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Applying the Supreme Court's *Carpenter* Decision to New Technologies

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The Supreme Court's decision in *Carpenter v. United States* has the potential to usher in a new era of constitutional privacy protections. The Court upended existing precedent with its determination that a warrant was required for the government to obtain cell phone location information. For the first time, it ruled that information maintained by a third party could be protected by the Fourth Amendment.

As we argue in our report, *The Fourth Amendment in the Digital Age*, the decision lays the foundation for a new, five-factor test to determine whether a warrant is required when the government seeks to obtain data from digital technologies:

1. **Comprehensiveness:** Does the technology create a record about an individual that is detailed, encyclopedic, and effortlessly compiled, giving the government near-perfect surveillance? And what is the duration of the surveillance?
2. **Intimacy:** Does the technology provide an intimate window into a person's life, revealing personal data such as their familial, political, professional, religious, or sexual associations?
3. **Expense:** Does the technology make surveillance easy, cheap, and efficient compared to traditional investigative tools?
4. **Retrospectivity:** Does the technology run against everyone, meaning the police need not even know in advance whether or when they want to follow a particular individual? And does it allow the government to travel back in time by providing retrospective data?
5. **Voluntariness:** Is the collection of information from the technology inescapable and automatic? And is the technology so indispensable to participation in modern society that it is difficult to avoid?

The Court did not provide guidance on how to prioritize each of these factors, but it did suggest that no one consideration is dispositive in determining whether a warrant is required. Rather, courts must take a holistic approach and evaluate whether the technology threatens to expand the government's ability to engage in too-permeating police surveillance.

The following chart applies the test to various modern technologies to analyze whether a warrant should be required to use or obtain data from each. Although surveillance technologies used by law enforcement do not implicate the voluntariness factor, since individuals cannot choose whether to use or be subjected to them, we include them because the other four factors provide guidance regarding whether their use intrudes into individuals' reasonable expectation of privacy.

The following chart applies the test to various modern technologies to analyze whether a warrant should be required to use or obtain data from each, using ● to indicate that the factor is clearly met, ● to indicate nuance, and ● to indicate that the factor is not met.

	COMPREHENSIVENESS	INTIMACY	EXPENSE	RETROSPECTIVITY	VOLUNTARINESS	WARRANT?
Real-time cell phone location data	Results in creation of a detailed record that facilitates near-perfect surveillance of an individual's contemporaneous movements.	May reveal sensitive location information, including an individual's movements within a constitutionally protected space like the home.	Easy, cheap, and efficient compared to traditional investigative tools.	Generally used for contemporaneous as opposed to historical monitoring.	Cell phones are indispensable to modern society and automatically generate GPS data and cell-site location information.	Likely yes.
Smart car GPS data	Enables the government to track the totality of an individual's movements on public and private roadways, creating a detailed record that facilitates near-perfect surveillance.	May reveal sensitive location information about an individual, including whether they attended a protest or where they pray.	Easy, cheap, and efficient compared to traditional investigative tools.	Lengthy retention policies may allow the government to travel back in time.	Cars are indispensable to participation in modern society for many Americans, and smart cars automatically generate GPS data.	Likely yes.
Reverse location searches	Reverse location searches are designed to reveal geolocation data from hundreds or even thousands of devices at once, most of which are owned and operated by people not suspected of any wrongdoing. This permits the government to work backwards in identifying a suspect. When they are used in this way for dragnet surveillance, a warrant cannot cure the Fourth Amendment concerns they raise. However, if the technology is modified in the future to allow law enforcement to establish particularity and probable cause — for example, by automatically discarding information not pertaining to a specific suspect — the factors suggest that a warrant should be required.					

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Cell-site simulators	Arguably less comprehensive for a given device due to their limited duration and geographical scope, but they create a detailed and encyclopedic record of all devices within a specific area.	May reveal sensitive location information, including an individual's movements within a constitutionally protected space like the home.	Vary substantially in cost, but once purchased they facilitate collection of information from thousands of people at once — something that would likely be impossible through manual surveillance.	Run against everyone because they collect information on all devices within a given area; if used to stockpile data, they allow the government to travel back in time.	As this technology is used by the government, it does not implicate voluntariness.	Likely yes. In addition, when used for dragnet surveillance (e.g., to capture all the phone numbers in a given area, rather than to locate an individual device), a warrant alone cannot cure Fourth Amendment problems.
Automated license plate readers (ALPRs)	Even less advanced systems generate detailed records effortlessly and can methodically track a car's movements.	May reveal sensitive location information about an individual, including whether they attended a protest or where they pray.	Easy, cheap, and efficient compared to traditional investigative tools.	Run against everyone since they record information about all vehicles within their vicinity, and lengthy retention policies may allow the government to travel back in time.	As this technology is used by the government, it does not implicate voluntariness.	Likely yes. However, to date most courts have not required a warrant for their use. This may change as ALPR systems become more sophisticated and pervasive.
Surveillance drones	Depending on how deployed, can create detailed records that allow for comprehensive tracking of an individual's movements.	May reveal sensitive location information or provide an intimate window into an individual's life, revealing political, religious, or other associations.	Vary in cost, but can be easy, cheap, and efficient compared to traditional investigative tools.	Lengthy retention policies may allow the government to travel back in time, and they run against everyone since they record information about everyone within their purview.	As this technology is used by the government, it does not implicate voluntariness.	Likely yes.

	COMPREHENSIVENESS	INTIMACY	EXPENSE	RETROSPECTIVITY	VOLUNTARINESS	WARRANT?
Body-worn technologies	Create a comprehensive picture of an individual's movements and/or health data.	Generally collect geolocation or health data, both of which are exceptionally intimate.	Easy, cheap, and efficient compared to traditional investigative tools.	Lengthy retention policies may allow the government to travel back in time.	Collection of data may be automatic, but wearables are arguably not indispensable to modern society.	Likely yes.
Smart doorbells	Despite their limited geographic scope, can create records that are detailed and encyclopedic.	Can provide an intimate window into an individual's home, associations, or visits to sensitive spaces.	Easy, cheap, and efficient compared to traditional investigative tools.	Lengthy retention policies may allow the government to travel back in time, and they run against everyone since they record information about everyone within their purview.	Collection of data is automatic, but smart doorbells are not indispensable to modern society.	Unclear.
Internet browsing histories	May not comprehensively track movements but create records that are detailed and encyclopedic.	Can reveal extraordinarily private information about an individual's thoughts, associations, or familial and medical history.	Easy, cheap, and efficient compared to traditional investigative tools, particularly through the use of tools like keyword warrants.	Lengthy retention policies may allow the government to travel back in time to access and analyze historical data.	The internet is indispensable to participation in modern society, and the collection of data incidental to internet searches is automatic and inescapable.	Likely yes.

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