

ORAL ARGUMENT NOT YET SCHEDULED

Nos. 08-3030, 08-3034 (Consolidated)

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**UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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UNITED STATES OF AMERICA, *Appellee*,

v.

LAWRENCE MAYNARD and ANTOINE JONES, *Appellants*.

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On Appeal from the United States District Court  
for the District of Columbia

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**BRIEF OF *AMICI CURIAE* ELECTRONIC FRONTIER FOUNDATION AND  
AMERICAN CIVIL LIBERTIES UNION OF THE NATIONAL CAPITAL  
AREA IN SUPPORT OF APPELLANT JONES**

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## **CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES**

Pursuant to Circuit Rule 28(a)(1), *amici curiae* Electronic Frontier Foundation (“EFF”) and the American Civil Liberties Union of the National Capital Area (“ACLU-NCA”) certify that:

### **(A) Parties and Amici**

All parties, intervenors, and *amici* appearing in the proceedings below are listed in the Brief of Appellants.

### **(B) Rulings Under Review**

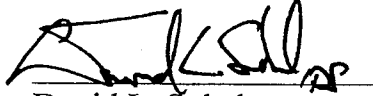
References to the rulings at issue appear in the Brief of Appellants.

### **(C) Related Cases**

The cases on review have not previously been before this Court or any other court, and EFF and ACLU-NCA are not aware of any related cases in this Court or any other court.

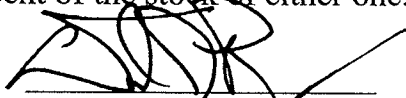
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The Electronic Frontier Foundation ("EFF") is a non-profit, non-stock corporation organized under the laws of the Commonwealth of Massachusetts. There is no parent corporation of EFF, and no publicly held company owns 10 percent or more of the stock of EFF as there is no stock.



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This brief is submitted by *amici curiae* Electronic Frontier Foundation (“EFF”) and the American Civil Liberties Union of the National Capital Area (“ACLU-NCA”) in support of Appellant Antoine Jones.

### INTEREST OF AMICI CURIAE

This case presents the question of whether the Fourth Amendment prohibits the Government from installing and using a remotely-operated Global Positioning System (“GPS”) location-tracking device, without a warrant, to track the movements of an individual’s automobile over an extended period of time.

EFF is a non-profit, member-supported organization based in San Francisco, California, that works to protect free speech and privacy rights in an age of increasingly sophisticated technology. As part of that mission, EFF has served as counsel or *amicus curiae* in many cases addressing civil liberties issues raised by the Internet and other emerging technologies, specifically including location tracking.

The ACLU-NCA is the local affiliate of the American Civil Liberties Union, a nationwide, non-profit membership organization with more than half a million members that, from its founding in 1920, has been devoted to protecting and defending the constitutional rights of Americans. In that cause, the ACLU-NCA has frequently appeared before this Court in cases arising under the Fourth Amendment, either as counsel for parties or as *amicus curiae*.



## SUMMARY OF ARGUMENT

GPS technology provides police with a powerful and inexpensive method to remotely track in great detail the movements of individuals by foot or by automobile, over an extensive period, and across public and private areas. Without a warrant requirement, an individual's every movement could be subject to remote monitoring, and permanent recording, at the sole discretion of any police officer.

Neither the Supreme Court nor this Circuit has ever decided whether the warrantless use of GPS tracking technology is constitutional. The Supreme Court's "beeper" cases (now 25 years old) do not control the question. Indeed, when the Court permitted the use of *lawfully installed* radio "beepers" in *United States v. Knotts*, 460 U.S. 276 (1983), and *United States v. Karo*, 468 U.S. 705 (1984), to augment the senses of police physically following a vehicle on public roads, the Court made clear that its ruling did not control "dragnet-type law enforcement practices," *Knotts*, 460 U.S. at 284, or technological intrusion into private places. *Karo*, 468 U.S. at 714.

GPS tracking (1) does not merely augment the senses of police officers, but provides a complete technological replacement for human surveillance; (2) enables twenty-four hour a day "dragnet" surveillance at nominal cost; (3) enables police to track vehicles or persons in private places as well as on public roads; and (4) enables the simultaneous surveillance of essentially unlimited numbers of people.

In at least these four important ways, it does not resemble the use of “beepers” previously approved by the Supreme Court.

Subsequent to the “beeper” cases, the Supreme Court has recognized that a Fourth Amendment search may occur through the use of advanced technology to reveal detailed and personal information about individuals. These characteristics apply to GPS tracking, and a warrant should therefore be required for its unconsented use. Such a ruling also comports with the public’s rejection of “Big Brother” police surveillance, and with the empirical evidence that Americans have a strong expectation of privacy that their every movement by automobile or by foot will not remotely be tracked and recorded by private parties or law enforcement.

*Amici* therefore urge this court to find that GPS location tracking is a search under the Fourth Amendment that may not be employed without a warrant issued upon a showing of probable cause.

### **ARGUMENT**

#### **I. GPS TRACKING TECHNOLOGY PERMITS THE POLICE TO REMOTELY COLLECT DETAILED PERSONAL DATA WITHOUT THE NEED FOR ANY PERSONAL OBSERVATION**

In this case, the FBI surreptitiously affixed a GPS tracking device to a concealed location on Appellant Jones’ vehicle without a warrant, and then precisely tracked his location and movements over a one-month period. (Appellants’ Br. at 48.) This technology did not require FBI agents to follow

Jones' vehicle or to make any personal observation of his vehicle's location once the device was installed. The FBI did not do so for much of the surveillance period. (App. 827-28.)

The GPS tracker automatically recorded the vehicle's movements and locations every ten seconds while the vehicle moved. (App. 829-830, 903; Trial Tr., Vol. II, at 91-92, Nov. 20, 2007 afternoon session [hereinafter "Bitsie Tr."]). (A copy of this portion of the trial transcript, which describes the operation of GPS transmission devices, is appended to this brief as an Addendum.) The tracking was "perfectly accurate" to within 50-100 feet of Jones' location. (Bitsie Tr. at 92.) The GPS device accumulated a huge amount of data about Jones' movements over the one-month period, amounting to 3,106 printed pages of data. (App. 903.)

GPS receivers calculate latitude, longitude, altitude, direction, and speed by receiving and processing location information from the unencrypted transmissions of the four nearest GPS satellites in orbit. *See* Renee McDonald Hutchins, *Tied Up In Knotts? GPS Technology and The Fourth Amendment*, 55 U.C.L.A. L. Rev. 409, 415 (2007) (describing the technology and capability of GPS systems) (hereinafter "Hutchins"). The GPS satellite system can support an unlimited number of receivers. Hutchins, at 418. Today, GPS *receivers* are commonly built into cell phones and vehicles, but these devices either do not *transmit* the GPS location

data, or only do so with the consent and knowledge of the owner. (Bitsie Tr. at 90-96.)

Government installed GPS tracking technology differs from GPS receivers and from user-controlled GPS devices in important, constitutionally significant ways. For example, the device affixed to Jones' vehicle was designed to collect location and directional data without his knowledge or consent. The device used cell phone technology to secretly transmit the information to a law enforcement-owned laptop. (Bitsie Tr. at 93, 94.) GPS tracking devices track individuals or vehicles as they traverse private property as well as public streets. These GPS trackers give the police the ability to remotely monitor individuals' physical locations with great accuracy, without leaving the stationhouse.

GPS technology is growing ever more powerful. Currently, police can easily tag one or more vehicles, people, or objects with GPS-enabled tracking devices that are too tiny or cloaked for the target to notice, and then remotely monitor the precise location of the tagged vehicle, person or object from a home computer, FBI office, cell phone, or other tracking center. *See Hutchins*, at 418. Though pure GPS devices historically functioned best outdoors, assisted GPS and other innovations that enable reliable indoor tracking are under development. *Hutchins*, at 419-20. *See also* Darren Murph, *Underground/Indoor GPS repeater maintains your position*, Engadget, Feb. 21, 2007,

<http://www.engadget.com/2007/02/21/underground-indoor-gps-repeater-maintains-your-position/> (visited Feb. 26, 2009).

The Los Angeles Police Department has begun to outfit its cruisers with air guns that can launch GPS-enabled “darts” at passing cars. Hutchins, at 418-19. These darts consist of a miniaturized GPS receiver, radio transmitter, and battery embedded in a sticky compound material. When fired at a vehicle, the compound adheres to the target, and thereafter permits remote, real-time tracking of the target from police headquarters. *Id.* See StarChase, [http:// www.starchase.org](http://www.starchase.org) (last visited Feb. 26, 2009) (official website of a commercial provider of GPS-enabled dart technology).

GPS tracking is being used with increasing frequency, though “[m]ost police departments in the Washington area resist disclosing whether they use GPS to track suspects.” Ben Hubbard, *Police Turn to Secret Weapon: GPS Device*, Washington Post, Aug. 13, 2008, at A01. The Washington Post reported recently reported that Arlington County police used GPS devices 70 times in the 2005-07 period, and that Fairfax County police used GPS devices 61 times in 2005, 52 times in 2006, and 46 times in 2007. *Id.*

When a GPS device is placed on a person or other personal effect, the device can provide the police with exact information about his or her visits to any residence, any place of business or entertainment, or any therapist’s office or other

medical facility. Law enforcement authorities now have a powerful tool for conducting inexpensive, unobtrusive, twenty-four hour a day dragnet-type surveillance of an individual. The technology is also cheap enough to be used for mass surveillance of the public's movements.<sup>1</sup> Like all technology, GPS-enabled tracking devices will likely continue to grow even smaller, more accurate and less expensive.

Absent a warrant requirement, the police could track unlimited numbers of members of the public for days, weeks, or months at a time, without ever leaving their desks. No person could be confident that he or she was free from round-the-clock surveillance of his or her movements and associations by a network of satellites constantly feeding data to a remote computer that could at any instant determine with precision his or her current or past movements, and the time and location that the individual crossed paths with other GPS-tracked persons. The police could engage in such "Big Brother" surveillance even if the targeted

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<sup>1</sup> The widespread use of GPS technology and similar location-tracking capabilities in cellular networks may give law-enforcement authorities the technical ability to monitor remotely the movements of many millions of Americans who carry cellular telephones, as well as those whom are subject to tracking through police-installed GPS devices. *See In re Application of the United States For An Order (1) Authorizing The Use Of A Pen Register And A Trap And Trace Device And (2) Authorizing Release Of Subscriber Information And/Or Cell Site Information*, 396 F. Supp. 2d 294 (E.D.N.Y. 2005).

individuals were completely law abiding, and presented no reasonable ground for any suspicion.<sup>2</sup>

## II. THE SUPREME COURT'S RULINGS IN THE "BEEPER" CASES DO NOT CONTROL THE GPS-TRACKING ISSUE BEFORE THIS COURT

Twenty-five years ago, the Supreme Court ruled that police do not need a warrant to make use of the signals transmitted by a radio beeper that had been *lawfully installed* on a vehicle to aid in the physical surveillance of that vehicle as it traveled on public roads. *United States v. Knotts*, 460 U.S. 276, 282 (1983).<sup>3</sup> A year later the Court again accepted the use of signals from a lawfully installed beeper to track the movements of a canister of chemicals in public places, but struck down the use of those signals to confirm that the canister remained inside a home. *United States v. Karo*, 468 U.S. 705, 714 (1984). The Court explained that "monitoring of a beeper in a private residence, a location not open to visual

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<sup>2</sup> Law enforcement authorities have been known to engage in close surveillance of law-abiding citizens and infiltration of their organizations. For example, the Maryland State Police and the U.S. Department of Homeland Security recently conducted long-term monitoring of 53 individuals and infiltration of about two dozen groups who were peacefully opposed to the war in Iraq. Lisa Rein, *Federal Agents Aided Md. Spying*, Washington Post, Feb. 17, 2009, at B01; Lisa Rein, *Police Spied on Activists in Md.*, Washington Post, July 18, 2008, at A01.

<sup>3</sup> In *Knotts*, the Court did not decide whether the warrantless installation of the beeper violated the Fourth Amendment, as that issue was not presented. *Knotts*, 460 U.S. at 279 n. \*. That issue is presented in this case and requires reversal (*see* Appellants' Br. at 54-55), but is not the focus of this brief.

surveillance, violates the Fourth Amendment rights of those who have a justifiable interest in the privacy of the residence.” *Id.* at 714.

The beepers in *Knotts* and *Karo* were simple devices that provided police officers in vehicles a radio signal whose strength indicated whether the vehicle under surveillance was getting closer or farther from the officers’ vehicle.<sup>4</sup> This assisted the police officers in physically following a vehicle.

Taken together, *Knotts* and *Karo* require the suppression of evidence obtained when police use radio tracking technology, without a warrant, to learn information about places not open to visual surveillance.<sup>5</sup> The Court’s rulings, however, did not approve every type of warrantless electronic surveillance of movements even on the public roads.

In *Knotts*, the Court said that “[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements

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<sup>4</sup> See, e.g., *United States v. Berry*, 300 F. Supp. 2d 366, 368 (D. Md. 2004) (“a beeper is unsophisticated, and merely emits an electronic signal that the police can monitor with a receiver. The police can determine whether they are gaining on a suspect because the strength of the signal increases as the distance between the beeper and the receiver closes”).

<sup>5</sup> In this case, the district court suppressed GPS data obtained from the vehicle when it was located inside the garage adjoining Jones’ home. *United States v. Jones*, 451 F. Supp. 2d 71, 88 (D.D.C. 2006). But that effort to follow the rule of *Karo* was meaningless, because the unsuppressed data showed when the vehicle entered the garage and when it left the garage, leaving no uncertainty about when the vehicle was in the garage.



from one place to another,” 460 U.S. at 281, and that the Fourth Amendment does not prohibit the police from “augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them in this case.” *Id.* at 282.

Despite this broad language, the Court made clear that it was not giving the police a blank check to conduct warrantless, electronic tracking even as to persons’ movements on public roads. The defendant in *Knotts* argued that the warrantless use of a beeper could allow “twenty-four hour surveillance of any citizen of this country . . . without judicial knowledge or supervision.” 460 U.S. at 283. The Court responded that “if 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.” 460 U.S. at 284.

In *Knotts*, the Court only allowed “sense-augmenting” beeper technology that assisted police in better conducting their physical and visual surveillance of a single suspect’s public movements. *Knotts*, at 282. The Court had no occasion to consider whether “remote” tracking – which replaces, rather than augments, an officer’s sensory faculties – can be performed without a warrant.

Accordingly, *Knotts* does not directly apply to GPS technology, which does not “augment” police officers’ own senses but provides a complete and superior

substitute for physical observation. GPS enables remote tracking that a police officer could never accomplish with his or her own senses.

This distinction is significant to this case. For most of the one-month period at issue, FBI agents did not actually follow Jones' vehicle as it made its way from place to place. (App. 827-29.) Instead, they made use of advanced satellite and computer technology to remotely monitor Jones' movements across public and private areas. This was not human observation assisted by technology, but non-human technological tracking unassisted by humans in any manner after the initial installation of the GPS device.

We describe next the reasons why remote GPS tracking should require use of a warrant under the Supreme Court's rulings since *Knotts* and *Karo*.

### **III. THE FOURTH AMENDMENT PROHIBITS LAW-ENFORCEMENT AUTHORITIES FROM CONDUCTING REMOTE GPS TRACKING WITHOUT A WARRANT**

The Fourth Amendment provides that “[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.” Modern Fourth Amendment analysis starts with *Katz v. United States*, 389 U.S. 347 (1967). Whether a Fourth Amendment “search” has occurred is governed by two issues: (1) whether the government has intruded into a matter as to which an individual has exhibited an actual (subjective) expectation of privacy, in seeking to preserve something as private, and (2)

whether the individual's subjective expectation of privacy against government intrusion is one that "society is prepared to recognize as 'reasonable.'" *Knotts*, 460 U.S. at 281, *quoting Smith v. Maryland*, 442 U.S. 735 (1979).

The Fourth Amendment protects "people, not places." *Katz*, 389 U.S. at 351. Thus, whether investigative activities track an individual on a public road or in a private space does not determine the Fourth Amendment question. What an individual "seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected." *Id.* at 351.

As described below, Americans have a "reasonable expectation of privacy" to be free of warrantless, remote GPS monitoring. That expectation is demonstrated by constitutional doctrine developed since *Knotts*, by basic principles recognized in *Katz*, and by common sense and empirical evidence.

A. The Fourth Amendment Protects Against the Warrantless Use of Advanced Technology like GPS to Gather Detailed Information About Americans' Movements

The Fourth Amendment imposes some limits on the "power of technology to shrink the realm of guaranteed privacy." *Kyllo v. United States*, 533 U.S. 27, 34 (2001). *See United States v. Garcia*, 474 F.3d 994, 997 (7th Cir.) ("[T]he meaning of a Fourth Amendment search must change to keep pace with the march of science."), *cert denied*, 128 S. Ct. 291 (2007).

The Supreme Court has repeatedly recognized that a warrant is required when police use advanced technology to obtain detailed information about Americans' activities. Remote GPS tracking is such a technology.

In *Kyllo*, the Court ruled that police could not, without a warrant, direct a thermal-imaging device from a public street at a home in order to detect heat emissions from suspected marijuana-growing activity. The Court found that the police had engaged in an unreasonable search by obtaining information about the interior of the home through "sense-enhancing" technology. *Id.* at 34.

The Court rejected as "quite irrelevant" the dissent's objection that the information about heat inside the home can sometimes be perceived by observers without the use of technology. *Kyllo*, 533 U.S. at 35 n.2. "The fact that equivalent information could sometimes be obtained by other means does not make lawful the use of means that violate the Fourth Amendment." *Id.* This suggests that the Court is not willing to approve the warrantless use of technology (like GPS) to obtain information about individuals simply because all or most of the same information could theoretically be obtained by physical observation from a public space.

The Court also recognized that vigilance is required to ensure that advances in police technology do not "erode the privacy guaranteed by the Fourth Amendment." *Id.* at 34. Drawing that line requires Courts to "take the long view,

from the original meaning of the Fourth Amendment forward,” and in a manner “which will conserve public interests as well as the interests and rights of individual citizens.” *Id.* at 40, citing *Carroll v. United States*, 267 U.S. 132, 149 (1925).

While *Kyllo* involved surveillance of a home – due special protection under the Fourth Amendment – the Court’s observations about the use of advanced technology were not limited to the home environment. Constitutional protection extends further. For example, in *Katz*, the government eavesdropped on calls the defendant made from a public phone booth by attaching a listening device to the outside of the booth. Any passer-by could see Katz talking in the booth, Katz intended the person he was calling to hear him, and he knowingly transmitted his voice over public wires. Despite having revealed his appearance to the public, and transmitted the contents of his communication over phone lines to the recipient of the call, and despite the fact that the agents affixed the listening device to the outside of the phone booth without trespassing on a private space, the Court held that Katz had a reasonable expectation of privacy that his communications would be free from government eavesdropping. *Id.* at 359 (“These considerations do not vanish when the search in question is transferred from the setting of a home, an office, or a hotel room to that of a telephone booth. Wherever a man may be, he is

entitled to know that he will remain free from unreasonable searches and seizures.”).

In *Dow Chemical Co. v. United States*, 476 U.S. 227 (1986), the Court addressed aerial surveillance of an industrial facility, upholding the warrantless use of an airplane-mounted commercial camera to photograph the outline of an industrial plant and nearby equipment. However, the Court noted that use of “unique sensory devices” could well constitute a Fourth Amendment search. *Id.* at 238. It singled out satellite technology as just such a device: “Surveillance of private property using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed without a warrant.” *Id.*

An important factor for the Court in *Dow Chemical* was that the photographic surveillance revealed no more than an outline of the building and equipment. *Id.* at 238. It did not reveal intimate details, which would have caused constitutional concerns:

[T]he photographs here are not so revealing of intimate details as to raise constitutional concerns. Although they undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of the facility’s buildings and equipment. The mere fact that human vision is enhanced somewhat, at least to the degree here, does not give rise to constitutional problems.

476 U.S. at 237-38.

By contrast, GPS tracking replaces, not “somewhat enhances” naked-eye views. It reveals a plethora of intimate information about a person’s life, including his or her travel to political meetings, places of worship, news media offices, or the homes of friends or lovers.<sup>6</sup>

The Fourth Amendment regulates intrusive police practices even when a defendant’s actions are partially exposed to the public. In *Bond v. United States*, 529 U.S. 334, 338-39 (2000), the Court held that a police officer’s squeezing of soft-sided luggage on a bus is a search, even though a traveler knows that members of the public may touch his baggage when putting their own luggage on the rack. Though the petitioner could have expected casual touching of his bag by members of the public, he could not have expected that someone would feel his bag in an exploratory manner. The police officer’s squeezing was therefore a search. *Id.* at 339.

The Court’s ruling in *Walter v. United States*, 447 U.S. 649 (1980), similarly recognized that law-enforcement agents require a warrant if their search becomes more intrusive than a simple, visual review of materials in plain sight. In *Walter*, the agents lawfully obtained cartons of motion pictures that had been misdelivered

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<sup>6</sup> Had GPS technology been available during the Nixon administration, those seeking to identify “Deep Throat” could simply have placed GPS devices on the vehicles of all possible leakers; Mark Felt’s every visit to the parking garage would have leapt off the data printout.

to, and opened by, a private party. Labels on the individual film boxes indicated that they contained obscene pictures, but the private party was unable to see the films when holding the strip up to the light. Without obtaining a warrant, agents seized the items and screened the movies on a projector. The Court held that use of the movie projector violated the Fourth Amendment. Even though the private search doctrine may allow the Government to review materials in plain view when turned over, the Government may not exceed the scope of the private search unless it has the right to make an independent search. "The private search merely frustrated that expectation [of privacy] in part. It did not simply strip the remaining unfrustrated portion of that expectation of all Fourth Amendment protection." *Id.* at 659.

Taken together, Supreme Court precedent establishes that intrusive police techniques revealing the details of a person's private activities constitutes a Fourth Amendment search even if those activities may be exposed to the public, especially when the techniques involve use of sophisticated technology that does not merely enhance an officer's own senses. The police in *Kyllo* were not permitted to use a thermal-imaging device to detect heat emanations that were not visible to the human eye; the officers in *Bond* were not permitted to engage in investigatory squeezing to detect the contents of a bag not knowable by a casual traveler; the agents in *Dow Chemical* would not have been permitted to use satellites or other



unique sensory devices to surveil the factory; the officers in *Katz* were prohibited from eavesdropping on the defendant's call; and the agents in *Walter* could not without a warrant use a film projector to screen the contents of films they legally obtained from a private party. Similarly, travelers on the public road may reveal their physical location to casual observers, or to officers conducting physical surveillance, but they retain a reasonable expectation of privacy against tracking by the unique sensory capacities of GPS satellites.<sup>7</sup>

The Fourth Amendment's warrant requirement should also be rigorously applied with respect to remote GPS tracking because it threatens Americans' First Amendment rights to associate privately with others. *NAACP v. Alabama*, 357 U.S. 449, 462 (1958) (court could not compel NAACP to produce a membership list because the First Amendment imposes limitations upon governmental abridgement of the "freedom to associate and privacy in one's associations"). GPS tracking can reveal whether a person visits a Planned Parenthood clinic, patronizes a gay bar, or attends a meeting of an unpopular political organization. Moreover, if

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<sup>7</sup> As noted in Appellants' Brief (at 63-64), Washington's state supreme court has reached the same conclusion under the state constitution. *People v. Jackson*, 150 Wash. 2d 251, 76 P.3d 217 (2003). The constitutionality of warrantless GPS tracking is presently being considered by New York's highest court in *People v. Weaver* (N.Y. Ct. App.). *Amici* refer this Court to the comprehensive *amicus* brief submitted in that case by the National Association of Criminal Defense Lawyers and other organizations, available at [http://www.nacdl.org/public.nsf/mediasources/GPSAmicusBrief/\\$FILE/gps.pdf](http://www.nacdl.org/public.nsf/mediasources/GPSAmicusBrief/$FILE/gps.pdf).

