



Cite as: 2011 (2) AELE Mo. L. J. 401

ISSN 1935-0007

Criminal Law Section - February 2011

Cell Site Location Evidence: A New Frontier in Cyber-Investigation

By Ken Wallentine, J.D.
Chief of Law Enforcement
Utah Attorney General's Office

Contents

- Introduction
- Proliferation of mobile phones and antennas
- Privacy implications
- Current location tracking
- Early case law
- Historical cell site location information
- Conclusion
- References
- Notes

❖ Introduction

November 30th holds special meaning for James Edward Allums. On November 30, 1998, Allums was sentenced for armed robbery. Nine years later, on November 30, 2007, Allums robbed a Salt Lake City, Utah, bank. An adventurous bank employee dropped a chair from the second floor balcony onto Allums' head as he stood brandishing a knife at a teller on the first floor.

Allums angrily pulled off his ski mask to look up and curse at the chair-dropper, glaring directly into the surveillance camera. Like millions other Americans,^[1] Allums was carrying a cellular telephone on November 30th.

Prosecutors introduced evidence that cell site tracking records showed that Allums' phone, and presumably Allums, was located in close proximity to the bank and to two other locations also robbed by Allums. ^[2] Allums was convicted on three counts of armed robbery. One wonders whether his next parole date will fall on November 30 of some future year.

❖ **Proliferation of mobile phones and antennas**

There are over one-quarter million cell towers in the United States, each with a unique, identifiable fixed location. ^[3] Activated cell phones are constantly sending signals, which are captured by one or more of the nearest cell towers. This allows location identification of the sending cell phone.

The precision of the location depends on whether the signal is reaching multiple cell towers, allowing for triangulation, and whether the phone is equipped with global positioning satellite technology. This ability to locate a cell phone presents obvious benefits to law enforcement. As was seen in [*United States v. Allums*](#), cell site location data may present circumstantial evidence of a person's location.

Cell phone tracking in real time may be invaluable in recovering a kidnapped child or finding a lost person.

❖ **Privacy implications**

What expectation of privacy does a person hold in identification of his location when carrying a cell phone? One chooses to carry a cell phone and use a wireless provider that gathers and stores information about the cell phone's travels.

The flashing LED light or digital display indicating signal strength is a constant reminder that the phone is actively communicating with the provider and that AT&T® or Sprint®, if not "Big Brother," is watching where one travels. Does one have a different expectation of privacy in a current location, as contrasted with historical location information?

Congress has not yet addressed the privacy interest questions with laws directly governing law enforcement access to tracking location information. Courts have

applied various statutes and diverse standards to requests seeking historical cell site location and prospective cell site location information.

Some courts have required a showing of probable cause for obtaining current location information; others merely require the government to show that the location information is “relevant and material” to an investigation.

Some courts have drawn a distinction between location information drawn from a single tower and information collated from several towers, and further distinguished location information based upon global positioning satellite technology.

A recent decision by the Third Circuit Court of Appeals is the first published appellate consideration of the standard that the government must meet when seeking historical cell site location information.

❖ **Current location tracking**

The Wireless Communications and Public Safety Act of 1999 ^[4] laid the foundation for Federal Communication Commission rules that require wireless telephones to be equipped with locating technology and requires service providers to provide the latitude and longitude (within certain ranges) ^[5] for all emergency calls placed on a cellular phone. ^[6]

Though not intended to be tracking devices, and while perhaps not meeting the statutory definition of a tracking device, ^[7] cell phones can act as tracking devices. ^[8] As enhanced 911 technology spreads and global positioning satellite chips become ubiquitous adjuncts cell phones, the tracking feature of a cell phone will become even more precise.

However, despite the patchwork of federal statutes addressing information age developments, Congress has expressed no clear intent regarding the privacy expectation held or not held in cell site location information. By the same token, no explicit authority may be found for granting government access to cell site location information.

❖ **Early case law**

In one of the earliest cases where the government sought an order to obtain current cell site location information, the government advanced a theory based on a hybrid of authority from the Stored Communications Act ^[9] and the Pen Register and Trap and Trace Device ^[10] provisions which apply a standard of relevance and materiality to a government request for telephone number trapping and tracing. ^[11]

A federal magistrate judge in Texas, in *In re Application for Pen Register and Trap/Trace Device with Cell Site Location Authority*, rejected the government's position and ruled that the government must show probable cause to obtain cell site location information. ^[12] A majority of courts to consider applications for orders revealing cell site location information have followed this path, many citing this decision as persuasive. ^[13]

At about the same time that the Texas magistrate judge rejected the government's hybrid authority argument, a New York federal district court accepted the argument and ordered disclosure of real time cell site location information upon a showing of relevance and materiality. ^[14]

In that case, the government only requested information tying a designated cell phone number to a single cell tower at a time. Other courts followed suit in applying the relevance and materiality standard and not requiring probable cause for an order to disclose cell site location information. ^[15]

❖ **Historical cell site location information**

In the *Allums* case, historical cell site location information was used to place Allums' cell phone and, and by circumstantial extension, Allums, at the site of a bank robbery. Historical information may also be valuable to law enforcement to identify drug distribution routes and predict future travel locations from past travels.

In contrast to the majority position requiring probable cause for current location tracking information, the majority of courts have accepted that historical cell site location information is merely a "stored record" and thus subject to the less rigorous relevance and materiality standard of the Stored Communications Act. ^[16]

These courts recognize that a cellular telephone is even less analogous to a tracking device when the records associated with that phone are used to reconstruct a historical travel path rather than follow in the path. However, one court stood alone in rejecting the less rigorous standard and requiring that the government show probable cause to obtain historical cell site location information.

In *In the Matter of the Application of the U. S. for an Order to Disclose Records to the Government*,^[17] the federal magistrate judge declined to issue the requested order without a showing of probable cause.

Not only was the magistrate's order upheld by the district court, albeit without analysis, it was joined by all other federal magistrates in the Western District of Pennsylvania. The order was recently vacated by the Third Circuit Court of Appeals in the first appellate decision to consider the proper standard for disclosure of historical cell site location information.^[18]

Neither courts nor society has broadly addressed the reasonableness of an expectation of privacy in location records created by choosing to carry an active cell phone. Most Americans would likely reject an argument that they consent to government access to cellular service business records that effectively track their movements. This sentiment would seemingly apply to travel history.

One court noted that a person does not lose an expectation of privacy held in being at a private location simply by leaving that location.^[19] Perhaps not, but just what expectation of privacy accompanied the actively pinging cell phone as the person traveled to the location? Does the fact that virtually all adult Americans, and probably all teenage Americans, carry a cell phone somehow make them essential to living in America?

And, if so, does that necessity somehow mean that the choice to carry an electronic communications device that is constantly announcing its presence and location to a cell site tower is no longer a voluntary choice, and by extension the disclosure of the electronic information is involuntary? Or does one "take the risk, in revealing his affairs to [the cellular service provider], that the information will be conveyed by [the provider] to the government?"^[20]

One might argue that disclosure of historical travel locations through cell site location information records does not constitute a Fourth Amendment search. Justice Harlan, in his oft-quoted concurring opinion in *Katz v. United States*,^[21] defined a “search” for purposes of the Fourth Amendment as an intrusion upon both a subjective and objectively reasonable expectation of privacy. Just as one willingly discloses the telephone number by punching keys on a telephone,^[22] one willingly discloses the location of the cell phone one carries as the cell phone pings or registers with various cell site towers. Or does one?

In *In the Matter of the Application of the U. S. for an Order to Disclose Records to the Government*, the magistrate judge opined that “Americans do not generally know that a record of their whereabouts is being created whenever they travel about with their cell phones, or that such record is likely maintained by their cell phone providers.”^[23]

The Supreme Court addressed tracking devices in *United States v. Knotts*,^[24] and *United States v. Karo*.^[25] In *Knotts*, the Court held that the warrantless installation of an electronic tracking device inside a drum of chemicals sold to illegal drug manufacturers, did not constitute a search when the tracking device was used to follow the drug manufacturers as they drove in plain view on public highways.

In *Karo*, the Court affirmed this principle, yet held that the Fourth Amendment is implicated when a tracking device placed in a package enters a home, where the residents do hold a recognized expectation of privacy. Thus, the Fourth Amendment interest arises when a tracking device identifies a person’s location outside of the public view.

Insofar as tracking historical movements through cell site location information may be analogous to following a tracking device, public movements identified from the cell site location information do not implicate the Fourth Amendment.

Not only is the information not relayed in real time, but it is precise than traditional tracking devices used by law enforcement agencies. Indeed, in the recent Third Circuit cell site location information decision, the court observed that the information sought would identify the location of the cellular phone within a broad range of a few hundred feet.^[26]

Magistrate Judge Lenihan, in *In the Matter of the Application of the U. S. for an Order to Disclose Records to the Government* (“Lenihan”), ruled that a cellular telephone is a tracking device, or at the very least acts as a tracking device, and thus disclosure of information derived from the cellular telephone records requires probable cause.^[27]

This conflicts with the definition of a tracking device^[28] and earlier federal district court rulings that a cellular telephone is not a tracking device for purposes of government efforts to obtain cell site location information.^[29] Defining a cell phone as a tracking device was an essential step to allow Lenihan’s conclusion that probable cause was the proper standard for production of historical cell site location information.

The plain meaning of the Stored Communications Act suggests that historical cell site location information records are “records or other information pertaining to a subscriber to or customer” of cellular telephone service provider. The term information is synonymous with data.

Cell phone service providers store data gleaned from the cell towers through which telephone calls are routed. Thus, historical cell site information is a “record or other information pertaining to” a customer.^[30] Thus, the relevant and material standard prescribed in the Stored Communications Act necessarily applies to the government’s efforts to obtain historical cell site location information.

The Third Circuit Court of Appeals vacated the lower court order in *Lenihan*. The appellate court disagreed with the magistrate judge’s conclusion that a cell phone is a tracking device. The court observed that the evidence in the record showed that the location information provided only a rough approximation of a cell phone’s location.

This degree of accuracy could only reveal that it was “probable” that the cellular service subscriber was at home. Thus, the cell phone was not tantamount to a tracking device and did not offend the rule of *Knotts* and *Karo*.^[31]

Accordingly, the Third Circuit held that the standard to obtain historical cell site location information “is governed by the text of § 2703(d), i.e., “specific and articulable facts showing that there are reasonable grounds to believe that the

contents of a wire or electronic communication, or the records or other information sought, are relevant and material to an ongoing criminal investigation.” [32]

The *Lenihan* opinion also recited the magistrate judge’s views of the legislative history of the Stored Communications Act. The Third Circuit took pains to revisit the statements of House and Senate sponsors emphasizing the that intent of the legislation was to provide an intermediate standard that protected privacy interests in electronic communications and accommodated law enforcement needs. [33] The Senate Report noted that the intermediate standard was designed to curb law enforcement “fishing expeditions.” [34]

Though the Third Circuit vacated the lower court order and disagreed with the critical underpinnings of *Lenihan*, the court took the odd step of both articulating “relevant and material” as the applicable standard for historical cell site location records requests and permitting lower courts the discretion to impose the higher probable cause standard.

Though the court warned that this discretion should be “used sparingly,” it offered precious little guidance for restraint. Judge Tashima penned a concurring opinion critical of the majority’s permissive caution. He proposed a workable alternative that would require the government to show probable cause to obtain the requested records the lower court found that the request “allows police access to information which reveals a cell phone user’s location within the interior or curtilage of his home.”

Alternatively, the judge proposed that the lower court could order “minimization” of the records to eliminate the identification of a location within the subject’s home. [35]

Conclusion

Historical cell site location information will continue to provide valuable leads and potential evidence in criminal prosecutions. Though the courts have yet to develop much jurisprudence in this area, this is the type of information that one must recognize is part and parcel of choosing to have the latest and greatest in the cell phones and is information that cellular service carriers routinely collect and store.

Whatever privacy interests may be held in this information are adequately protected by the relevant and material standard of the Stored Communications Act. As Congress and other appellate courts consider this issue, they should follow the lead of the Third Circuit in *In re Application for Pen Register and Trap/Trace Device with Cell Site Location Authority*, without the unfettered discretion left available to lower courts to arbitrarily impose a different standard.

❖ Notes

1. There were almost 300 million mobile telephones in America as of December 2010. <http://ctia.org/media/index.cfm/AID/10323> Accessed Dec. 16, 2010.
2. *United States v. Allums*, No. 2:08-CR-30, 2009 WL 806748 (D. Utah 2009).
3. <http://ctia.org/media/index.cfm/AID/10323> Accessed Dec. 16, 2010.
4. [Public Law 106-81](#), 113 Stat. 1286 (Oct. 26, 1999).
5. See 47 C.F.R. § 20.18(h)(1) (2008).
6. <http://www.fcc.gov/pshs/services/911-services/enhanced911/Welcome.html> Accessed Dec. 11, 2010.
7. For purposes of federal eavesdropping law, the term “tracking device” means an electronic or mechanical device, which permits the tracking of the movement of a person or object. [18 U.S.C. § 3117\(b\)](#).
8. At least two federal judges have held that cellular telephones do not qualify as “tracking devices” under 18 U.S.C. § 3117. See *In re Applications of the U. S. for Orders Pursuant to Title 18, U.S.C. § 2703(d)*, 509 F.Supp.2d 76, 81 n. 11. (D. Mass. 2007); *In re Application of the U. S. for an Order for Disclosure of Telecommunications Records & Authorizing the Use of a Pen Register & Trap & Trace*, 405 F.Supp.2d 435, 449 (S.D.N.Y.2005).
9. The Stored Communications Act allows the government to obtain a “records or other information pertaining to a subscriber to or customer” of an electronic communication provider, 18 U.S.C. § 2703(c)(1), upon showing of “specific and articulable facts showing that there are reasonable grounds to believe that the ... records or other information sought are relevant and material to an ongoing criminal investigation,” 18 U.S.C. § 2703(d).
10. Electronic Communications Privacy Act, 18 U.S.C. §§ 3121-3127 (2006).

11. 18 U.S.C. § 2703(c)(1), (d).

12. 396 F.Supp.2d 747, 761 (S.D. Tex. 2005).

13. *In re Application of U. S. for and order: Authorizing Use of a Pen Register and Trap and Trace Device*, 2010 WL 3021950 (W.D. Tex. 2010); *In re Application of the U. S. for an Order Directing a Provider of Electronic Communication Service to Disclose Records to the Government*, 534 F.Supp.2d 585, 616 (W.D. Pa. 2008); *In re Application of the U. S. for an Order Authorizing the Release of Prospective Cell Site Information*, 407 F.Supp.2d 134 (D.D.C. 2006); *In re Application of the U. S. for an Order Authorizing the Disclosure of Prospective Cell Site Information*, 412 F.Supp.2d 947 (E.D. Wis. 2006); *In re Application of the U. S. for an Order Authorizing the Installation & Use of a Pen Register &/or Trap & Trace for Mobile Identification No. (585) 111-1111 & the Disclosure of Subscriber & Activity Info. Under 18 U.S.C. § 2703*, 415 F.Supp.2d 211 (W.D.N.Y. 2006); *In re Application of the U. S. for an Order Authorizing the Installation & Use of a Pen Register with Caller Identification Device & Cell Site Location Authority on a Certain Cellular Telephone*, 415 F.Supp.2d 663 (S.D. W. Va. 2006); *In re Application of the U. S. for Orders Authorizing the Installation & Use of Pen Registers & Caller Identification Devices on Sealed Telephone Numbers*, 416 F.Supp.2d 390 (D. Md. 2006); *In re Application of the U. S. for an Order: Authorizing the Installation & Use of a Pen Register & Trap & Trace Device; Authorizing the Release of Subscriber and Other Info.; & Authorizing the Disclosure of Location Based Services*, No. 1:06-MC-6, 2006 WL 1876847 (N.D. Ind. Jul. 5, 2006); *In re Application for an Order Authorizing the Installation & Use of a Pen Register & Directing the Disclosure of Telecommunications Records for Cellular Phone Assigned the Sealed Number*, 439 F.Supp.2d 456 (D. Md. 2006); *In re Application of the U. S. for an Order Authorizing Installation & Use of a Pen Register & Trap & Trace Device or Process, Access to Customer Records, & Cell Phone Tracking*, 441 F.Supp.2d 816 (S.D. Tex. 2006); *In re Application of the U. S. for an Order for Prospective Cell Site Location Info. on a Certain Cellular Telephone*, No. 06 Crim. Misc. 01, 2006 WL 468300 (S.D.N.Y. Feb. 28, 2006); *In re Authorizing the Use of a Pen Register*, 384 F.Supp.2d 562; *In re Application for Pen Register and Trap/Trace Device with Cell Site Location Authority*, 396 F.Supp.2d 747; *In re Application of the U. S. for an Order Authorizing the Installation & Use of a Pen Register & a Caller Identification System on Sealed Telephone Numbers & the Production of Real Time Cell Site Info.*, 402 F.Supp.2d 597 (D. Md. 2005).

14. *In re Application of U. S. for an Order for Disclosure of Telecommunications Records & Authorizing the Use of a Pen Register & Trap & Trace*, 405 F.Supp.2d 435, 450 (S.D.N.Y. 2005).

15. *In re Application of U. S. for Order Re-Authorizing Use of a Pen Register and Trap and Trace Device with Prospective Cell-site Information and the Release of Historical Cell-Site and Subscriber Information*, Misc. No. 09-104, 2009 WL 1594003.

(E.D.N.Y. Feb. 26, 2009); *In re Application of the U. S. for an Order for Prospective Cell Site Location Information on a Certain Cellular Telephone*, 460 F.Supp.2d 448, 461 (S.D.N.Y. 2006); *In re Application of the U. S. for an Order: Authorizing the Installation & Use of a Pen Register & Trap & Trace Device, & Authorizing Release of Subscriber & Other Information*, 433 F.Supp.2d 804, 806 (S.D. Tex. 2006); *In re Application of the U. S. for an Order Authorizing the Installation & Use of a Pen Register with Caller Identification Device & Cell Site Location Authorization on a Certain Cellular Telephone*, 415 F.Supp.2d 663, 666 (S.D. W.Va. 2006); *In re Application of the U. S. for an Order: Authorizing the Installation & Use of a Pen Register & Trap & Trace Device & Authorizing Release of Subscriber Information and/or Cell Site Information*, 411 F.Supp.2d 678, 680 (W.D. La. 2006).

16. *United States v. Suarez-Blanca*, No. 1:07-CR-0023, 2008 WL 4200156 (N.D. Ga. Apr. 21, 2008); *In re Applications of the U. S. for an Order Authorizing Continued Use of a Pen Register and Trap and Trace with Caller Identification Device and Cell Site Location Authorization*, 530 F.Supp.2d 367, 368 (D. Mass. 2007); *In re Application of the U. S. for an Order: (1) Authorizing the Installation and Use of a Pen Register and Trap and Trace Device, and (2) Authorizing Release of Subscriber and Other Information*, 622 F.Supp.2d 411, 417 (S.D. Tex. 2007); *In re Applications of the U. S. for Orders Pursuant to Title 18, U.S. Code, Section 2703(d)*, 509 F.Supp.2d 76, 80 (D. Mass. 2007).

17. 534 F.Supp.2d 585, 586 (W.D. Pa. 2008), vacated, 620 F.3d 304 (3rd Cir. 2010).

18. *In the Matter of the Application of the U. S. for an Order to Disclose Records to the Government*, 620 F.3d 304 (3rd Cir. 2010).

19. *In re Applications of the U. S. for Orders Pursuant to Title 18, U.S. Code, Section 2703(d)*, 509 F.Supp.2d 64, 76 (D. Mass. 2007).

20. *United States v. Miller*, 425 U.S. 435, 443 (1976).
21. 389 U.S. 347, 361 (1967) (Harlan, J., concurring).
22. See *Smith v. Maryland*, 442 U.S. 735, 745-46 (1979) (holding that the use of a pen register was not a search because the defendant lacked any reasonable expectation of privacy in the phone numbers he willingly dialed).
23. 534 F.Supp.2d at 611.
24. 460 U.S. 276, 103 S.Ct. 1081, 75 L.Ed.2d 55 (1983).
25. 468 U.S. 705, 104 S.Ct. 3296, 82 L.Ed.2d 530 (1984).
26. *In the Matter of the Application of the U. S. for an Order to Disclose Records to the Government*, 620 F.3d 304, 311 (3rd Cir. 2010).
27. 534 F.Supp.2d at 609.
28. The Third Circuit cited the legislative history of the definition of a tracking device as defined in the Stored Communications Act. See 620 F.3d at 309 n. 4.

(These are one-way radio communication devices that emit a signal on a specific radio frequency. This signal can be received by special tracking equipment, and allows the user to trace the geographical location of the transponder. Such “homing” devices are used by law enforcement personnel to keep track of the physical whereabouts of the sending unit, which might be placed in an automobile, on a person, or in some other item.).

A cellular telephone obviously is not a one-way radio device, nor does law enforcement place the device in an auto, person or other item and use special equipment to follow it.
29. See *In re Applications of the U, S. for Orders Pursuant to Title 18, U.S. Code, Section 2703(d)*, 509 F.Supp.2d 76, 81 n. 11. (D. Mass. 2007); *In re Application of the U. S. for an Order for Disclosure of Telecommunications Records & Authorizing the Use of a Pen Register & Trap & Trace*, 405 F.Supp.2d 435, 449 (S.D.N.Y.2005).
30. *In re Applications of the U.S. for Orders Pursuant to Title 18, U.S. Code, Section 2703(d)*, 509 F.Supp.2d 76, 80 (D. Mass. 2007).
31. 620 F.3d at 312.
32. 620 F.3d at 314.

33. 620 F3d. at 314-15 The legislative history strongly supports the conclusion that the present standard in § 2703(d) is an “intermediate” one. For example, Senate Report No. 103-402 states that § 2703(d) imposes an intermediate standard to protect on-line transactional records. It is a standard higher than a subpoena, but not a probable-cause warrant.

The intent of raising the standard for access to transactional data is to guard against “fishing expeditions” by law enforcement. Under the intermediate standard, the court must find, based on law enforcement’s showing of facts, that there are specific and articulable grounds to believe that the records are relevant and material to an ongoing criminal investigation.)

The court cited the legislative history of the Electronic Communications Privacy Act, the statutory framework onto which the Stored Communications Act was later placed.

34. Id.

35. 620 F.3d at 320 (Tashima, J., concurring).

AELE Monthly Law Journal

Ken Wallentine, J.D.

Guest Author

Criminal Law Section

P.O. Box 75401

Chicago, IL 60675-5401 USA

E-mail: wws@aele.org

Tel. 1-800-763-2802

© 2011, by the AELE Law Enforcement Legal Center
Readers may download, store, print, copy or share this article,
but it may not be republished for commercial purposes.
Other web sites are welcome to link to this article.

-
- The purpose of this publication is to provide short articles to acquaint the reader with selected case law on a topic. Articles are typically six to ten pages

long. Because of the brevity, the discussion cannot cover every aspect of a subject.

- The law sometimes differs between federal circuits, between states, and sometimes between appellate districts in the same state. AELE Law Journal articles should not be considered as “legal advice.” Lawyers often disagree as to the meaning of a case or its application to a set of facts.

[AELE Home Page](#) — [Publications Menu](#) — [Seminar Information](#)