CASE NOTE: CRIMINAL LAW—SEARCH AND SEIZURE—WARRANTLESS GPS VEHICLE TRACKING TO BE CONSIDERED BY SUPREME COURT *UNITED STATES V. PINEDA-MORENO*, *UNITED STATES V. MAYNARD*, AND *UNITED STATES V. JONES*

Jack Escobar*

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* J.D. Candidate, 2012, Sandra Day O'Connor College of Law at Arizona State University. I am eternally grateful to my faculty advisor, Professor Evelyn Cruz for her invaluable assistance.

INTRODUCTION

I. GENERAL BACKGROUND

Technology has reduced the amount of privacy we enjoy with respect to our personal information.[1] Various public and private databases store volumes of information about each of us, documenting nearly every aspect of our lives for interested parties to see in the future.[2] As one example, consider the emerging phenomenon known as "the Cloud," an abstract, interconnected network of databases that lets us retrieve our data from remote servers via our smartphones, laptops, and conventional computers.[3] This paper explores a particular area of this general technological upheaval: how the federal courts are responding to an increasing number of cases where police used the Global Positioning System ("GPS") to monitor suspects without obtaining a warrant beforehand.

A decision regarding warrantless GPS tracking is long overdue, given the near-ubiquity of GPS-based technology in everyday life. Cell phone users continuously relay their location to their service providers.[4] Rapid advances in GPS technology have made location-based services a part of daily life, in the form of phone-based navigation and popular applications like Foursquare.[5] Google is developing GPS-driven, self-operating cars,[6] and Nevada has already changed its laws to allow driverless cars on its roads.[7] Surveillance technology is also proliferating, partly because GPS tracking devices are small, cheap, and eliminate the need to have actual policemen conduct around-the-clock surveillance.[8] Police regularly use GPS devices to track U.S. citizens—many of whom are not currently suspected of any crime whatsoever.[9] In at least one case, the FBI secretly monitored a Muslim-American citizen who was on a government watch list but not involved in any kind of illicit activity, had nonetheless been placed on a confidential Government watchlist.[10] Because the police carefully guard the details

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[1] *Cf.* Daniel Tencer, *FBI Pressuring Google, Facebook to Allow "Back Doors" for Wiretapping*, Raw Story (Nov. 17, 2010, 9:47 PM), http://www.rawstory.com/rs/2010/11/fbi-pressuring-google-facebook-wiretapping.

[2] *See*, *e.g.*, H.R. REP. NO. 106-932, at 5 (2000), *available at* http://thomas.loc.gov/home/LegislativeData.php?&n=Reports&c=106 (search for Rep. No. 106-932; then click "PRIVACY IN THE DIGITAL AGE") (discussing Congress' concern about the vast amount of personal data available via the internet).

[3] Frank Gens, *Defining "Cloud Services" and "Cloud Computing"*, IDC Exchange (Sept. 23, 2008), http://blogs.idc.com/ie/?p=190.

[4] *In re U.S. for an Order Authorizing the Release of Historical Cell-Site Information*, 736 F.Supp.2d 578 (E.D.N.Y. 2010) (discussing the technical workings of GPS-enabled cell phones at length and approving the holding of *United States v. Maynard*); *see also* Renée Hutchins, *Tied Up in Knotts? GPS Technology and the Fourth Amendment*, 55 UCLA L. Rev. 409, 414-421 (2007).

[5] *See*, *e.g.*, Chad Catacchio, *Foursquare Now at 2.6 Million Users*, THE NEXT WEB (Dec. 8, 2010), http://thenextweb.com/location/2010/08/12/foursquare-now-at-2-6-million-users.

[6] John Markoff, *Smarter Than You Think: Google Cars Drive Themselves, in Traffic*, N.Y. TIMES, Oct. 9, 2010, http://www.nytimes.com/2010/10/10/science/10googleside.html.

[7] A.B. 511, 2011 Leg., 76th Sess. (Nev. 2011); Alex Knapp, *Nevada Passes Law Authorizing Driverless* Cars, FORBES (Jun. 22, 2011, 5:29 PM), http://blogs.forbes.com/alexknapp/2011/06/22/nevada-passes-law-authorizing-driverless-cars/.

[8] *See*, *e.g.*, United States Naval Observatory, *GPS INFO*, NAVAL OCEANOGRAPHY PORTAL, (Last visited Sept. 8, 2010), http://www.usno.navy.mil/USNO/time/gps/gps-info.

[9] *See*, *e.g.*, Ben Hubbard, *Police Turn to Secret Weapon: GPS Device*, Wash. Post, Aug. 13, 2010, http://www.washingtonpost.com/wp-dyn/content/article/2008/08/12/AR2008081203275.html.

[10] 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. In this incident, a 20-year-old California student named Yasir Afifi discovered a GPS tracker attached to the underside of his car, and was subsequently confronted by a half-dozen Government agents demanding the return of the device. Mr. Afifi has no criminal record and was apparently being followed for the sole reason that his recently-deceased father was an Islamic-American community leader.

of their investigatory methods, it is nearly impossible to tell how many similar instances of monitoring have gone unreported. In a few years, we will probably be monitored by default. More and more cars are coming factory-equipped with an event data recorder which preserves a host of variables (including speed and braking patterns) in the time leading up to a collision,[11] thus making default monitoring plausible, perhaps inevitable. It would be very easy and very inexpensive for manufacturers to include GPS data in an event data recorder's reports, which could in turn enable police to access that data for general investigatory purposes.

In theory, GPS monitoring is no more than an effective substitute for human surveillance; it simply replaces a team of detectives working around-the-clock shifts with a single palm-sized device.[12] However, in practice, it provides an omniscient, undetectable view of an individual's activities. A car equipped with a GPS transponder will generate a complete database of a vehicle's travels with pinpoint precision and, therefore, a personalized portrait of its owner. When the government knows where your personal vehicle is at all times, it can easily deduce whom you associate with and what kind of person you are. The police will know, for example, whether your car spends more time outside of churches or adult bookstores. Because tracking a citizen's vehicle is as simple as installing a nigh-undetectable receiver, GPS technology has effectively granted the police new surveillance powers without any action by the state or federal legislatures.

Our general right not to be followed everywhere we drive can no longer be protected by social customs and technological limitations. It is now an issue for the state and federal courts to decide. Whether we, as citizens, will continue to enjoy a *de facto* right to privacy in our travels, or if it will be "revealed" that such a right never legally existed, depends on the courts' understanding of the Fourth Amendment. Under the "reasonable expectation of privacy" test of *Katz v. United States*, the police only need a warrant to collect data from us if their activities violate a citizen's objectively reasonable subjective expectation of privacy, triggering a "search" or "seizure" within the meaning of the Fourth Amendment.[13] In other words, if we as a society currently expect that our cars will not typically be tracked from place to place, and if the individuals subjected to GPS surveillance have a personal expectation that they are not going to be continuously monitored by satellites in low Earth orbit, then the courts should hold that the Fourth Amendment protects those individuals. Conversely, if we view government access to a total record of our movements as a price we willingly pay for twenty-first century conveniences, or if an individual can no longer realistically expect to escape observation whenever and wherever he drives, then the courts should likely hold that the Fourth Amendment is inapplicable.

A. *Cases Considering Warrantless GPS Surveillance*

In 2010, the Eighth, Ninth, and D.C. Circuit Courts of Appeals heard cases where the police had tailed suspects via GPS without warrants to install the monitoring units or collect the

[11] Mary-Rose Abraham, *Is That a 'Black Box' in Your Car?*, ABC NEWS (Feb. 22, 2010), http://abcnews.go.com/Technology/MellodyHobson/car-black-box-records-key-data/story?id=9814181.

[12] *See*, *e.g.*, United States v. Garcia, 474 F.3d 994, 997 (7th Cir. 2007) (hereinafter "*Garcia*") (arguing that GPS tracking is theoretically equivalent to a system of surveillance cameras installed along the public roads).

[13] Katz v. United States, 389 U.S. 347 (1967). Justice Harlan's concurrence established the two-part framework still in use today: a "reasonable expectation of privacy" exists when a person manifests (1) a *subjective* expectation of privacy that (2) society recognizes as reasonable. *Id.* at 361 (Harlan, J., concurring). In the GPS context, it is an open question whether society recognizes a reasonable privacy interest that protects an individual's movements against uninvited electronic monitoring.

recorded data. The Eighth Circuit (in *United States v. Marquez*[14]) and the Ninth Circuit (in *United States v. Pineda-Moreno*[15]) both held in favor of the government, ruling that GPS surveillance may be conducted without a warrant. Their reasoning mostly echoed Judge Posner's analysis in *United States v. Garcia*,[16] a 2007 Seventh Circuit case treating GPS tailing as a matter of first impression.[17] In *Garcia*, Posner compared GPS to a series of cameras mounted along the public streets, arguing that neither system captured anything except publicly exposed information.[18] Because a person's location on the open road can be observed by anyone who cares to look, it cannot be subject to a reasonable expectation of privacy.

However, in a dissent from the denial of rehearing in *Pineda-Moreno*, Ninth Circuit Chief Judge Alex Kozinski vehemently disagreed with this position.[19] First, in Kozinski's view, even if location tracking is not a search, the installation of the device must be held a Fourth Amendment "seizure" because it interferes with a property owner's inherent right to exclude others.[20] Second, it is entirely possible for an individual to manifest a reasonable expectation of privacy when driving on public streets: "You can preserve your anonymity from prying eyes, even in public, by traveling at night, through heavy traffic, in crowds, by using a circuitous route, disguising your appearance, passing in and out of buildings and being careful not to be followed."[21]

The D.C. Circuit also disagreed with Posner's approach in *United States v. Maynard*,[22] where a three-judge panel held that GPS monitoring amounts to a "search" under the Fourth Amendment, therefore requiring the police to obtain a warrant before conducting GPS surveillance. The *Maynard* court reached its holding in part because it did not accept two, decades-old Supreme Court cases considering a primitive form of electronic location tracking—short-range radio "beepers"—as dispositive of the GPS question.[23] The court noted a qualitative difference between human and electronic surveillance that apparently did not trouble Judge Posner: machines never blink or sleep.[24] GPS transponders amass a vast amount of data that adds up to a unique "mosaic" of the targeted subject's personality.[25] In the D.C. Circuit's view, police activity that uncovers that mosaic amounts to a search.[26]

Since *Maynard* was decided, other courts have addressed its reasoning.[27] The Department of Justice appealed its loss in that case to the U.S. Supreme Court,[28] which granted certiorari in June 2011 and scheduled the case, recaptioned as *United States v. Jones*,[29] for argument during its October 2011 term. The Supreme Court certified two questions for consideration:

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[14] United States v. Marquez, 605 F.3d 604, 609-10 (8th Cir. 2010)

[15] United States v. Pineda-Moreno, 591 F.3d 1212, 1213-17 (9th Cir. 2010) (hereinafter *Pineda-Moreno*).

[16] *Garcia*, 474 F.3d at 994.

[17] *Garcia*, 474 F.3d at 994.

[18] *Id.* at 996-98.

[19] U.S. v. Pineda-Moreno, 617 F.3d 1120 (9th Cir. 2010) (hereinafter *Pineda-Moreno II*).

[20] *Id*. at 1122-23.

[21] *Id.* at 1126.

[22] 615 F.3d 544, 555 (D.C. Cir. 2010).

[23] *Maynard*, 615 F.3d at 556 (considering United States v. Knotts, 460 U.S. 276 (1983) and United States v. Karo, 468 U.S. 705 (1984)).

[24] *Id.* at 565.

[25] *Maynard*, 615 F.3d at 562.

[26] *Id.* at 565-66.

[27] *Compare* United States v. Cuevas-Perez, 640 F.3d 272, 274 (7th Cir. 2011) (distinguishing *Maynard*), *with In re* United States for an Order Authorizing Release of Historical Cell-Site Info., 2011 WL 679925 (E.D.N.Y. 2011) (relying on *Maynard*'s analytical framework).

[28] Petition for Writ of Certiorari, *U.S. v. Jones*, --- U.S. --- (2011) (No. 10-1259), 2011 WL 1462758.

[29] Grant of Writ of Certiorari, *U.S. v. Jones*, --- U.S. --- (2011) (No. 10-1259), 2011 WL 1456728.

(1) Whether the warrantless use of a tracking device on petitioner's vehicle to monitor its movements on public streets violated the Fourth Amendment, and;
(2) Whether the government violated respondent's Fourth Amendment rights by installing the GPS tracking device on his vehicle without a valid warrant and without his consent.[30]

B. *Organizational Note*

Section II of this paper provides a summary of the facts and holdings of *Pineda-Moreno* (including Judge Kozinski's dissent from the denial of rehearing) and *Maynard*. Section III outlines the competing schools of legal thought embodied in the two cases, including brief discussions of relevant Supreme Court precedents and a hypothetical legal question involving ninjas. Section IV speculates on what the Supreme Court will hold in *Jones* and discusses some possible avenues of decision the Court could take in rendering its opinion.

II. THE 2010 GPS CASES

A. *The Ninth Circuit's View of GPS Monitoring*

In January 2010, a panel of the Ninth Circuit decided *United States v. Pineda-Moreno*.[31] The panel reached two holdings: (1) the warrantless installation of a GPS device on a suspect's vehicle, while parked in the curtilage of the suspect's home, does not constitute a search; and (2) the monitoring of the GPS-generated data is not a search.[32]

Pineda-Moreno first aroused police suspicion when D.E.A. agents observed him on several occasions buying otherwise-legal items—plant fertilizer and gardening supplies—that the agents suspected Pineda-Moreno would use to grow marijuana.[33] The agents eventually discovered the location of Pineda-Moreno's trailer home and began intensive surveillance. The government installed GPS trackers on his car on seven occasions, in two locations: a public street and the curtilage of his home.[34] Using information gathered from the GPS device in conjunction with in-person surveillance, the police stopped and arrested Pineda-Moreno shortly after he had left a suspected marijuana grow site.[35] The police subsequently obtained his consent to search his home, where the police found additional marijuana.[36]

The panel considered two separate legal issues in evaluating the surveillance: (1) the installation of the GPS unit, and (2) the subsequent monitoring of the unit.[37] As to the installation, the court held that neither the invasion into Pineda-Moreno's curtilage, nor the affixing of the unit to the underside of his car, was a search or seizure.[38] The court found that Pineda-Moreno had no reasonable expectation of privacy in the driveway next to his residence, even though the government conceded that the driveway was part of Pineda-Moreno's

[30] *Id.*
[31] *Pineda-Moreno I*, 591 F.3d at 1212.
[32] *Id.* at 1215-16.
[33] *Id.* at 1213.
[34] *Id.* at 1213, 1215.
[35] *Id.* at 1213-14.
[36] *Id.*
[37] *Id.* at 1215-216.
[38] *Id.*

curtilage.[39] The court relied on the fact that no anti-trespassing signage or fencing had been put up around Pineda-Moreno's property.[40] Without an affirmative effort to exclude the public from his curtilage, Pineda-Moreno was unable to demonstrate a personal expectation of privacy in his driveway. Thus, the court held that there was no "search" of the curtilage.[41] Regarding an alleged seizure of Pineda-Moreno's vehicle, the panel further held that placing the GPS tracker on Pineda-Moreno's car did not constitute a Fourth Amendment "seizure," since the unit did not interfere with his possessory interest in the car.[42] The panel applied earlier Ninth Circuit precedent, that held that it is impossible to create a reasonable expectation of privacy in the exterior of a vehicle.[43]

As to the monitoring, the panel began its analysis by quoting from the 1983 Supreme Court decision *United States v. Knotts*,[44] which held that following a suspect via a radio-wave "beeper" was not a search. The *Knotts* Court said that "a person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements."[45] In other words, a police officer may freely observe any car as it drives along public roads. From that starting point, the *Pineda-Moreno* panel went on to reason that a device designed as a mere substitute for human surveillance would not raise any additional or different constitutional problems.[46] The panel also addressed *Kyllo v. United States*,[47] in which the Supreme Court held that police use of thermal-imaging technology to scan the interior of a home was a search.[48] Unlike the thermal imaging in *Kyllo*, the Ninth Circuit reasoned that the GPS surveillance of Pineda-Moreno did not uncover information that would be otherwise unavailable without a physical intrusion into a constitutionally protected area.[49] Accordingly, the Ninth Circuit affirmed Pineda-Moreno's conviction.[50]

B. *The D.C. Circuit's View of GPS Monitoring*

In August 2010, the D.C. Circuit decided *United States v. Maynard*, [51] holding that the warrantless GPS tracking of a suspect's car for approximately one month was a search. [52] Co-defendants Maynard and Jones were suspected of operating a drug ring out of a Washington D.C. nightclub.[53] Police embarked on a yearlong investigation that eventually included wiretaps and

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[39] *Id.* at 1215.
[40] *Id.*
[41] *Id.*
[42] *Id.* The panel apparently did not consider Pineda-Moreno's right to exclude others from his property as part of his ownership interest in his car, or it assumed without discussion that the police's conduct had not interfered with his right to exclude.
[43] *Id.* at 1214, citing United States v. McIver, 186 F.3d 1119 (9th Cir. 1999).
[44] United States v. Knotts, 460 U.S. 276 (1983).
[45] *Id.* at 281-82.
[46] *Pineda-Moreno I*, 591 F.3d at 1216-17.
[47] Kyllo v. United States, 533 U.S. 27 (2001).
[48] *Id.* at 33-35.
[49] *Pineda-Moreno I*, 591 F.3d at 1216-17.
[50] *Id.* at 1217.
[51] *Maynard*, 615 F.3d at 544.
[52] *Id.* at 555.
[53] *Id.* at 549.

other surveillance.[54] Without a warrant, agents installed a GPS device on Jones' Jeep and continuously monitored it for four weeks.[55] Jones challenged the monitoring on appeal.

The D.C. Circuit panel began its analysis by describing the limited holding of *Knotts*.[56] *Knotts* only considered the legality of electronically tracking a car over the course of a single journey; the facts of the case (and the limits of the technology involved) prevented the Supreme Court from passing on the constitutionality of sustained, around-the-clock electronic surveillance.[57] In fact, the *Knotts* Court expressly reserved the question of whether twenty-four-hour-a-day "dragnet-style" surveillance would invoke the Fourth Amendment's warrant requirement.[58] While a person may not have a reasonable expectation of privacy while traveling from one place to another along a public road, the *Maynard* panel interpreted *Knotts* as saying that a person can still reasonably expect privacy in the totality of their movements.[59] A single journey along a public road may be exposed, but society recognizes that a citizen may reasonably expect that he will not have their every movement in public followed for weeks on end.[60] The panel found that GPS devices give the Government precisely the kind of dragnet-style monitoring capability that the Supreme Court worried about in 1983.[61]

The D.C. Circuit acknowledged that *Pineda-Moreno* and *Garcia* had considered substantially similar facts and reached the opposite conclusion. In those cases, the Ninth and Seventh Circuits held that GPS monitoring was no more invasive than the beeper tracking in *Knotts* and thus was not a search. [62] The Eighth Circuit, in *Marquez*, indicated in dicta that it agreed with this logic.[63] However, the D.C. Circuit panel found error in all three decisions. Those courts interpreted *Knotts*' concern with "dragnet" surveillance as only reaching "widespread" or "mass" surveillance of many citizens.[64] The D.C. panel reasoned that the true problem with dragnet surveillance is not that it ensnares many citizens, but that it reveals a wealth of information about each individual being watched.[65] The sum of an individual's movements creates a unified picture of that person's activities that cannot be deduced from his public travels considered separately.[66]

As support for this position, the panel cited *Smith v. Maryland*,[67] in which the Supreme Court considered "not just whether a reasonable person expects any given number he dials to be exposed to the phone company but also whether he expects all the numbers he dials to be compiled in a list."[68] Extending this logic, without adopting *Smith*'s holding, the D.C. Circuit took the novel step of applying the "mosaic" theory articulated in the Supreme Court's national-security precedents to a Fourth Amendment case.[69] In the national-security context, the Court had previously recognized that "what may seem trivial to the uninformed, may appear of great

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[54] *Id.*
[55] *Id.* at 555.
[56] *Id.*
[57] *Knotts*, 460 U.S. at 283-84.
[58] *Id.*
[59] *Maynard*, 615 F.3d at 556.
[60] *Id.*
[61] *Id.* at 558.
[62] *Pineda-Moreno*, 591 F.3d at 1216; *Garcia*, 474 F.3d at 997.
[63] *Marquez*, 605 F.3d at 609-10
[64] *Maynard*, 615 F.3d at 558.
[65] *Id.*
[66] *Id.* at 561-62 (articulating the mosaic theory of the Fourth Amendment).
[67] Smith v. Maryland, 442 U.S. 735 (1979).
[68] *Id*. at 742.
[69] *Maynard*, 615 F.3d at 561-62, *citing* C.I.A. v. Sims, 471 U.S. 159, 178 (1985).

moment to one who has a broad view of the scene."[70] In shoring up its holding, the D.C. panel noted that many state courts and legislatures have officially enshrined a legitimate expectation of privacy in one's movements, public or not.[71] In part because the GPS monitoring of Jones over an extended period of time violated this officially recognized expectation of privacy, the D.C. Circuit reversed Jones' conviction. [72]

C. *The Ninth Circuit's Denial of Rehearing in Pineda-Moreno*

Maynard was decided six days before the Ninth Circuit denied rehearing en banc in *Pineda-Moreno*. Chief Judge Kozinski issued a fiery dissent from the denial of rehearing, [73] which gained substantial media attention. [74] Kozinski found the *Pineda-Moreno* panel's reasoning "worrisome" due to its dismantling of the historic protections afforded to the curtilage of a home, as well as the sheer volume of information that GPS tracking allows the Government to obtain without a warrant.[75] He emphasized that the curtilage is afforded exactly the same Fourth Amendment protection as the home itself. [76] Allowing police to warrantlessly intrude in any area that, for example, a child might wander into, or a homeowner might authorize a repairman to enter, would effectively render the Fourth Amendment toothless. [77] Of course, a person can put up signs and fences to demonstrate an expectation of privacy, but this logic troubled Judge Kozinski. Wealthy residents of gated communities would be afforded Fourth Amendment protection of their curtilage by default, but people living in trailer homes, like Pineda-Moreno himself, would have to take affirmative steps to invoke the same constitutional safeguards that their fellow citizens received with no extra effort.[78] Kozinski does not explicitly mention the Fourteenth Amendment in his opinion, but his argument additionally raises serious equal protection and due process concerns with *Pineda-Moreno*'s reasoning.

Kozinski was also dissatisfied with the panel's treatment of the GPS monitoring itself. Citing *Maynard*, he noted that *Knotts* considered a much less powerful tracking technology put to a much less invasive use. [79] Beepers do not generate complete records of a suspect's movements over a prolonged period; GPS units do. [80] Further, he found the *Pineda-Moreno* panel's reading of *Kyllo* overly narrow. [81] The *Kyllo* Court warned that advances in technology may erode the protections afforded by the Fourth Amendment if their use is not judicially regulated.[82] Courts considering advanced surveillance technology should be aware that the rules they craft will also be applied to more-sophisticated versions of the same devices.[83] On that basis, Kozinski argued that the panel should have been more concerned with the reality that the

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[70] *Id.*
[71] *Id.* at 564 (listing statutes from eight states and citing three state supreme court decisions in support of the proposition).
[72] *Id.* at 568.
[73] United States v. Pineda-Moreno, 617 F.3d 1120 (9th Cir. Aug. 12, 2010) ("*Pineda-Moreno II*").
[74] *See*, *e.g.*, Adam Cohen, *The Government Can Use GPS to Track Your Moves*, Time, Aug. 25, 2010, http://www.time.com/time/nation/article/0,8599,2013150,00.html.
[75] *Pineda-Moreno II,* 617 F.3d at 1122.
[76] *Id.*
[77] *Id.*
[78] *Id.*
[79] *Id.* at 1124.
[80] *Id.*
[81] *Id.* at 1124-25.
[82] *Kyllo*, 533 U.S. at 33.
[83] *Id.* at 36.

Government will soon be able to detect patterns of behavior and develop suspicions by running GPS data through a computer algorithm.[84] Because police agencies have adopted increasingly invasive uses of location-monitoring technology in recent years, Kozinski justifiably viewed *Pineda-Moreno* as a clear example of the dragnet-style enforcement techniques foreseen in *Knotts*.[85] Accordingly, Kozinski would have found that the extended location tracking of Pineda-Moreno was a search. under the Fourth Amendment.

III. EXPLAINING THE SPLIT

A. *The 28-Word Time Bomb*

At the heart of *Maynard*'s split with its sister circuits is a philosophical disagreement over what methods of electronic surveillance trigger the full protections of the Fourth Amendment. This dispute arises from an ambiguous piece of dicta in *United States v. Knotts*,[86] a 1983 Supreme Court case that approved electronic tracking via radio "beepers." Declining to require a warrant in this instance, the Court stated, "[I]f such dragnet type law enforcement practices as respondent envisions should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable."[87] These 28 words will likely form the cornerstone of the Court's opinion on GPS tracking. Under *Pineda-Moreno*, *Marquez*, and *Garcia*, GPS monitoring raises no truly novel legal questions. But, per the holding in *Maynard* and the Court's upcoming review of that case in *Jones*, the time to decide if satellite-based location tracking is a "dragnet search" has apparently come.

Pineda-Moreno reaches the opposite result of *Maynard,* partly because the Supreme Court has kept Fourth Amendment jurisprudence vague and fact-intensive.[88] This enables a court, by carefully selecting the decisions it deems on-point, to exercise enormous discretion in choosing the basic framework that defines its analysis. The *Pineda-Moreno* court asked whether GPS surveillance provided the *type* of information that human observation is incapable of revealing,[89] adopting reasoning from cases like *Dow Chemical Co. v. United States*.[90] *Maynard* more closely tracked the reasoning of cases such as *Bond v. United States*[91] and *United States v. Place*,[92] basing its holding on (1) whether the information gathered by the police was discovered by

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[84] *Pineda-Moreno II*, 317 F.3d at 1125.

[85] *Id.*

[86] 460 U.S. 276 (1983) (hereinafter "*Knotts*").

[87] *Id.* at 283.

[88] *See*, *e.g.*, Orin Kerr, *Four Models of Fourth Amendment Protection*, 60 Stan. L. Rev. 503, 504-06 (2007); Anthony G. Amsterdam, Perspectives on the Fourth Amendment, 58 Minn. L. Rev. 349, 385 (1974).

[89] *Pineda-Moreno*, 591 F.2d at 1216 (partially basing its holding on its finding that "[t]he only information the agents obtained from the tracking devices was a log of the locations where Pineda–Moreno's car traveled, information the agents could have obtained by following the car").

[90] Dow Chemical Co. v. United States, 476 U.S. 227, 238 (1986) (holding that aerial surveillance is permissible partly because "the photographs here are not so revealing of intimate details as to raise constitutional concerns."), discussed at length in Kerr, *supra*, note 90.

[91] Bond v. United States, 529 U.S. 334, 338-39 (2000) (holding that a pat-down of luggage by a Government official was a search because "a bus passenger […] does not expect that other passengers or bus employees will, as a matter of course, feel the bag in an exploratory manner").

[92] United States v. Place, 462 U.S. 696, 707 (1983) (holding that the use of a drug-sniffing dog does not rise to a search because, in part, the dog's "sniff discloses only the presence or absence of narcotics, a contraband item").

means in use by the public at large,[93] and (2) whether the amount of information gathered was so voluminous that the police had created a "mosaic" of personal facts.[94] The D.C. Circuit held that such a mosaic is protected private information because it is both unlikely to be discovered by the public[95] and also inherently sensitive.[96] The split between the two circuits highlights an interesting (or, depending on one's perspective, aggravating) aspect of Fourth Amendment law—that two appellate courts can encounter cases with the same facts, apply "controlling" rules laid down by the Supreme Court, and still reach opposite conclusions. The lay reader will not be alone in hoping that the Court uses the *Jones* case to streamline its previous readings of the Fourth Amendment as they apply to location monitoring—assuming such a synthesis is even possible. While a Fourth Amendment inquiry will generally evaluate police conduct "both in the *manner* in which the information [from an alleged search] is obtained and in the *content* of the information revealed,"[97] individual cases have added a vast number of wrinkles to the analysis.

B. *A Matter of Law: How Pineda-Moreno and Maynard Differ on the Interpretation of Supreme Court Precedent*

1. *United States v. Knotts*

In the early 1980s, the Supreme Court decided *Knotts*[98] and *United States v. Karo*,[99] which both involved the Government's warrantless installation and monitoring of short-range radio transmitters embedded in barrels of chemicals used to manufacture drugs. Police installed the devices (informally known as "beepers") inside the barrels while they were still in the custody of a licensed distributor.[100] They then delivered the barrels to suspected drug manufacturers.[101] To monitor one of these beepers, an agent had to follow the suspect's car within a relatively small radius.[102] Beepers were typically used to track a barrel on a single trip from the distributor's warehouse to a suspected drug lab, because the beepers can only augment human surveillance—they cannot replace it entirely. (The only major difference in the facts of *Karo* and *Knotts* is that the beeper in *Karo* ended up revealing that a barrel was located inside of a home.[103])

United States v. Knotts held that such police activity did not rise to a "search" within the meaning of the Fourth Amendment.[104] No reasonable expectation of privacy could exist while driving on a public street, the Court reasoned, because the route, point of entry, and ultimate destination of any car on the open road is clearly exposed to the public.[105] Thus, when the police in *Knotts* followed the barrel on a single, 100-mile journey from the distributor's warehouse to a suspected drug lab on private property, they did not intrude on a constitutionally protected privacy interest. The Court emphasized three key points in its holding. First, the barrel had never

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[93] *Maynard*, 615 F.3d at 558-59.
[94] *Id.* at 562.
[95] *Id.* at 558.
[96] *Id.* at 561-62.
[97] *Place*, 462 U.S. at 707 (1983) (emphasis added).
[98] *Knotts*, 460 U.S. at 276.
[99] United States v. Karo, 468 U.S. at 705.
[100] *Knotts*, 460 U.S. at 278.
[101] *Id.*
[102] *Id.*
[103] *Maynard*, 615 F.3d at 556.
[104] *Knotts*, 460 U.S. at 280.
[105] *Id.* at 281-82.

been monitored inside of Knotts' home.[106] Second, the beeper had never revealed more information than a policeman's naked eye could have picked up unaided.[107] Third, the beeper's technical limitations in combination with the police's short-term use of the technology convinced the Court that the Government would not, and could not, use beepers to conduct dragnet-style, around-the-clock surveillance of average citizens.[108] As the Court put it, "the reality hardly suggests abuse."[109]

2. *United States v. Karo*

Karo held that monitoring a beeper within the confines of a suspect's home is a search.[110] *Karo* modified the blanket assertion in *Knotts* that a person cannot have a reasonable expectation of privacy in their movements on public roads and their ultimate destination. Here, the Court held that using a tracking device to locate personal property inside of a citizen's home and withdrawn from public view was unreasonable.[111] An electronic device pinpointing a barrel inside of a private residence reveals information that naked-eye observation from the public thoroughfare cannot.[112] While a beeper may be less invasive than a full-scale search, it still reveals private facts that the Government is highly interested in discovering but could not otherwise find out without obtaining a warrant.[113] Thus, to allow warrantless monitoring in cases like Karo's would deprive the public of the protection of a neutral judiciary reviewing police actions. In this context, the Court held that officers are required to obtain a warrant justifying their intrusion and specifically stating the length of time the monitoring will last.[114]

Taken together, *Knotts* and *Karo* indicate that the Supreme Court, at least in the 1980s, took a narrow view of locational privacy that did not embrace a right to privacy in our associations as well as our locations, though it is increasingly apparent that the two are related. While the Court in *Katz* stated that "the Fourth Amendment protects people, not places"[115] in its articulation of the famous "reasonable expectation of privacy" test, *Knotts* and *Karo* seemed to return to the idea that the Fourth Amendment only shields certain constitutionally protected areas. The Seventh and Ninth Circuits attached great weight to the fact that installing a GPS device on a vehicle does not violate the owner's possessory interest.[116] *Katz* disapproved of this property-based method of allocating privacy when it comes to our actual communications, but these archaic principles still apply when it comes to our physical movements. If *Maynard* and the national-security cases cited therein are correct in holding that prolonged surveillance reveals an individualized mosaic of information greater than the sum of its individual data points,[117] then the conceptual distance between words spoken into a telephone and locations visited in a car is significantly smaller than the Supreme Court envisions. Under the mosaic theory, a citizen's

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[106] *Id.*at 282.
[107] *Id.*
[108] *Id.* at 284.
[109] *Id.* at 283.
[110] *Karo*, 468 U.S. at 714.
[111] *Id.* at 714-15.
[112] *Id.* at 715.
[113] *Id.*
[114] *Id.* at 718.
[115] *Katz*, 389 U.S. at 351.
[116] *See* Section II, *supra*.
[117] *See* Section II(B), *supra*.

movements are expressive—or at least semi-expressive—conduct. A list of those movements is thus tantamount to a list of a citizen's private associations and personal proclivities.[118]

3. *Kyllo v. United States*

The Ninth and D.C. Circuits also disagree on the interpretation of *Kyllo v. United States*.[119] There, the Supreme Court held that the use of thermal-imaging technology to detect the presence of marijuana grow-lamps within the confines of a home was a search.[120] The Ninth Circuit approved the warrantless use of thermal imaging on two grounds. First, Kyllo had not attempted to conceal the amount of heat emanating from his house and thus failed to demonstrate a subjective expectation of privacy.[121] Second, there could be no objectively reasonable expectation of privacy in the heat emanating from one's home, as it was not an "intimate detail" in the Ninth Circuit's view.[122]

The Supreme Court reversed the Ninth Circuit's decision.[123] The Court held that the Government's practice of employing a technology not in general use to discover facts that could not be otherwise revealed without obtaining a warrant was unreasonable.[124] Justice Scalia reasoned that when police invade the interior of a house via advanced imaging technology, they violate even a "minimum expectation" of privacy a citizen has in his home.[125] The Court rejected the Government's contention that thermal imaging did not reveal "intimate details" inside the home; Scalia countered that, in the home, "*all* details are intimate details."[126] Using a device that discloses "at what hour each night the lady of the house takes her daily sauna" inside her residence constitutes a search.[127] Justice Scalia sought to avoid an approach that would "leave the homeowner at the mercy of advancing technology,"[128] noting that "the rule we adopt must take account of more sophisticated systems that are already in use or in development."[129]

In *Pineda-Moreno*, the Ninth Circuit interpreted *Kyllo* as only barring the use of technology which substitutes for "a search unequivocally within the meaning of the Fourth Amendment,"[130] accentuating the fact that the thermal imager in *Kyllo* was "not in *general public* use."[131] In contrast, the *Pineda-Moreno* court saw GPS units as fairly commonplace devices that provide no more information than comprehensive in-person surveillance would. The *Maynard* court focused less on the public's awareness that GPS tracking units exist and more on the general societal

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[118] *See* Daniel J. Solove, *The First Amendment as Criminal Procedure*, 82 N.Y.U. L. REV. 112 (2007) (Professor Solove convincingly argues that the government's use of advanced surveillance technology should be regulated by the First Amendment's guarantee of freedom of association as well as by the Fourth Amendment's prohibition of unreasonable searches and seizures).

[119] 533 U.S. 27 (2001).

[120] *Id.* at 38-39.

[121] *Id.* at 30-31.

[122] *Id.* at 31.

[123] *Id.* at 41.

[124] *Id.* at 40.

[125] *Id.* at 34.

[126] *Id.* at 37-38.

[127] *Id.* at 38.

[128] *Id.* at 35.

[129] *Id.* at 35-36.

[130] 591 F.3d at 1216.

[131] *Pineda-Moreno I*, 591 F.3d at 1216 (emphasis added).

expectation that the Government will not secretly attach them to private vehicles without some form of probable cause.[132]

C. *Academic Perspectives: Two Competing User's Guides to the Fourth Amendment*

1. Professor Kerr: *Maynard* Misses the Mark

Seeking to impose order on the case law, scholars have attempted to sort the Supreme Court's reasoning into discrete categories. Professor Orin Kerr, a criminal law scholar at George Washington University Law School, argues that Fourth Amendment jurisprudence enunciates four occasionally overlapping tests: (1) a "probability" test, which is primarily concerned with whether a given fact is likely to be discovered by the public in the ordinary course of events; (2) a "private facts" test, which looks to the inherent sensitivity of the information uncovered by Government surveillance; (3) a "positive law" model, which judges police conduct based on existing applicable law (*e.g.*, property law concepts); and (4) a "policy model," where the Court fashions new rules out of whole cloth as a matter of judicial prerogative (as in *Katz*).[133] In Professor Kerr's view, the Court first considers a case on either a micro- or a macro- level, depending on whether the Court wants to announce a broad holding, or reach a narrow decision confined to the facts. [134] Then, the Court elaborates its reasoning in either descriptive or normative terms, adopting the legal tests and precedents of the model the Justices think proper to apply in a given case.[135] Micro-level tests look to the specific actions taken by the police, and are applied when the Court wishes to keep its holding narrow. Macro-level tests consider entire categories of State action.[136] Normative analysis emanates from the Justices' understanding of what the law "should" be, whereas descriptive frameworks focus on applying the law as it currently exists.[137] The probability test is macro-level and descriptive; the policy test is macro-level and normative; the positive law test is micro-level and descriptive; the private-facts test is micro-level and normative.[138]

At least theoretically, Professor Kerr's framework provides two methods to predict the outcome of pending Supreme Court cases. First, the reasoning of the lower court decision can be compared to other cases applying the same test(s). The more closely a given lower-court holding parallels the mode of reasoning of the related precedent, the more likely it is to be upheld. Of course, this is true for all court cases—but one of the chief problems in Fourth Amendment law, which Professor Kerr's system attempts to address, is the difficulty of identifying which precedents are "related" in the first place. Second, if a lower court applies the "wrong" test to a particular type of fact scenario, then we should predict that the decision is likely to be reversed.

In terms of the GPS cases, this second predictor is the most relevant. Professor Kerr argues that technological-surveillance cases are best decided under the private-facts test (micro-level

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[132] *Maynard*, 615 F.3d at 559-60.

[133] Kerr, *supra* note 84, at 523 ("[t]he probabilistic model looks to prevailing social practices; the private facts model looks to the privacy invasion itself; the positive law model looks to positive law; and the policy model looks to consequences"). Prof. Kerr reminds the reader that these categories are intended to be loose groupings of cases which were decided by differently composed Supreme Courts and not intended to fit neatly into analytical boxes. *Id.* at 545.

[134] *Id.*at 523-24.

[135] *Id.*

[136] *Id*. at 523.

[137] *Id.*

[138] *Id.*

and normative) because the other three models suffer from three "obvious drawback[s]": (1) the outcome of the probability test changes depending on the current state of technology; (2) the positive law model, by definition, is poorly equipped to handle truly novel issues; and (3) policy-based rules are inherently unpredictable over time and can only be applied nationally by the Supreme Court.[139]

Under Professor Kerr's rubric for classification, *Pineda-Moreno* probably falls in the private-facts and positive-law categories because its holdings emphasize (1) a lack of traditionally recognized property markers around Pineda-Moreno's home, which could have evinced an intent to exclude the public from his curtilage (positive law), and (2) the fact that the GPS device tracked Pineda-Moreno along *public* streets, thus making his location readily observable (private facts). Kozinski's dissent in *Pineda-Moreno II* seems to use the positive-law and policy tests in discussing the GPS-installation issue. He begins by faulting the original panel for not applying the traditional protections that earlier cases gave to the curtilage of a home (positive law),[140] and concludes by arguing that GPS installation should require a warrant in order to avoid exacerbating class inequalities (policy).[141] His argument against warrantless monitoring is firmly grounded in the probability test, focusing on the *de facto* right of privacy we currently enjoy while driving and the unusual surveillance capabilities that GPS tracking enables.

Maynard's reasoning appears to draw on the principles of the probability and positive-law models, because of the opinion's attention to (1) the fact that citizens are unlikely to be observed on the public streets for prolonged periods of time and over multiple journeys (probability),[142] (2) the fact that several state courts and the California Legislature had already acted to regulate police use of GPS technology (positive law),[143] and (3) the applicability of the mosaic theory of the Supreme Court's national-security precedents (positive law).[144] *Maynard*'s previously unheard-of application of the mosaic theory to a Fourth Amendment case may also make it an example of the policy model.

Thus, Professor Kerr would likely predict that *Maynard* will be overturned by the Supreme Court. [145] It appears to apply every test except the private-facts model, which Professor Kerr identifies as the model most likely to create a lasting legal rule.[146] *Maynard*'s probabilistic insistence that the average citizen is unlikely to have his location constantly monitored could have been true in 2010, but will no longer be accurate in a near-future where cars come pre-equipped with GPS-enabled event data recorders, or where continual public "check-ins", à la Foursquare, become a social norm instead of a novelty. Further, its citation of positive law from state courts and legislatures may speak to current mores, but neither disposes of the objective prong of the *Katz* test on the national level, nor defines the proper application of the Fourth Amendment to the federal police, who could argue that the many interstate cases they handle present a unique need for electronic assistance. Finally, while the mosaic theory may capture the

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[139] Kerr, *supra* note 84, at 543-45.
[140] *See Pineda-Moreno II*, 617 F.3d at 1122-123.
[141] *See Id.*
[142] *See Maynard*, 615 F.3d at 560-562.
[143] *See Id.* at 564.
[144] *See Id.* at 562.
[145] This argument is discussed in more detail in Section IV, *infra*.
[146] Kerr, *supra* note 84, at 543 ("[T]he private facts model appears particularly often in cases involving new technologies. The private facts model was used to regulate chemical tests for drugs in *United States v. Jacobsen*, taking photographs made during aerial surveillance in *Dow Chemical Co. v. United States*, and the use of tracking devices in *United States v. Karo* and *United States v. Knotts"*) (citations omitted).

qualitative difference between human and machine surveillance, its application in the Fourth Amendment context was unprecedented until the D.C. Circuit decided *Maynard*. The Court may view this policy-esque decision with disfavor, especially if it finds the mosaic theory too abstract to serve as a practical guide for what a street cop can and cannot do.

2. Professor Hutchins: Police Powers Do Not Include Extrasensory Perception

In high-technology cases like *Knotts* and *Kyllo*, Professor Renée Hutchins, assistant professor at the University of Maryland School of Law, observes that the result often turns on whether the new device merely compliments a policeman's natural senses (a "sense-augmenting" technology) or if it uncovers facts that a human observer could never access unaided (an "extrasensory" technology).[147] When the Supreme Court evaluates the constitutionality of new police gadgets, it tends to look beyond the particular facts of the case in front of it and instead focuses on the broader issue of how the device alters the balance of interests between the Government and individual citizens. This method of decision is mandated by the Court's need to create practical, long-lasting rules; otherwise, it could well be forced to resolve a new circuit split every time a new version of the iPad or TomTom is released. As Justice Scalia said in *Kyllo*, "While the technology used in the present case was relatively crude, the rule we adopt must take account of more sophisticated systems that are already in use or in development."[148] These flexible rules place primary emphasis on determining the *type* of information revealed by the State's activities.[149]

Professor Hutchins views the sense-augmenting/extrasensory divide as an either/or distinction.[150] Whereas *Knotts* embodies the Court's willingness to accept augmentation technologies, *Kyllo* demonstrates the nigh-insurmountable level of scrutiny applied to extrasensory devices.[151] As evidenced by the Court's approach in *Kyllo*, the Justices invoke the extrasensory rule as a "talismanic incantation" that demarcates rigid starting and ending points for their Fourth Amendment inquiry.[152] When a new technology comes before the Court, the Justices will usually follow the criteria Professor Hutchins finds implicit in *Place*, *v. U.S.*,[153] which examine: (1) the type of information revealed by the alleged electronic search, (2) the method by which the police obtain it, and (3) the total amount of data collected.[154] However, once the Court finds that police technology operates in a superhuman fashion—when it reveals a type of data unavailable to the unaided observer—then the Court's inquiry effectively ends. If the police reveal information of an intimate nature about their subject—such as the presence of heat lamps in a home, as was the case in *Kyllo*[155] —then the method the police used to gather it

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[147] Hutchins, *supra* note 4, at 433-38 (*cited in Maynard*, 615 F.3d at 557).

[148] *Kyllo*, 533 U.S. at 36.

[149] Hutchins, *supra* note 4, at 437 ("Both the majority and the dissent in *Kyllo* carefully considered how to classify the type of information that the thermal imager revealed before deciding upon its appropriate constitutional treatment"). Profs. Hutchins and Kerr are in apparent agreement that a private-facts model is the Court's favored framework in technology cases. *See* Section III(B)(1), *supra*.

[150] Hutchins, *supra* note 4, at 437-39.

[151] *Id.* at 436-38.

[152] *Id.* at 437.

[153] 462 U.S. at 707; *see* Note 92, *supra*.

[154] Hutchins, *supra*, note 4 at 438.

[155] *See Kyllo*, 533 U.S. at 39 (refusing to sanction limited use of extrasensory technology because "no police officer would be able to know *in advance* whether his through-the-wall surveillance picks up 'intimate' details").

will be held *per se* improper. Since this categorization is outcome-determinative, the Court will generally not reach the question of whether the police uncovered *too much* information.[156]

The GPS cases show that the sense-augmenting/extrasensory categories are capable of overlapping, and will increasingly do so as science progresses. Simple augmentations, like binoculars and microphones, can be clearly distinguished from infrared cameras and other extrasensory technologies; but how should a future Supreme Court classify an ocular implant that allows an officer look into an open purse a mile away, or an ear augmentation that lets a cop eavesdrop on a conversation behind closed doors in a private home? It is not at all certain that the augmentation/extrasensory divide will be useful when such cases begin to crop up. In the GPS cases, is a technology that acts like a policeman with *theoretically optimal* powers of observation really the same thing as a mere adjunct to the senses? A "yes" would strain credulity. Thus, even if the Court accepts Judge Posner's contention that GPS devices are merely sense-augmenting, the Court still has the analytical room to hold that the police must submit to judicial oversight before using them. As discussed in Section III(B)(3), *infra*, this conclusion suggests that *Knotts* may not control the Court's analysis in *Jones*.

3. Can Ninjas Predict the Outcome of *Jones*?

In high-technology cases, the general rule of thumb is that, if the State's use of a novel surveillance technology "enabled the law enforcement officials in [the] case to ascertain [material facts] when they would not have been able to do so had they relied solely on their naked eyes [or other unaided senses],"[157] then it is probable that the technology itself is extrasensory and the State's use of it was unconstitutional without a warrant. This rule appears to draw a clean, bright line in the abstract; however, when the rule is applied to technology that threatens to enable the "dragnet" surveillance anticipated in *Knotts*, the so-called "bright line" dims considerably. This section considers a thought experiment based on the Court's decision in *Kentucky v. King*[158] that shows how the sense-augmenting/extrasensory rule breaks down in the context of GPS surveillance, and argues that the *Jones* Court should look beyond this distinction in deciding how the Fourth Amendment should regulate police conduct in the twenty-first century.

In *King*, police were engaged in a foot pursuit of a suspected drug dealer when they passed an apartment unit and smelled marijuana burning through the door.[159] Officers knocked-and-announced, heard movement inside the apartment that they claimed was consistent with the sounds of imminent destruction of evidence, and forcibly entered the apartment, discovering drugs, money, and paraphernalia in the process.[160] King was not actually inside the apartment—he had actually gone into hiding in a nearby unit. Excusing the State's mistake, the *King* Court held that the police are allowed to take advantage of an exigency they create, as long as they are not "engaging or threatening to engage in conduct that violates the Fourth Amendment,"[161] i.e., performing an unreasonable search or seizure. By implication, the Court held that the police are

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[156] *See, e.g.*, *Kyllo*, 533 U.S. at 37 (holding that "[i]n the home, our cases show, *all* details are intimate details," and declining to consider the *amount* of information revealed by police conduct).

[157] *Knotts*, 460 U.S. at 285.

[158] Kentucky v. King, 561 U.S. ---, 131 S. Ct. 1849 (2011).

[159] *Id.* at 1854.

[160] *Id.* at 1854-55.

[161] *Id.* at 1858.

entitled to investigate potentially illegal conduct that they detect using (1) their natural senses, or (2) their natural senses as improved by "sense-augmenting" technologies (i.e., binoculars, parabolic microphones, etc.).

Now, suppose we change the facts of *King*: in this scenario, an innocent pizza boy (not a police officer) knocks on an apartment door. The apartment is owned by several ninjas, who speak in whispers and move in near-silence. Upon hearing the pizza boy's knock, one of the ninjas says, "It's the cops, we gotta flush the stash!" One mile away, a cop standing on a public street picks up on the exchange and subsequent movement, either through the use of a powerful microphone or a bionic ear implant. *King*'s holding would appear to cover this situation: the police have become aware of a legitimate exigency threatening to destroy evidence of a crime. Thus, the cop would be allowed to hop in his cruiser, speed to the apartment, and attempt to recover the "stash" he heard our ninjas talking about. But, intuitively, the one-mile distance between the cop and the supposedly criminal utterance should give pause to anyone who believes that the Fourth Amendment protects a general right to privacy in the home. After all, if a policeman does not need a warrant to intrude into a private home in this instance, then the ubiquitous telescreens from George Orwell's *1984* have apparently received pre-approval from the Supreme Court. The ninja-citizens in this hypothetical, who are objectively guilty of nothing but *speaking and moving suspiciously* within their domicile, are subjected to a warrantless physical intrusion by the government.

Even the strict scrutiny applied to police conduct that yields "information regarding the interior of the home"[162] does not go far enough, because it does not make sense to say that the electronically enhanced officer here would be barred from breaking into an apartment one mile away, but not barred from breaking into a car parked a few feet outside that apartment. Surely a "Fourth Amendment [that] protects people, not places"[163] must allow a reasonable expectation of privacy to minimally extend beyond the home to our persons, papers, and effects. Is the fear of a police state really only triggered by continual searches of the home, but not our personal vehicles? If we are allowed the constitutional luxury to assume that a microphone-toting cop will not be standing on the public road outside of our houses twenty-four hours a day, seven days a week, then that same principle should protect us from around-the-clock monitoring of one of our most expensive effects—our personal vehicles.

If a qualitative difference can be said to exist between the facts of *King* and our hypothetical instance of the bionically enhanced State agent, then that same difference should be said to exist between the single-trip, public-road monitoring of *Knotts* and the prolonged, around-the-clock, omniscient surveillance the Supreme Court will consider in *Jones*. In the abstract, the police uncover the same type and amount of information; however, in practice, the State's conduct is far more intrusive in *Jones* than in *Knotts*. It is the same qualitative difference that exists between a soldier wielding an M16 equipped with a scope and a soldier controlling a satellite-guided smart bomb; it is the same difference that exists between a radar-gun wielding cop and an unblinking photo-radar station. GPS technology removes a natural human element of *discretion* that naturally exists in police surveillance. It does not merely relieve the police of human fallibility, but instead completely overturns an innate assumption of our social existence. In the twentieth century, we, as a society, assumed that we were not being constantly monitored by the police. If the twenty-first century *Jones* Court approves warrantless GPS surveillance, however,

[162] *Kyllo*, 533 U.S. at 34.
[163] *Katz*, 389 U.S. at 351.

we would not be able to claim a reasonable expectation of privacy as we drive our cars, and, in essence, we would have to assume that the cops are always watching us—no matter how much we may wish and/or expect that is not the case. If the Court feels any sympathy for the ninjas in our hypothetical, then it should have a similar sympathy for the original defendant in *Jones*.

IV. WILL *JONES* REVERSE *MAYNARD*?

A. *The Case for Reversal*

The Supreme Court's grant of certiorari in *Maynard*, as opposed to *Pineda-Moreno*, already points to reversal. The Justices rarely review a case solely to approve the reasoning of a lower court. Here, they have two strong reasons to overturn the D.C. Circuit's decision: (1) the mosaic theory is not a bright-line rule, and (2) requiring a probable-cause warrant for GPS information could very well chill legitimate investigations. The Court will probably emphasize its statement in *Knotts* that it has "never equated police efficiency with unconstitutionality."[164]

Maynard's novel holding has already given commentators pause because deciding when the mosaic springs into existence is purely a matter of judicial opinion.[165] Equally bothersome, when the mosaic does arise, it converts individual instances of police conduct, which were previously legal under *Knotts*, into unconstitutional searches. Thus, there is simply no way that the *Maynard* rule could give police a bright-line guide to acceptable conduct until a series of hair-splitting cases was decided—one case for 30 days of surveillance, one for 29 days, one for 29.5, *et cetera*.[166] Further, the Justices may feel that probable cause is too stringent a standard to apply to GPS warrants. Looking at cases like *Pineda-Moreno*, it seems that GPS is useful as a law enforcement tool mostly because it lets suspects lead the police to previously unknown sites of criminal activity. While this does raise the troubling specter of cheap, undetectable "fishing expeditions" against un-accused citizens, the warrant requirement does not strike a satisfying balance between the competing interests at hand. By the time the police are able to describe with particularity where they expect the GPS device to lead them, its use will be largely pointless. It will chill the use of GPS as an investigatory tool and render it a form of mere documentation of already-known facts.

B. *The Smith Option*

If the Supreme Court wishes to create a workable, lasting rule to govern GPS surveillance by the police, it has two options: (1) it could approve the *Maynard* reasoning and hold that the mosaic theory protects our location information as a matter of policy, thus requiring police to obtain a probable-cause warrant before they conduct GPS surveillance; or (2) it could hold that GPS does not raise a constitutional question, leaving it to Congress to define the allowable uses

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[164] *Knotts*, 460 U.S. at 284.

[165] See *Cuevas-Perez*, 640 F.3d at 283 ("[i]f a court wanted to answer that fraught question [of when the mosaic appears], it would ask about the frequency with which people take the different routes, the populations at the endpoints in the journeys, how likely people are to peel off at particular exits, and so forth. The framework would prove impossible for law enforcement to administer ex ante.") (Flaum, J., concurring).

[166] *Id.* at 274 ("The aspects of the search in *Maynard* that affected the court's decision are absent here. The 28–day surveillance in *Maynard* was much lengthier than the 60–hour surveillance in the case before us.").

of GPS transponders via statute. This second holding is not without precedent in Fourth Amendment law. In the wake of *Smith v. Maryland*,[167] where the Court held that a list of numbers dialed from a particular phone (known as a "pen register") could not be subject to a reasonable expectation of privacy,[168] Congress enacted 18 U.S.C. § 2703 (2010). Section 2703(d) of that statute protects consumer phone records from Government discovery unless and until the police are able to prove reasonable suspicion to a disinterested magistrate. *Smith* and § 2703(d) may provide an apt model for the GPS cases, because a list of dialed numbers and a list of vehicle locations arguably provide a similar amount of information about an individual's associations. Both differ from the wiretap in *Katz*, in that they only circumstantially reveal that data. Where a wiretap on a bookie's phone threatens to directly incriminate him, a GPS device placing him in the phone booth or a pen register revealing that the phone had dialed a suspected gambling operation merely creates a suspicion of criminality requiring further investigation.

In *Smith*, the Court reasoned that telephone users in general were aware that any number they dialed would be routed through the telephone company, where it could easily be discovered by the company's employees.[169] Similarly, if and when GPS devices are used to regulate traffic flow, a car's location would be routed through a central clearinghouse.

The petitioner in *Smith* expressly conceded that had his call been directed through an operator, he would have had no reason to expect privacy in which number he was calling.[170] Police discovery of a compiled list of numbers dialed from a certain phone does not violate any reasonable expectation of privacy—after all, a subscriber receives a similar list on every bill the phone company sends him.[171] The Court was careful to state that pen registers provide much less information than a wiretap like the one in *Katz*: "[Pen registers] disclose only the telephone numbers that have been dialed—a means of establishing communication. Neither the purport of any communication between the caller and the recipient of the call, their identities, nor whether the call was even completed is disclosed by pen registers." [172]

As facially similar as GPS units and pen registers may be in terms of the *type* of information they reveal, they do not uncover the same *amount* of information. GPS monitoring reveals much more about a citizen's life than a pen register does, and is also harder for the average citizen to defend against. Pen registers can only capture affirmative conduct; this kind of monitoring only occurs when a particular phone is picked up and dialed. By contrast, GPS units unblinkingly record a car's location whether or not it is in motion. To a police officer with access to extensive location records, discovering when a suspect *fails* to visit a particular place can be just as revealing as discovering where that suspect actually travels. In most cases, a suspect's failure to dial a certain phone number at a certain time will not provide nearly the same level of insight into his private life. A pen register cannot tell an officer whether a call was actually completed, whereas a GPS unit unfailingly reveals what destinations the car arrived at, and the exact amount of time a vehicle spent at a given location. This timing information will often give the police a semi-complete idea of what the car's owner was doing there, as well as additional clues that a simple, archaic pen registercould not. While citizens can, and often do, own multiple cell phones, for the most part, they generally do not own multiple cars for their exclusive personal use.

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[167] *Smith*, 442 U.S. at 735.
[168] 442 U.S. at 735.
[169] *Id.* at 744.
[170] *Id.* at 745.
[171] *Id.* at 742.
[172] *Id.* at 741.

Despite this, the Justices' decision to review *Maynard* seemingly indicates that they will follow the course of events in *Smith*: they will likely hold that GPS surveillance does not create a Fourth Amendment "search." The Justices are probably anticipating that Congress—or the various state legislatures—will follow the example of California Penal Code section 637.7 § 2, which defines electronic location tracking without the subject's knowledge as both (1) a crime, and (2) a violation of the subject's reasonable expectation of privacy under California law.

C. *A Minor Edit: "And No Warrants Shall Issue, But Upon [Reasonable] Cause"*

A *Smith*-like holding in *Jones*, while likely, is essentially a sham. The *Katz* test purports to interpret the Fourth Amendment in terms of our societal expectations, but its application in *Jones* will probably fail to do that. The Justices may, with a wink, hold that the Fourth Amendment *per se* does not recognize a popular interest in location privacy, while fully expecting that the people's representatives will enact legislation similar to section 2703, based on their finding that—*ta-daa!*—the popular interest in location privacy is not being adequately protected by current law. The better course, in my view, is to make *Jones* into a watershed case—the twenty-first century's answer to *Katz*. I advocate for the judicial creation of an *ex ante* search order based on reasonable suspicion, not probable cause.

As Judge Posner observed in *Garcia*, the Fourth Amendment operates as two separate, severable provisions.[173] First, the text forbids unreasonable searches and seizures.[174] Second, the text describes the requirements for a warrant.[175] To Posner, the chief value of the warrant is that it requires the police to explain the need for a search before the fact, thereby limiting the government's ability to conduct fishing expeditions to justify searches *ex post*.[176] The problem with using the warrant system to achieve *ex ante* justification is that it is tied to the probable-cause standard; a warrant can only issue after the police have discovered a crime, identified a suspect, and gathered enough evidence to convince a judge to subject the suspect to the full power of the State. This makes it unsuitable as a means to regulate intermediate-level police conduct, defined as when the police have some cause to want to know more about a suspect, but not enough evidence to justify kicking in his door or throwing him in jail. Hence, the twentieth century saw the rise of *Terry v. Ohio*[177] and its progeny, which emphasized the first clause of the Fourth Amendment in carving out a class of cases where the police are simply required to act in a not-"unreasonable" manner[178]. In *Terry* cases, the police are not made to show cause to a judge before acting (though they will have to show *ex ante* justification when challenged at trial). This is because requiring the police to go to a judge and make a pre-search application is, by definition, a warrant requirement governed by probable cause. There has never been an instance where the Court has allowed a warrant to issue on less than probable cause. Or, rather, there has never been an instance outside of the national-security context, where the Court has already

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[173] *Garcia*, 474 F.3d at 996.

[174] U.S. Const. amend. IV ("[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated.")

[175] *Id.* ("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").

[176] *Garcia*, 474 F.3d at 996

[177] *Terry v. Ohio*, 392 U.S. 1 (1968).

[178] *Id.* at 9.

endorsed a modified, *de facto* reasonable suspicion standard, which is "probable cause" in name only.[179]

The Justices could and should be hesitant to issue a holding in *Jones* that not only expands the existing exceptions to the warrant requirement, but creates a new form of court order that looks like a warrant, acts like a warrant, but demands a lesser quantum of proof than a warrant. However, for decades, we have lived under the system established by cases like *Terry* and *Smith* and statutes like section 2703 without our democracy collapsing. An all-or-nothing approach to Fourth Amendment protection—either the police have to get a probable-cause warrant before acting, or they don't—is not required by the text and does not always strike the optimal balance between competing judicial policies. By recognizing an intermediate level of constitutional protection, the Court will be able to take a more flexible, practical view of future electronic surveillance cases. A constitutionally recognized "investigatory order" based on reasonable suspicion may not defend the classic understanding of the warrant clause, but will expand the number of cases where the State will have to justify intrusions on its citizens' privacy to a judge. In the end, this may do more to effectuate the goals of the Bill of Rights than rigid adherence to a centuries-old evidentiary standard.

[179] *Compare*, *e.g.*, United States v. United States District Court, 407 U.S. 297, 322 (1972) (allowing probable cause to be found on the basis of otherwise-inadequate proof because "the gathering of security intelligence is often long range and involves the interrelation of various sources and types of information […] [t]hus, the focus of domestic surveillance may be *less precise* than that directed against *more conventional* types of crime") (emphasis added) *with* U.S. Const. amend. IV (uniformly requiring warrant applications to "*particularly* describ[e] the place to be searched, and the persons or things to be seized") (emphasis added).