/Summary-of-Findings.aspx>.

130. Simmons, *supra* note 92.

considered private.¹³¹ However, since electric lights are now so prevalent, such an argument would certainly fail today.¹³²

The Court has used this logic to highlight the effect that evolving expectations have upon search classification. Once again, Simmons points out that *Ciraolo* explicitly relied on the changing expectations of society; specifically, that the frequency with which flyovers occur does not allow for one to have a reasonable expectation of privacy concerning areas visible from above.¹³³ In *Kyllo*, the Court held that where “the Government uses a device that is not *in general public use*, to explore details of the home . . . previously unknowable without physical intrusion, the surveillance is a ‘search.’”¹³⁴ More recently in *Jones*, Justice Alito recognized this fact, stating “technology can change . . . expectations. Dramatic technological change may lead to periods in which popular expectations are in flux and may ultimately produce significant changes in popular attitudes.”¹³⁵

An examination of contemporary expectations alone weighs heavily in favor of GPS tracking not being classified as a search. The wide availability of personal information discussed above certainly diminishes the intimate character of the inferences that can be drawn from GPS data, and consequently indicates that warrantless vehicular GPS surveillance should be constitutional.¹³⁶ While it may seem quite repugnant to our current perceptions of privacy to allow for such surveillance, in reality we already relinquish a great deal of personal information. As we become a more integrated, public society, higher levels of privacy must be compromised in order to implicate the protections of the Fourth Amendment.¹³⁷

131. *Id.* at 1332.

132. *Id.*

133. *Id.* at 1332–33. See *supra* note 26 for a discussion of the “frequency” reasoning in *Ciraolo*.

134. *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (emphasis added).

135. *United States v. Jones*, 132 S. Ct. 945, 962 (2012).

136. See *supra* text accompanying notes 123–28.

137. This reasoning does have limits, however. In *Smith v. Maryland*, 442 U.S. 735 (1979), Justice Harold Blackmun proposed two different hypothetical scenarios that delineate such a ceiling. *Id.* at 740–41 n.5. First, Blackmun imagined that the federal government made an announcement that all homes would be subject to warrantless entry over national television. *Id.* Second, he posited a situation where an immigrant came from a nation where she was subject to surveillance that would be barred by the Fourth Amendment. *Id.* In these situations, Blackmun

C. Balancing Governmental and Social Costs

Having examined the GPS debate from many different legal angles, it is now necessary to look at what law enforcement and civil society have at stake from a policy perspective. The government's ability to attach GPS devices to vehicles on a whim would considerably increase the tracking capabilities of law enforcement. As quoted in *Maynard*, a former chief of the Los Angeles Police Department stated that physical surveillance was extremely expensive, and impossible in "the vast majority of cases."¹³⁸ Using a GPS receiver is easily concealed and relatively inexpensive, both in terms of manpower and actual expense of a GPS unit.¹³⁹ Accordingly, such technology greatly bolsters the surveillance capabilities of law enforcement, and would undoubtedly provide a wealth of information for obtaining warrants to authorize more intrusive searches.

These benefits are counterbalanced by several negative consequences of GPS tracking; Hutchins insightfully highlights two of these concerns. First, as Justice Sotomayor briefly discussed in *Jones*,¹⁴⁰ if unbridled use of such devices is allowed, then the relationship between the government and citizens could be severely altered:

[A]ll individuals will be forced to assume the risk that at any moment (and at all moments) the government may be keeping a continuous log of their whereabouts . . . the government will be entitled to check whether we spend our lunch hour at the gym, at the temple, or at the strip club.¹⁴¹

reasoned that the subjective expectations of society or of an individual would not be an appropriate measure of Fourth Amendment protection. *Id.* Instead, he contended that a normative inquiry would be required to uphold the Fourth Amendment and the privacy interests that inherently accompany it. *Id.*

138. See *United States v. Maynard*, 615 F.3d 544, 565 n.* (D.C. Cir. 2010), *rev'd sub nom.* *United States v. Jones*, 132 S. Ct. 945 (2012).

139. See *supra* notes 2–3 and accompanying text.

140. *United States v. Jones*, 132 S. Ct. 945, 956 (2012) (Sotomayor, J., concurring).

141. Hutchins, *supra* note 121, at 459.

Second, allowing warrantless GPS surveillance would run counter to one of the primary purposes behind the Bill of Rights: to maintain individual autonomy from government.¹⁴²

Hutchins' concerns should certainly be noted, but Steven Penney provides a more balanced look to the social costs and benefits of GPS tracking technology.¹⁴³ First, law enforcement tracking capabilities will take a serious hit based on the *Jones* decision.¹⁴⁴ While retrieving information about a suspect's past movements is possible through other means, Penney contends that electronic tracking is far more efficient than physical surveillance.¹⁴⁵ Thus greater privacy protection would require law enforcement to gather the same information through much more expensive methods before they can obtain a warrant for further investigation.¹⁴⁶ However, Penney weighs these advantages against concerns about the chilling effects of completely unregulated, warrantless tracking. He asserts that unchecked tracking would cause individuals to completely forego activities in which they would otherwise participate in order to avoid the scrutiny of law enforcement,¹⁴⁷ would lead to the monitoring of innocent behavior,¹⁴⁸ and could be used to harass minority or poverty-ridden communities.¹⁴⁹

142. *See id.* at 459 (quoting Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 400 (1974)).

143. Steven Penney, *Reasonable Expectations of Privacy and Novel Search Technologies: An Economic Approach*, 97 J. CRIM. L. & CRIMINOLOGY 477, 519–23 (2007).

144. *Id.* at 519–20.

145. *See id.*

146. *See id.*

147. *Id.* at 521–22.

148. *Id.* at 522.

149. *Id.* at 522–23. Penney's concern over the abuse of minorities is an extension of abuses with law enforcement profiling through on-the-street interaction, traffic stops, and video surveillance. *See id.* While the chilling effects of government surveillance are of paramount concern, courts in the immigration context make an interesting connection between surveillance and free will. In *United States v. Aguilar*, 883 F.2d 662 (9th Cir. 1989), for example, the court explicitly stated that an alien can be in constructive custody if under continuous surveillance immediately after entering the country. *See id.* at 681, 681 n.14. Indeed, the court reasoned that since the defendant had an opportunity to escape without detection, the defendant was not under constructive restraint. *See id.* at 683. To take this argument to its logical conclusion, the court is coupling individual autonomy with a lack of individualized government surveillance. Such immigration cases indicate that there may be more at stake in GPS surveillance than the chilling effect of a pervasive government overseer or freedom from the eyes of the government; some capacity of the freedom to act itself may be at risk as well.

IV. THE REASONABLE SOLUTION

The legality of GPS surveillance is truly in the gray. The risk that another could observe a single vehicle's movements over the course of weeks or even months is nearly nonexistent, but by traveling on public roads drivers relinquish control of information relating to the vehicle's location. Law enforcement is capable of some long-term surveillance, indicating that GPS is merely increasing law enforcement efficiency. However, such activity is prohibitively expensive and continuous visual surveillance over a period of more than a few days is very difficult, which indicates that GPS truly adds something wholly beyond the capabilities of law enforcement. The information gathered is sensitive, but in light of our increasingly public society such information has become increasingly available to the public. Because GPS is so efficient, it is incredibly useful to law enforcement, but the potential social costs associated with unbridled employment of GPS tracking are quite alarming.

What is to be done about this toss-up Fourth Amendment issue? Simple. Stop fighting the "unreasonable" term of the Fourth Amendment and embrace it. Instead of focusing upon the binary holdings that rule that an activity is or is not a search—which generally leads to the equally binary solutions of requiring a warrant with probable cause or no warrant with absolutely no requisite level of justification—the Court should analyze the *reasonableness* of GPS tracking. While the Court's jurisprudence typically focuses upon reasonableness after declaring police activity a search, reasonableness case law allows for solutions to be tailor-made to the issue at hand. Specifically, it allows the Court to adjust the requisite level of suspicion to engage in a given activity,¹⁵⁰ limit the scope of the

150. Under *Terry v. Ohio* and its progeny, the Court has held that police officers can warrantlessly stop civilians for a short time and/or frisk them in a limited fashion as long as they reasonably suspect that a suspect is (or has been) involved in criminal activity or that the suspect is armed and dangerous. *Terry v. Ohio*, 392 U.S. 1, 20, 30 (1968); *United States v. Hensley*, 469 U.S. 221, 228–29 (1985) (extending *Terry* to include investigating past criminal activity). This rule is based on the balance of the government's interests in investigating crime and ensuring officer safety against the individual's freedom from physical invasions and to conduct her daily affairs without interference. *Terry*, 392 U.S. at 24–27; *Hensley*, 469 U.S. at 229.

search,¹⁵¹ and dispose of judicial supervision before the Fourth Amendment activity is conducted.¹⁵²

The requisite level of justification required for police action is one facet to the reasonableness inquiry for which the Court typically uses two different standards.¹⁵³ The familiar “probable cause” standard requires the “known facts and circumstances [to be] sufficient to warrant a man of reasonable prudence in the belief that contraband or evidence of a crime will be found. . . .”¹⁵⁴ In contrast, a useful articulation of the lower, “reasonable suspicion” standard can be pared from the discussion in *United States v. Cortez*,¹⁵⁵ where the Court stated that reasonable suspicion requires “a particularized and objective basis for suspecting the particular person . . . of criminal activity,” based upon “common sense conclusions about human behavior . . . seen and weighed . . . by those versed in the field of law enforcement.”¹⁵⁶ Fundamentally, the reasonable suspicion standard requires objective reasons to believe that the suspect *may* be (or may have been) *involved* in criminal activity, but probable cause—the default under the Fourth Amendment¹⁵⁷—requires that a reasonable officer believe evidence relating to criminal activity *will* actually be *found*, constituting a much higher standard.¹⁵⁸

151. *See, e.g.*, *Minnesota v. Dickerson*, 508 U.S. 366, 378-79 (1993) (holding that “squeezing, sliding and otherwise manipulating the contents of the defendant’s pocket” that the officer already knew did not contain a weapon was unconstitutional because it exceeded the scope of a weapons frisk for safety reasons) (internal quotation marks omitted).

152. *See, e.g.*, *Florida v. White*, 526 U.S. 559, 566 (1999) (holding that the warrantless seizure of an automobile—*i.e.* a seizure without prior judicial approval—from a public area based upon probable cause was reasonable under the Fourth Amendment).

153. *See, e.g.*, *United States v. Brignoni-Ponce*, 422 U.S. 873, 882-83 (1975) (holding that for certain kinds of traffic stops with the border patrol, the circumstances of the stop must amount to the “reasonable suspicion” level of justification in order to satisfy the reasonableness requirement of the Fourth Amendment).

154. *Ornelas v. United States*, 517 U.S. 690, 696 (1996).

155. *United States v. Cortez*, 449 U.S. 411 (1981).

156. *See id.* at 417–18.

157. U.S. CONST. amend. IV (stating the “right of the people to be secure . . . against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause. . . .”).

158. *See also* *United States v. Sokolow*, 490 U.S. 1, 7 (1989) (stating that “the level of suspicion required for [a stop based upon reasonable suspicion] is obviously less demanding than that for probable cause.”).

Some legal commentators who have examined GPS tracking argue for the higher legal threshold of probable cause and an accompanying warrant. Hutchins, for example, advocates for a warrant to issue before any GPS tracking takes place, arguing that we should vigilantly fortify our right to privacy against the unnecessary encroachment of GPS surveillance.¹⁵⁹ Few would argue with Hutchins sentiment regarding our Fourth Amendment rights, but the probable cause standard establishes a needlessly high threshold of justification.

Reasonable suspicion, however, strikes a good balance.¹⁶⁰ Such a standard inherently constitutes recognition of the strong yet opposing legal doctrines swirling around GPS tracking. Further, as a lower standard of proof reasonable suspicion maintains a high degree of utility for this powerful tool by authorizing its use earlier in the investigative phase. Most importantly, by requiring some degree of justification, reasonable suspicion reduces chilling effects and potential abuses of GPS tracking because the vast majority of the population will not be involved in the activities that would pique the interests of law enforcement to the level of reasonable suspicion.¹⁶¹

159. Hutchins, *supra* note 121, at 460–65.

160. *See also* Penney, *supra* note 143, at 528–29.

161. A more subtle solution could be derived from existing statutory law surrounding wiretap authorization for those still uneasy about the relatively low reasonable suspicion standard. In statutes regulating federal wiretap authorizations, law enforcement is required to show that “normal investigative procedures have been tried and have failed or reasonably appear to be unlikely to succeed if tried or to be too dangerous” 18 U.S.C.S. § 2518(3)(c) (LexisNexis 2010). If law enforcement fails to carry that burden, then any evidence obtained is barred. 18 U.S.C.S. § 2515 (LexisNexis 2010). Courts have applied this statute to require “that wiretaps are not used as the initial step in a criminal investigation.” *United States v. Forrester*, 616 F.3d 929, 944 (9th Cir. 2010) (citing *United States v. Giordano*, 416 U.S. 505, 515 (1974)). But at least in the Ninth Circuit, it is not required that “officials . . . exhaust every conceivable investigative technique before obtaining a wiretap.” *Id.* at 944 (citing *United States v. Commito*, 918 F.2d 95, 98–99 (9th Cir. 1990); *United States v. Carneiro*, 861 F.2d 1171, 1178 (9th Cir. 1988)).

A similar requirement that law enforcement first try other methods of surveillance could be used in the context of GPS tracking. Such a prerequisite would provide more protection in many instances, as law enforcement would need to invest more time and effort in the case before jumping to GPS. By the same token, this standard would mitigate much of the cost-saving advantage that early use of GPS tracking would give law enforcement and would have little effect on civilians at large, as most would be adequately protected by the reasonable suspicion standard.

Second, rather than require a warrant, a time limitation for GPS monitoring should be imposed. The warrant requirement is meant to ensure that the government does not infringe upon privacy without proper justification.¹⁶² In other words, the warrant requirement is meant to minimize unjustified intrusions into private life. A two-week time limitation would assuage the concerns that arise from the lack of more careful pre-search examination. While this bright-line rule certainly would not provide the high level of protection as a neutral, detached magistrate, it would serve the same goal of limiting privacy encroachment by police officers. By restricting tracking time to two weeks, the rule will minimize the information accumulated by police officers (and therefore the unsettling information that can be derived therefrom), while also providing significant surveillance benefits for the government.¹⁶³

V. CONCLUSION

Fourth Amendment jurisprudence is ever-evolving. At times, courts have emphasized individual control of information and the risks posed by other civilian's conduct. At others, the courts have analogized between the conduct at issue and contemporary practices. Further, courts have measured societal interests against the gains of more lax constitutional protection. Indeed, defining "search" in a Fourth Amendment context is an amorphous, malleable concept.

The analytic considerations surrounding warrantless GPS tracking (aside from installing a device on a vehicle) may be muddled, but at this juncture the proper solution is clear: warrantless monitoring for a two-week time period based on reasonable suspicion. Academically, philosophically, and practically, this compromise can accommodate legal doctrine, maintain respect for the individual, and maximize the

162. See *California v. Acevedo*, 500 U.S. 565, 586, (1992) (Stevens, J., dissenting) (quoting *Johnson v. United States*, 333 U.S. 10, 13–14 (1948)).

163. It should be noted that Justice Scalia flatly rejected this kind of a bright-line rule under the Fourth Amendment during the *United States v. Jones* oral arguments. Transcript of Oral Argument at 51, *United States v. Jones*, 132 S. Ct. 945 (2012) (No. 10-1259). However, the Court has imposed a time limitation in the context of warrantless arrests—another Fourth Amendment issue. *County of Riverside v. McLaughlin*, 500 U.S. 44, 56 (1991) (holding that having a hearing to determine probable cause under forty-eight hours following a warrantless arrest is a presumptively reasonable delay).

benefits that technology has bestowed upon law enforcement. However, this solution requires a very precise balance—removing the protections of reasonable suspicion or hiking them to probable cause with a warrant would ignore the subtleties this issue presents and will miss the mark.

Unfettered GPS tracking could lead to a ubiquitous government presence in individual lives. Such a turn of events should certainly be prevented, but tracking must also be considered against a backdrop of security. Luckily, the two values Americans cherish most—individual autonomy and safety—can be accommodated.