

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**

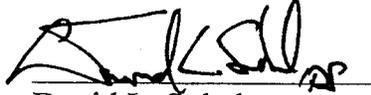
References to the rulings at issue appear in the Brief of Appellants.

**(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.

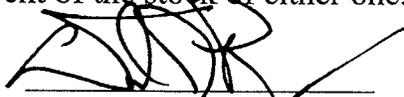
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The Electronic Frontier Foundation (“EFF”) is a non-profit, non-stock corporation organized under the laws of the Commonwealth of Massachusetts. There is no parent corporation of EFF, and no publicly held company owns 10 percent or more of the stock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



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The American Civil Liberties Union of the National Capital Area (“ACLU-NCA”) is a non-profit, non-stock corporation organized under the laws of the District of Columbia. ACLU-NCA is an affiliate of the American Civil Liberties Union (“ACLU”), which is likewise a non-profit, non-stock corporation. Neither ACLU-NCA nor its affiliate ACLU has issued stock, and therefore no publicly held corporation owns 10 percent of the stock of either one.



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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).

GPS devices are used to track multiple vehicles or persons, modern computer technology will enable the Government to correlate those data sets to reveal whose paths cross, and where and when. Far beyond photography of the mere outline of a building as in *Dow Chemical*, and even beyond the bag squeezing that the Court found unconstitutional in *Bond*, GPS tracking creates a detailed portrait of the target's friends, interests, and affiliations.

The freedom of privacy in one's associations would be impaired just as much as through compelled disclosure of a confidential membership list (which *NAACP* held improper) if the police could at any moment, and without a warrant, compile a list of members in an organization by tracking one or more of them via satellite as he or she visited other members of the organization. The Constitution requires judicial supervision for such powerful and intrusive surveillance methods. The Supreme Court emphasized in *Walter* that the Fourth Amendment's warrant requirement should be "scrupulously observed" when First Amendment concerns are presented.<sup>8</sup>

Only one Circuit has directly addressed the question whether a warrant is required for remote surveillance conducted by a GPS tracking device. In *United States v. Garcia*, 474 F.3d 994 (7th Cir. 2007), the court relied heavily on *Knotts* in

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<sup>8</sup> See *Maryland v. Macon*, 472 U.S. 463, 468 (1985) ("The First Amendment imposes special constraints on searches for and seizures of presumptively protected

allowing the surveillance, which we submit was error for the reasons stated above. Nonetheless, the Seventh Circuit correctly noted that the public road/private place distinction is not the dispositive factor in whether the Fourth Amendment applies. As Judge Posner wrote for the court, GPS surveillance of movements across public streets may well violate the Constitution if performed on a mass basis:

One can imagine the police affixing GPS tracking devices to thousands of cars at random, recovering the devices, and using digital search techniques to identify suspicious driving patterns. One can even imagine a law requiring all new cars to come equipped with the device so that the government can keep track of all vehicular movement in the United States. It would be premature to rule that such a program of mass surveillance could not possibly raise a question under the Fourth Amendment – that it could not be a search because it would merely be an efficient alternative to hiring another 10 million police officers to tail every vehicle on the nation’s roads.

\* \* \*

Should government some day decide to institute programs of mass surveillance of vehicular movements, it will be time enough to decide whether the Fourth Amendment should be interpreted to treat such surveillance as a search.

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[published] material . . . and requires that the Fourth Amendment be applied with ‘scrupulous exactitude’ in such circumstances.”).

474 F.3d at 998. However, the court allowed the GPS tracking in the case before it because it had no facts before it indicating that the police in question were engaged in mass surveillance. 474 F.3d at 998.<sup>9</sup>

To the extent that *Garcia* implies (or this Court should find) that the warrantless use of GPS devices on a *mass* basis would be unconstitutional, this Court should find that such use on an *individual* basis is likewise unconstitutional. The Fourth Amendment protects *individual* rights,<sup>10</sup> and there is no constitutional doctrine holding that Americans are entitled to less privacy protection as individuals than as members of groups.

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<sup>9</sup> Without judicial supervision, it is unclear how defendants or the public could ever know whether, or how many, others were also subject to remote tracking.

<sup>10</sup> See, e.g., *Virginia v. Moore*, 128 S. Ct. 1598, 1604 (2008) (“When history has not provided a conclusive answer, we have analyzed a search or seizure in light of traditional standards of reasonableness ‘by assessing, on the one hand, the degree to which it intrudes upon an *individual’s* privacy and, on the other, the degree to which it is needed for the promotion of legitimate government interests’”) (emphasis added); *United States v. Brignoni-Ponce*, 422 U.S. 873, 878 (1975) (“[T]he reasonableness of [Fourth Amendment seizures] depends on a balance between the public interest and the *individual’s* right to personal security . . .”) (emphasis added); *Maryland v. Wilson*, 519 U.S. 408, 411 (1997) (“[T]he touchstone of our analysis under the Fourth Amendment . . . depends on a balance between the public interest and the individual’s right to personal security . . .”) (emphasis added); *Carroll v. United States*, 267 U.S. 132, 149 (1925) (“The Fourth Amendment is to be construed . . . in a manner which will conserve public interests as well as the interests and rights of individual citizens”).

In sum, the Fourth Amendment requires a warrant for GPS tracking because that technology is a unique sensory device that enables remote dragnet-type location tracking of individuals (as well as mass surveillance), far beyond what human police officers could possibly conduct. Moreover, GPS tracking can reveal intimate details of an individual's private life, as well as associations, which require that the Fourth Amendment's warrant requirement be scrupulously applied.

B. Common Sense and Empirical Evidence Demonstrate That Americans Do Not Expect Their Privacy to be Infringed by Remote Monitoring of Their Every Movement

Common sense establishes that members of the public have an expectation that their every movement will not be remotely monitored through the use of sophisticated technology. The "Big Brother" of George Orwell's *1984* would not retain its emotive power if people did not believe that they enjoy freedom from extensive, around-the-clock technological tracking. Nor would the Supreme Court in *Knotts* have identified dragnet-type surveillance as worthy of special constitutional consideration. Several state courts have convicted individuals for their non-consensual use of GPS technology to track others.<sup>11</sup> All these factors

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<sup>11</sup> E.g., *People v. Sullivan*, 53 P.3d 1181 (Colo. App. 2002) (a husband using GPS technology was guilty of harassment by stalking), *cert. denied*, 2005 Colo. LEXIS 979 (2005); *State of Delaware v. Biddle*, 2005 Del. C.P. LEXIS 49 (2005) (defendant held criminally liable for privacy violation in attaching GPS tracking device to victim's car). See John Schwartz, *This Car Can Talk. What it Says May Cause Concern*, New York Times, Dec. 29, 2003, at C1 (defendant convicted in Wisconsin for stalking his girlfriend using a secretly installed GPS device).

indicate that society finds the practice of warrantless, remote electronic surveillance highly disturbing and invasive of citizens' reasonable expectations of privacy.

Furthermore, there is empirical evidence that the public has a strong expectation of privacy against location tracking. In a recent study, authors at the University of California at Berkeley Law School examined a survey that queried respondents about location tracking using information provided from cell-phone towers. J. King & C. Hoofnagle, *Research Report: A Supermajority of Californians Supports Limits on Law Enforcement Access to Cell Phone Location Information*, available at <http://ssrn.com/abstract=1137988> (Apr. 18, 2008). The survey asked: "would you favor a law that required the police to convince a judge that a crime has been committed before obtaining location information from the cell phone company?" Seventy two percent of respondents supported or strongly supported this requirement, while 28 percent opposed or strongly opposed it. *Id.* at 8.

Similarly, in a study by Law Professor Christopher Slobogin, respondents rated the relative intrusiveness of different surveillance practices. *Public Privacy: Camera Surveillance Of Public Places And The Right To Anonymity*, 72 U. Miss. L. Rev. 213 (2002). The respondents rated the intrusiveness of a police officer noticeably following an individual down a public street as a 50 on a scale from one

to 100. Camera surveillance of a public street where the tapes are destroyed after a four-day period received a slightly higher rating of 53. However, that same surveillance, where the tapes are not destroyed, received a very high rating of 73, higher than pat-downs or detecting items through clothes, *id.*, Table 1, at 268, which are all investigative activities that are searches regulated by the Fourth Amendment. *See United States v. Askew*, 529 F.3d 1119 (D.C. Cir. 2008) (pat down requires reasonable suspicion). This survey confirms that Americans have an expectation that they will not be subjected to surveillance technology, like GPS, that can be used to remotely and comprehensively track and record movements over time.<sup>12</sup>

In sum, warrantless, remote GPS tracking trespasses on individuals' reasonable expectation not to be tracked electronically, twenty-four hours a day, for extensive periods of time.

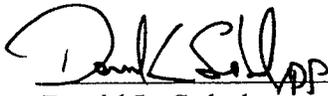
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<sup>12</sup> While not a scientific sampling, an online poll conducted by the Washington Post showed that 60% of 2,954 responders felt that “[t]he growing use of GPS technology by police departments to track criminal suspects marks [a] troubling trend.” *See* <http://www.washingtonpost.com/wp-dyn/content/article/2008/08/12/AR2008081203275.html?hpid=topnews> (visited Feb. 26, 2009).

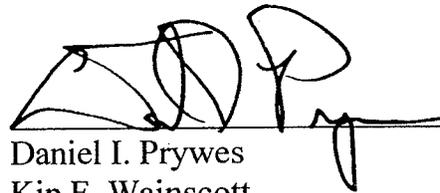
**CONCLUSION**

For the foregoing reasons, the Court should rule that the warrantless use of a GPS tracking device by the FBI to remotely record and monitor the movements of Appellant Jones violated the Fourth Amendment.

Respectfully submitted,



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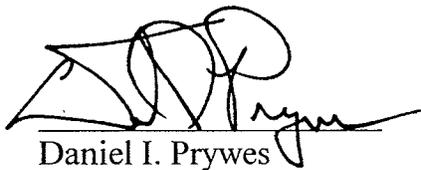
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## CERTIFICATE OF COMPLIANCE

I hereby certify that this brief conforms to the word limit imposed by this Court's Rules, and contains 5,824 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii).



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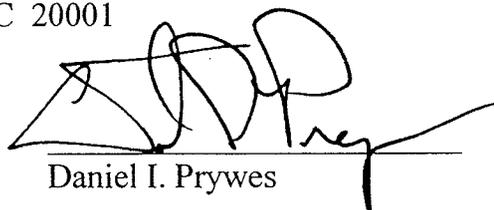
## CERTIFICATE OF SERVICE

I hereby certify that, on March 3, 2009, I caused two copies of the foregoing BRIEF OF *AMICI CURIAE* ELECTRONIC FRONTIER FOUNDATION AND AMERICAN CIVIL LIBERTIES UNION OF THE NATIONAL CAPITAL AREA IN SUPPORT OF APPELLANT JONES to be sent by first-class mail, postage prepaid, to the each of the following:

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# ADDENDUM



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1 THE COURT: You all finished?

2 MS. LIEBER: I said that's all I have.

3 THE COURT: Thank you, sir. You can step down.  
4 Just take five minutes, ladies and gentlemen.  
5 (Witness excused.)

6 THE COURT: May I see those notes, please? Then  
7 we'll go for a little bit longer. You okay, everybody all  
8 right? We are trying to make up for a little lost time here.  
9 (Jury excused.)

10 (Recess 4:05 p.m.)

11 (Proceedings resumed.)

12 THE COURT: I have reviewed apparently out of the two  
13 pages of grand jury are not available.

14 This would be a report of the -- is it by Agent  
15 Karousos?

16 MS. LIEBER: I believe it is.

17 THE COURT: And it's talking about, it has to do with  
18 that inn, I'm sorry, the name of which escapes me.

19 MR. BALAREZO: Knights.

20 THE COURT: What's it called?

21 MR. BALAREZO: Knights Inn.

22 THE COURT: Knights Inn. It refers to March 26th.  
23 It has to do with everything you brought up on cross  
24 examination, but it was not brought up in her direct testimony  
25 at all because it has nothing to do with it, but it does have

1 to do with Knights Inn.

2 This again is dated -- two pages and I don't know where  
3 the date is. It's report Number 3, date assigned is 2/27/04,  
4 day of report is 4/26/05. It's not going to be produced as  
5 Jencks. You'll let me see the grand jury later.

6 Call your witness. He's here, hi. Come on up. We'll  
7 see if we can get through.

8 Is this your witness?

9 MR. GEISE: Yes, Your Honor.

10 THE COURT: Keep it short.

11 MR. BALAREZO: Your Honor, I apologize for putting up  
12 the notes. That was inadvertent.

13 THE COURT: It's all right.

14 MS. LIEBER: I apologize for overreacting.

15 THE COURT: That's all right. Nobody saw it.

16 Mr. Geise, it says here that this officer will be here  
17 on direct for one hour? Yeah, that's what it says on your  
18 sheet.

19 MR. GEISE: I'm hoping the whole thing is done by  
20 five, Your Honor.

21 THE COURT: Before that.

22 MR. GEISE: I'm talking direct, cross, the whole  
23 shebang. If you want me to take an hour, I can.

24 (Jury present.)

25 THE COURT: Is everybody cooking tomorrow?

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1 THE JUROR: Yes, ma'am.

2 THE COURT: All right, officer, have a seat. Let's  
3 swear in the next witness, please.

4 GOVERNMENT WITNESS SOLOMON BITSIE SWORN

5 DIRECT EXAMINATION

6 BY MR. GEISE:

7 Q. Officer, would you please state your name and spell your  
8 last name?

9 A. Solomon Bitsie, B-I-T-S-I-E.

10 Q. How are you employed, Special Agent Bitsie?

11 A. I'm employed with the Federal Bureau of Investigation as a  
12 Special Agent.

13 Q. And could you just briefly tell us your educational  
14 background, please?

15 A. I have a criminal justice from New Mexico State  
16 University.

17 Q. And subsequent to getting that degree, how were you  
18 employed?

19 A. With the New Mexico State Police Department.

20 Q. Approximately what period was that?

21 A. From 1986 until 2000.

22 THE COURT: The New Mexico or Mexico?

23 THE WITNESS: New Mexico.

24 THE COURT: New Mexico.

25 BY MR. GEISE:

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1 Q. The period with New Mexico what was that?

2 A. 1986 to 1990.

3 Q. And then in 1990 what did you do?

4 A. I became a Special Agent for the FBI.

5 Q. Could just tell us what your initial training was when you  
6 became a Special Agent?

7 A. Went through criminal procedures, how to investigate  
8 criminal law, white collar crimes and drugs and things like  
9 that.

10 Q. Basic training?

11 A. Basic training.

12 Q. What was your first assignment after you got out of the  
13 academy?

14 A. Chicago, Illinois.

15 MR. BALAREZO: Can I approach?

16 THE COURT: Yeah, if you stipulate so that we can get  
17 going. Is there a question of expertise that you want to have?

18 MR. GEISE: Yes, we do. We will get to that quickly.  
19 Your Honor.

20 THE COURT: Do you have any question that he's an  
21 expert in GPS?

22 MR. BALAREZO: We'll stipulate, Your Honor.

23 THE COURT: Okay, ladies and gentlemen, this means  
24 that Officer Bitsie has been, he's being proffered here and has  
25 been accepted by the Court as an expert in tracking devices?

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1 MR. GEISE: Yes, Your Honor.

2 THE COURT: GPS?

3 MR. GEISE: GPS.

4 THE COURT: I bet all of these people know what GPS  
5 is. I even know from watching TV. So I bet you can cut this  
6 down.

7 MR. GEISE: From 24, Your Honor, if I recall.

8 THE COURT: I'm not going to say where. That's not  
9 important.

10 All right, go ahead. It turns out while everybody  
11 watches a lot of TV, so we know about GPS tracking.

12 BY MR. GEISE:

13 Q. We'll take just about 30 seconds more sir. What is your  
14 assignment now?

15 A. I'm a Supervised Special Agent for the FBI down at ERI  
16 Quantico.

17 Q. What's ERI?

18 A. Engineering and research facility.

19 THE COURT: Slow down.

20 Quantico, that's down in Virginia?

21 THE WITNESS: Right, Quantico, Virginia.

22 BY MR. GEISE:

23 Q. That's the FBI headquarters?

24 A. The FBI training headquarters.

25 Q. What does the particular unit you have handle?

1 A. The tracking technology unit.

2 Q. Briefly, very briefly, have you had extensive training in  
3 tracking technology?

4 A. Yes, I have.

5 Q. Do you actually teach courses in tracking technology?

6 A. Yes, I do.

7 Q. Do you design materials?

8 A. Yes, I do.

9 Q. Would you just briefly tell us what the FBI does in terms  
10 of tracking technology?

11 A. We track planes, boats, cars, anything that has to do with  
12 movement within the U.S. and that kind and outside of the U.S.

13 Q. Does the bureau actually, that's it -- let me ask you a  
14 question in terms of devices. Does the bureau actually have  
15 devices that are used for tracking?

16 A. Yes, we do.

17 Q. Would you tell us are some of those actually designed by  
18 the FBI?

19 A. Yes, they are.

20 THE COURT: Were any used in this case?

21 THE WITNESS: Yes, they were.

22 THE COURT: What kind?

23 THE WITNESS: The wireless tracking device meaning  
24 that it's, it uses the cellphone to gather the data to bring  
25 back or track you live seeing where you're at right now.

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1 BY MR. GEISE:

2 Q. Let me just ask you a little bit about, although we all  
3 have GPSs in our car?

4 THE COURT: I don't.

5 MR. GEISE: Well, many of us do.

6 BY MR. GEISE:

7 Q. Just very briefly, how does a GPS system work?

8 A. Actually, it has a GPS receiver inside the unit. It has a  
9 unit with an antenna to look at the satellites which are up in  
10 the air. And it actually -- your receiver gets the information  
11 up to the satellite and plots you on a map which we call  
12 latitude and longitude to go and put you on a mapping system.

13 Q. Just a question I know, but U.S. put the satellites up for  
14 this purpose?

15 A. That's correct.

16 Q. How does the GPS system track on these satellites, in very  
17 simple terms for all of us?

18 A. There's at any given day, there's approximately 18  
19 satellites working. We have to have three of those satellites  
20 that the GPS receiver has to talk to, to get us in a position.

21 Q. There's a radio signal from those satellites?

22 A. A radio signal comes down from those satellites and the  
23 GPS receiver receives those radio signals.

24 Q. Let me just ask in the fall of 2005 which is the time  
25 relevant to this case, were you actually, did you actually

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1 monitor and send out the particular devices that were used by  
2 the FBI in these cases?

3 A. Yes, we did.

4 Q. Are you aware of the particular device that was used in  
5 the Jones case?

6 THE COURT: Wireless tracking device.

7 MR. GEISE: Wireless tracking device. GPS.

8 THE WITNESS: Yes.

9 THE COURT: He testified.

10 BY MR. GEISE:

11 Q. Let's talk about the particular unit here. In very simple  
12 terms how does that work?

13 A. That describes the same way. It's a device with a GPS  
14 antenna meaning that we're looking at GPS satellites and also  
15 has a couple of antennas for communicating with a cellphone.

16 Q. Now let's talk about both aspects of that.

17 Was this piece of equipment perfectly accurate? That is,  
18 can you tell you exactly where you are?

19 A. Yes, it could. Minus fifty to a hundred feet.

20 Q. Now you say it varies 50 to a hundred feet. Why is that?

21 A. Because of obstruction, if there's obstruction on there  
22 and the satellite is moving and you're moving, it gives you a  
23 variance.

24 Most of the commercial, commercial systems that we have out  
25 there correct those different positions that put you right on

1 the road. We give you the raw data to plot it back on the  
2 mapping system.  
3 Q. When you say plot it on the mapping system, is there  
4 computer software that actually takes the longitude and  
5 latitude and gives you an address?  
6 A. Yes, it is.  
7 Q. Does the FBI have software it uses for this?  
8 A. Yes, we do.  
9 Q. You say it's accurate within fifty to a hundred feet?  
10 A. That's correct.  
11 Q. So the address actually would vary a little?  
12 A. Yes, it would.  
13 Q. Now just a couple of other questions.  
14 The same technology is, what other purposes does it serve,  
15 not just the tracking but the GPS technology?  
16 A. It navigates ships, planes, buses, anything that's  
17 carrying, anything that you want to direct you to a location.  
18 Navigates.  
19 Q. We are talking about GPS in our cars, every one is aware  
20 of them. Let me ask you a couple of questions about this  
21 particular system that might be different than what we're use  
22 to.  
23 You say a cellphone connection is part of the system.  
24 What's the purpose of this?  
25 A. The cellphone connection is actually to communicate from a

1 laptop which we explain has the mapping system. You can go out  
2 there to that GPS unit that is on the vehicle in something and  
3 bring those live locations back to you.  
4 Q. So the laptop can communicate with the GPS device?  
5 A. That's correct.  
6 Q. These particular GPS device here, what's its purposes?  
7 A. It's purpose is to track you. It stores data. Meaning  
8 that it stores actual longitude, latitude to show where someone  
9 has gone. You can also bring that data back to your mapping  
10 system and plot it on your mapping system or else you can go  
11 out there and reach it, the GPS device and you can see where  
12 that vehicle is at right now.  
13 Q. The GPS in my car, if I want to know where it is, if I  
14 wanted to know where it is, are these devices so that the  
15 person driving the car can know what GPS is on the car?  
16 A. No, it's not.  
17 Q. Why is that?  
18 A. Can you explain?  
19 Q. Well, it's an obvious question.  
20 These devices are to do what?  
21 A. These devices are to track a persons without the person  
22 knowing.  
23 Q. Without the person knowing it?  
24 A. Without the person knowing it.  
25 Q. Without going into detail about how they're installed.

1 Are there teams of agents that go out and install these  
2 devices?  
3 A. Yes, there are.  
4 Q. This particular device, how is it powered?  
5 A. It was battery powered.  
6 Q. Does that create certain limitations on the device?  
7 A. Yes, it does.  
8 Q. Would you just explain to the jury what those limitations  
9 are?  
10 A. The limitations that the battery runs out. If you're  
11 actually looking at the device all the time seeing where it's  
12 at, your batteries will actually die on you because it's  
13 actually using the batteries up. The longer you're connected  
14 to it the quicker the batteries will wear out.  
15 Q. What's the problem if the batters run out?  
16 A. The whole unit will go dead. You won't be able to  
17 communicate with that tracking device.  
18 Q. What would you have to do to make it work?  
19 A. You would have to go back out there and replace the  
20 batteries that you previously put in there.  
21 Q. Why do you want to do that too often?  
22 A. You can alert whoever that you're on the go, getting  
23 another vehicle to replace the batteries on that device.  
24 Q. Now, there's some features of the device that are designed  
25 to try to conserve battery power?

1 A. Yes.  
2 Q. Would you just tell us about those a little bit?  
3 A. There's a, so that that device is not on all the time we  
4 put it in a sleeping mode, meaning that when the vehicle stops,  
5 that GPS turns off. It's not using any battery power.  
6 When that vehicle starts moving again, that system comes  
7 back up and it's available for someone to actually view it.  
8 Q. Now you say when it stops. If it stops at a stop sign or  
9 stoplight?  
10 A. It doesn't stop there. It keeps on, it's always on.  
11 Q. How long does it take for the vehicle, for the equipment  
12 to turn itself off?  
13 A. It all depends on who actually set that device. It could  
14 take as long as from five to 15 minutes to acquire back a latin  
15 longitude to place you on the map.  
16 Q. If I park my car and I have one of these devices hidden in  
17 my car, will it turn itself off eventually?  
18 A. Yes, it would.  
19 Q. If my car starts moving again, would it turn itself back  
20 on?  
21 A. Yes, it would.  
22 Q. But you say it takes a little while to wake up?  
23 A. Right, require GPS signal, cell signal, things like that.  
24 Q. Now after -- just a couple of other questions about this.  
25 You mentioned a device seeing the satellites. The

