1. Introduction

Years ago, when a law enforcement officer wanted to track the location of a suspect’s vehicle, the officer would install a “beeper,” a battery-powered radio transmitter, on the suspect’s car. The beeper would periodically broadcast a radio signal over a short distance. By monitoring the strength of the beeper’s signal, the officer could use the beeper to help the officer to track the vehicle. For example, if the officer lost the vehicle, the officer could drive around until he or she picked up the beeper’s signal, and then could follow the strengthening signal to the vehicle. Over time, a considerable body of law evolved on the Fourth Amendment implications of beepers. See e.g., United States v. Karo, 468 U.S. 705 (1984); United States v. Knotts, 460 U.S. 276 (1983). However, the march of technology has rendered beepers obsolete. Officers now use Global Positioning System (GPS) devices to track suspects’ vehicles, often in lieu of following the vehicles at all. There are two basic types of GPS devices. Passive devices merely record a vehicle’s location; such devices must be retrieved and “read” to be of use. Active devices broadcast a vehicle’s location using cellular telephone networks; such devices can be monitored in real time from an officer’s computer. (The latter type of device is used to monitor registered sex offenders, as well.) The use of either type of GPS device in the course of law enforcement investigations raises several legal questions, which courts are beginning to answer.

2. Installation

Most courts have held that the external unconsented installation of a tracking device – whether a beeper or a GPS device – on a car parked on a public street is not a search or a seizure as there is no reasonable expectation of privacy in the exterior of a vehicle on a public street. See e.g., United States v. Garcia, 474 F.3d 994 (7th Cir. 2007) (not a search to install a battery-powered GPS device on the exterior of a vehicle); United States v. Melver, 186 F.3d 1119 (9th Cir. 1999) (not a search to install a magnetic GPS device and a magnetic beeper on the outside of a vehicle); People v. Weaver, 860 N.Y.S.2d 223 (N.Y. App. Div. 3 Dept. 2008) (not a search to install a battery-powered GPS device under a vehicle’s bumper).

However, the unconsented installation of a tracking device likely is a search if the installation requires getting inside the vehicle, including under the hood. See e.g., United States v. Hufford, 539 F.2d 32, 34 (9th Cir. 1976) (“Had the agents not resorted to a warrant, entrance into the garage and the opening of the truck's hood would have been an invasion of an area in which Hufford had a reasonable expectation of privacy.”); United States v. Cofer, 444 F. Supp. 146, 149 (W.D. Tex. 1978) (“Since the law enforcement officers had to open a locked door on the airplane cabin to enter and install the beeper, there can be no question but that the installation constituted a search for which a warrant issued on the basis of probable cause was a prerequisite.”); cf. Johnson v. State, 492 So.2d 693 (Fla. Ct. App. 5 Dist. 1986) (suppressing evidence obtained as the result of a tracking device that was installed inside an airplane, without a warrant, by removing and then replacing a panel on the plane). Wiring a GPS device to a
vehicle’s battery is a common practice, as a means of ensuring a sufficient supply of power to the GPS device. Such an installation will inevitably require an entry into the vehicle, and therefore will be a Fourth Amendment search (and perhaps a seizure by virtue of the diversion of electrical power).

Likewise, if installation requires entering a private area, such as a carport, a back yard, or a garage, the installation may be a search or seizure, and a warrant or court order may be required. See Hufford, supra; 1 Wayne R. LaFave, Search and Seizure § 2.7(e) (4th ed. 2004) (“As for the attachment of the beeper to the vehicle, it seems clear that if this is accomplished by entering a garage or similar place in order to gain access to the vehicle, then this act in itself amounts to a Fourth Amendment search.”).

3. Monitoring

a. Monitoring on public roadways.

The United States Supreme Court has held that when officers monitor a “beeper” to assist them in conducting surveillance of a vehicle’s movements along public roadways, they are not conducting a Fourth Amendment search, as there is no reasonable expectation of privacy regarding one’s movements on the public highways; such movements are always subject to police surveillance, and the use of a “beeper” merely facilitates what the officers are already doing. See Knotts, 460 U.S. at 281-82 (“When Petschen traveled over the public streets, he voluntarily conveyed to anyone who wanted to look the fact that he was traveling over particular roads in a particular direction, the fact of whatever stops he made, and the fact of his final destination when he exited from public roads onto private property.”). But see State v. Hendricks, 43 N.C. App. 245 (1979) (pre-Knotts case holding that the installation and use of a beeper constituted a search under the Fourth Amendment; likely not viable post-Knotts). Most, but not all, courts have followed this reasoning with respect to GPS devices. Compare United States v. Moran, 349 F.Supp.2d 425 (N.D.N.Y. 2005) (installation and monitoring of a GPS device was not a search and did not require a warrant; all the GPS device did was track the defendant’s location along public roads to and from Arizona, which the police could have done by following him), and People v. Gant, 802 N.Y.S.2d 839 (N.Y. Co. Ct. 2005) (not a search to use GPS to monitor a suspect’s movements on the public roadways, as there is no expectation of privacy there), with State v. Jackson, 76 P.3d 217 (Wash. 2003) (under state constitution’s search and seizure provisions, which are more protective than the Fourth Amendment, installation and monitoring of a GPS tracking device is a search; GPS substitutes for, rather than enhances, law enforcement surveillance; it provides incredible detail for weeks at a time, which law enforcement could never achieve by traditional surveillance methods; thus, installation and monitoring requires a warrant supported by probable cause).

b. Monitoring in private areas.

Karo held that monitoring a beeper once it was taken inside a private residence was a search requiring a warrant. Therefore, even if using a GPS device to monitor a vehicle’s movement on public roadways is not a search, using such a device to monitor a vehicle’s movement in private areas likely is a search. The

---

1 In this manuscript, the term “private area” means an area that is subject to Fourth Amendment protection. Not all areas on private property are subject to such protection, because not all areas on private property are subject to a reasonable expectation of privacy. See, e.g., Robert L. Farb, Arrest, Search, and Investigation in North Carolina at 73-74 (3d ed. 2003) (discussing open fields and entranceways).
problem is that it is difficult, or perhaps impossible, to program a GPS device to stop recording when in a private area, meaning that any use of a GPS device without a warrant or a court order is risky. At least one court has held that the solution is simply to exclude any data recorded during the time that the device was in a private area. See United States v. Jones, 451 F.Supp.2d 71 (D.D.C. 2006). To the extent that such data is of investigative significance to law enforcement, this may not be a sufficient remedy; it may be proper to suppress all evidence developed as fruit of the poisonous tree, as well.

Obtaining a warrant or a court order may help to avoid this problem. For example, if the application establishes probable cause to believe that the suspect is storing drugs in his house and delivering them in his car, a warrant or court order authorizing monitoring of the car’s location even when it is in a private area at the suspect’s residence would presumably pass muster. But what if an officer applies for a warrant that authorizes monitoring in any and all private areas, including private areas that there is no reason beforehand to believe are connected to any crime? A defendant might later argue that such a warrant (1) fails to describe with particularity the location to be searched, and (2) authorizes a search that is broader than the probable cause supporting the warrant. Other than some indirect discussion in Jones, supra, there is no case law on this issue. The case law on wiretapping may provide a useful analogy; in that context, officers are allowed to listen to some innocent conversations in the course of attempting to intercept criminal ones.2 Perhaps in the GPS context, then, officers should be allowed to monitor some movements in private areas that may be unconnected to any crime in the course of monitoring movements that are believed to be part of a suspect’s criminal activity, especially given that GPS monitoring, unlike the interception of telephone calls, is unlikely to reveal personal and intimate details of a suspect’s life. On the other hand, while there is no way to conduct a wiretap without listening to at least part of every call, it may (now or in the future) be possible to program a GPS device to record only movements made on public roadways. If so, the practical concerns that motivate courts to allow officers to listen to some innocent conversations may not be present with respect to GPS monitoring.

c. Monitoring outside NC

A GPS device attached to a vehicle will record the vehicle’s location even if the vehicle leaves North Carolina. This raises two related concerns. First, will North Carolina officers, in reliance on North Carolina warrants or court orders, exceed their territorial jurisdiction by engaging in searches, seizures, or other activity outside the state? Probably not. Although there are territorial limits on officers’ arrest power, see G.S. 15A-401, those limits generally do not apply to investigative activity. A North Carolina

2 A court order authorizing an officer to intercept a suspect’s telephone calls must instruct the officer to minimize monitoring of calls that are not related to the investigation. See 18 U.S.C. § 2518(5) (federal provision requiring that wiretaps be “conducted in such a way as to minimize the interception of communications not otherwise subject to interception under this chapter”); G.S. 15A-293 (same, under state law). This “insure[s] that any surveillance undertaken will comport with constitutional requirements.” United States v. Figueroa, 757 F.2d 466 (2d Cir. 1985). But the minimization requirement allows for some eavesdropping on innocent or unrelated calls. It “does not require [ ] government agents to avoid intercepting all nonrelevant conversations when conducting a wiretap investigation. On the contrary, the practical necessities of conducting a wiretap may, in some circumstances, inevitably lead to the interception of some conversations outside the scope of the wiretap order.” United States v. Brown, 303 F.3d 582, 604 (5th Cir. 2002) (internal quotation marks omitted). Perhaps a court considering GPS monitoring would conclude that the “practical necessities” of GPS tracking require monitoring in private areas.
officer certainly may, for example, travel to Virginia to interview a witness. Furthermore, when an officer installs a GPS device in North Carolina, monitors it (if real-time monitoring is used at all) from North Carolina, and retrieves the device in North Carolina, it is hard to argue that the officer has exceeded his or her territorial jurisdiction.

The second concern is whether a North Carolina court has the power to authorize a Fourth Amendment intrusion outside of the state. Presumably a North Carolina court cannot issue a search warrant for, say, a Virginia residence. See, e.g., G.S. 15A-243 (referring to “[a] search warrant valid throughout the State”). Thus, one might argue, a North Carolina court cannot authorize the use of a GPS device to track a vehicle’s movement outside of North Carolina, at least if that movement includes movement within a private area. On the other hand, because the officer who installs and monitors the GPS device never leaves North Carolina, perhaps the analogy is inapt. An alternative analogy would again be to wiretapping, where a North Carolina court order allows the interception of telephone calls that involve parties in other states. In federal court, this problem is solved by 18 U.S.C. § 3117, which provides that “[i]f a court is empowered to issue a warrant or other order for the installation of a mobile tracking device, such order may authorize the use of that device within the jurisdiction of the court, and outside that jurisdiction if the device is installed in that jurisdiction.” It is not clear how North Carolina’s appellate courts will address this issue.

4. Procedure

As noted above, officers may not need judicial authorization if they simply want to attach the GPS device to the outside of a car, and perhaps monitor it in public areas. However, if they want to go beyond that, they likely need to obtain prior judicial authorization. While a search warrant might seem like the natural means of obtaining such authorization, G.S. 15A-249 and G.S. 15A-252 provide that the officer executing a search warrant must announce his presence, provide a copy of the warrant to the person in control of the vehicle, etc., which would defeat the purpose of using the tracking device. There is no specific statutory procedure in place in North Carolina for executing the warrant surreptitiously or for delaying service of the warrant. (Perhaps a judge has the inherent authority to delay compliance with the statutory requirements for this kind of search warrant, but that issue has not been decided by North Carolina appellate courts.) By contrast, federal courts have a tracking device procedure in Fed. R. Crim. P. 41 that addresses these issues.

Thus, officers should probably seek an ex parte court order authorizing the installation and use of a GPS device if judicial authorization is needed. If the court finds probable cause, its order should probably limit the duration of the monitoring; require some sort of reporting back to the court, akin to an inventory; and require service of the order upon the expiration of the order plus any extensions. (These requirements are common in other jurisdictions, and are similar to the requirements for wiretapping orders under G.S. 15A-286 et seq. and pen register or trap and trace device orders under G.S. 15A-263.) As noted above, the court may also wish to address the use of the device in private areas and the use of the device outside North Carolina.