

THE SKY POLICE: DRONES AND THE FOURTH AMENDMENT

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In the far distance a helicopter skimmed down between the roofs, hovered for an instant like a bluebottle, and darted away again with a curving flight. It was the Police Patrol, snooping into people's windows. –George Orwell, 1984¹

I. INTRODUCTION

Unmanned drones have proven an integral part of the fight against terrorism overseas. The Trump, Obama, and Bush Administrations have relied upon drones to target extremists, particularly in Pakistan and Yemen.² “Drone strikes” involving the targeted killing of terrorist suspects have garnered media attention,³ but drones need not be equipped with weapons. Many drones, used for reconnaissance purposes, are outfitted with instant-feed cameras, infrared scanners, and telescopes.⁴ The military has used unmanned aerial vehicles (“UAVs,” or simply “drones”) for reconnaissance

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¹ GEORGE ORWELL, 1984, at 2 (1949).

² See Richard Leiby & Karen DeYoung, *U.S. Drone Strikes Resume in Pakistan; Action May Complicate Vital Negotiations*, WASH. POST (Apr. 29, 2012), http://www.washingtonpost.com/world/asia_pacific/us-drone-strikes-resume-in-pakistan-action-may-complicate-vital-negotiations/2012/04/29/gIQA1prqpTstory.html?wprss=rss_war-zones; Jessica Purkiss & Jack Serle, *Obama's Covert Drone War in Numbers: Ten Times More Strikes than Bush*, BUREAU OF INVESTIGATIVE JOURNALISM (Jan. 17, 2017), <https://www.thebureauinvestigates.com/stories/2017-01-17/obamas-covert-drone-war-in-numbers-ten-times-more-strikes-than-bush>; *Trump Looking to Loosen Obama Limits on Drone Strikes*, ALJAZEERA (Sept. 22, 2017), <http://www.aljazeera.com/news/2017/09/loosen-obama-limits-drone-strikes-170922141205178.html>.

³ See, e.g., Leiby & DeYoung, *supra* note 2.

⁴ See Travis Dunlap, *We've Got Our Eyes on You: When Surveillance by Unmanned Aircraft Systems Constitutes a Fourth Amendment Search*, 51 S. TEX. L. REV. 173, 174, 178–79 (2009).

missions since 1959;⁵ UAVs present attractive alternatives to the risks that accompany traditional human-operated planes for surveillance purposes.⁶ Varied in size as well as application, drones can be as large as business jets or small enough to fit into the palm of someone's hand, rendering them virtually undetectable.⁷

Drones have become increasingly popular domestically. Since 2005, Customs and Border Patrol ("CBP") has used UAVs to police the Canadian and Mexican borders.⁸ The program has been successful; in 2015 alone, drones helped CBP interdict several tons of both marijuana and cocaine.⁹ When they are not needed to patrol the border, CBP sometimes allows local law enforcement agencies to use drones in their investigations, though it is unknown how frequently this happens.¹⁰ In December of 2011, a CBP Predator B drone helped a North Dakota sheriff pinpoint the location of three gunmen on a 3,000 acre parcel of land.¹¹ This was the first known occasion of U.S. citizens being arrested with the assistance of a Predator drone.¹²

In 2012, the Los Angeles County Sheriff's Department used aircraft to record high-resolution video of the entire city of Compton.¹³ One of the participants in the program remarked that "[w]e literally watched all of Compton during the times that we were flying, so we could zoom in anywhere within the city of Compton and follow cars and see people."¹⁴ The experiment seems to have been a success. In October 2017, the Los Angeles Board of Police Commissioners decided to allow the police department to start a one-year pilot

⁵ *Id.* at 174 n.1, 178.

⁶ *Id.* at 178 (containing a brief history of unmanned aircraft).

⁷ *To the Point: Drones over the US*, KCRW RADIO (Apr. 11, 2012), http://www.kcrw.com/media-player/mediaPlayer2.html?type=audio&id=tp120411drones_over_the_us [hereinafter *To the Point*].

⁸ Ron Nixon, *Though Useful in War, Drones May Be Too Costly for Use Along U.S. Borders*, N.Y. TIMES, Nov. 3, 2016, at A15; Brian Bennett, *Police Employ Predator Drone Spy Planes on Home Front*, L.A. TIMES (Dec. 10, 2011), <http://articles.latimes.com/2011/dec/10/nation/la-na-dr-one-arrest-20111211>.

⁹ Nixon, *supra* note 8, at A15.

¹⁰ *Id.*; see Bennett, *supra* note 8 ("The previously unreported use of its drones to assist local, state and federal law enforcement has occurred without any public acknowledgment or debate.")

¹¹ Bennett, *supra* note 8.

¹² *Id.*; see also Thomas A. Bryan, Comment, *State v. Brossart: Adapting the Fourth Amendment for a Future with Drones*, 63 CATH. U. L. REV. 465, 465–66 (2014) (providing an in-depth discussion of these arrests).

¹³ Conor Friedersdorf, *Eyes over Compton: How Police Spied on a Whole City*, ATLANTIC (Apr. 21, 2014), <https://www.theatlantic.com/national/archive/2014/04/sheriffs-deputy-compares-drone-surveillance-of-compton-to-big-brother/360954/>.

¹⁴ *Id.*

program for drone surveillance.¹⁵

Drones have extraordinarily wide applicability. They can be used to perform search and rescue operations, to monitor natural resources, to assist in wildlife conservation efforts,¹⁶ to minimize risks in law enforcement activities, or even to conduct traffic reports.¹⁷ Drones also have a lot of potential uses in criminal cases. For instance, drones could be used to track the movements of suspected drug dealers or human traffickers. Police could use them to observe robbery suspects or trespassers. Indeed, the possible applications of drones, sometimes called “plane[s] with brain[s],”¹⁸ are virtually limitless.¹⁹

Drones also have the advantage of being cheaper in the long run than traditional surveillance techniques—before the advent of computer technology, practicality concerns would have prevented extended surveillance of suspects.²⁰ Once drones become commonplace, a single government agent can control a single drone remotely, potentially limited only by the drone’s range and battery life.²¹ As one of the purveyors of drone technologies remarked, “[o]ur whole system costs less than the price of a single police helicopter and costs less for an hour to operate than a police helicopter, . . . [b]ut . . . it watches 10,000 times the area that a police helicopter could watch.”²² Drones have made surveillance cheaper, easier, and more effective.

Advances in technology have greatly relieved the burden of more traditional surveillance techniques. In recent terms, the Supreme Court has grappled with how technological innovations have impacted traditional privacy considerations. In *United States v.*

¹⁵ Matthew Feeney, Opinion, *When It Comes to Surveillance, Watch the Watchmen*, N.Y. TIMES (Oct. 23, 2017), <https://mobile.nytimes.com/2017/10/23/opinion/police-surveillance.html>.

¹⁶ Nate Hegyi, *Biologists with Drones and Peanut Butter Pellets Are on a Mission to Help Ferrets*, YELLOWSTONE PUB. RADIO (Dec. 10, 2017), <https://www.npr.org/2017/12/10/569468428/biologists-with-drones-and-peanut-butter-pellets-are-on-a-mission-to-help-ferret>; *To the Point*, *supra* note 7.

¹⁷ *See* Dunlap, *supra* note 4, at 179–81.

¹⁸ *To the Point*, *supra* note 7.

¹⁹ *See, e.g.*, Alan Levin, *Amazon’s Dream of Drone Deliveries Get Closer with Trump’s Executive Order*, BLOOMBERG TECH. (Oct. 25, 2017), <https://www.bloomberg.com/news/articles/2017-10-25/amazon-s-dream-of-drone-deliveries-get-closer-with-trump-order>. Drones also have broad commercial applications, such as Amazon’s planned fleet of delivery drones. *Id.* This article, however, focuses entirely on drones in the hands of a government agent—third party doctrine is beyond its scope.

²⁰ *See* *United States v. Jones*, 565 U.S. 400, 429 (2012) (Alito, J., concurring). Alito remarked that the “constant monitoring of the location of a vehicle for four weeks . . . would have required a large team of agents, multiple vehicles, and perhaps aerial assistance.” *Id.*

²¹ *See* Dunlap, *supra* note 4, at 180–81.

²² Friedersdorf, *supra* note 13.

Jones, the Court held that the attachment of a Global Positioning System (“GPS”) tracking device to an individual’s vehicle and the subsequent tracking of that vehicle’s motion over the course of four weeks was a search under the Fourth Amendment.²³ The Court’s opinion in *Jones* was explicitly rooted in the doctrine of trespass, emphasizing that law enforcement officials had physically attached the GPS device to Jones’s Jeep;²⁴ the majority opinion did not address potential searches that might be conducted without physical contact. Two years later, in *Riley v. California*,²⁵ the Court acknowledged the necessity of cell phones in the modern era and held that law enforcement officers need a warrant to search their digital contents.²⁶ Implicit in the Court’s decision was the understanding that new technologies are sometimes accompanied by changing public perceptions of privacy interests.²⁷ In November 2017, the Court heard oral arguments in *Carpenter v. United States*,²⁸ another case that requires the Justices to confront how the Fourth Amendment applies to technology that is far beyond the wildest dreams of the Founders. The central question in *Carpenter* is whether historical cell phone location records are entitled to Fourth Amendment protection.²⁹ A decision may not be issued until the end of the spring term, but even then, the Court may not articulate a rule that neatly applies to police use of UAVs. The question, then, remains: would drone surveillance of an individual constitute a search under the Fourth Amendment? Given law enforcement agencies’ interest in acquiring drones,³⁰ this issue is of great importance.

This article focuses on the Fourth Amendment concerns raised by government drone surveillance³¹ in light of the Supreme Court’s recent decisions in cases dealing with new technologies. The Court’s

²³ *Jones*, 565 U.S. at 403–04.

²⁴ *Id.* at 403–05 (citations omitted).

²⁵ *Riley v. California*, 134 S. Ct. 2473 (2014).

²⁶ *See id.* at 2485.

²⁷ *See id.* at 2490 (citation omitted).

²⁸ *United States v. Carpenter*, 819 F.3d 880 (6th Cir. 2016), *cert. granted*, 137 S. Ct. 2211 (2017); *see* Transcript of Oral Argument, *Carpenter*, 137 S. Ct. at 2211 (No. 16-402) [hereinafter *Carpenter* Transcript].

²⁹ Petition for Writ of Certiorari at i, *Carpenter*, 137 S. Ct. at 2211 (No. 16-402).

³⁰ *FAA List of Certificates of Authorization (COAs)*, ELECTRONIC FRONTIER FOUND., <https://www.eff.org/document/faa-list-certificates-authorizations-coas> (last visited Jan. 23, 2018). Many police departments, agencies, and even universities have applied for FAA Certificates of Authorizations. *Id.*

³¹ Drones operated by hobbyists and private corporations also pose interesting privacy concerns but are beyond the scope of this article. *See, e.g.,* Levin, *supra* note 19. The Fourth Amendment applies only to government conduct, not the actions of private citizens or non-government actors. *United States v. Jacobsen*, 466 U.S. 109, 113 (1984) (citation omitted).

Fourth Amendment jurisprudence has taken an interesting turn of late, with troubling implications for privacy rights in an age of rapidly advancing technology. While drones do, of course, have significant applications in areas that do not necessarily threaten traditional privacy rights,³² on the whole, drones pose a significant risk to the rights guaranteed by the Fourth Amendment.³³ Current Supreme Court precedent does not adequately address these risks. Recognizing this legal void, this article considers a legislative solution that would allow the government to use UAV technology while still preserving some level of privacy for individuals.

II. THE FOURTH AMENDMENT AND CHANGING SURVEILLANCE TECHNOLOGY

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.”³⁴ The Supreme Court has clarified and expanded its Fourth Amendment jurisprudence in the last century.³⁵ It is important to note that not all government searches occur under the authority of a warrant.³⁶ Many traditional investigation techniques, such as constant surveillance by government agents and pen registers, have no Constitutional warrant requirement.³⁷

³² See *To the Point*, *supra* note 7. For example, traffic control, search and rescue, tracking weather patterns, etc. See *id.*

³³ See *Griswold v. Connecticut*, 381 U.S. 479, 485 (1965) (citations omitted). This article does not specifically address the constitutional right to privacy, derived from the penumbra of the Bill of Rights. Instead, it is limited to just Fourth Amendment considerations.

³⁴ U.S. CONST. amend. IV.

³⁵ See Adam A. Beretson, *The Private Search Doctrine and the Evolution of Fourth Amendment Jurisprudence in the Face of New Technology: A Broad or Narrow Exception?*, 66 CATH. U.L. REV. 445, 446 (2016).

³⁶ See *United States v. Davis*, 785 F.3d 498, 516–17 (11th Cir. 2015) (citation omitted) (“The Fourth Amendment prohibits unreasonable searches, not warrantless searches. As the text of the Fourth Amendment indicates, the ultimate measure of the constitutionality of governmental search is ‘reasonableness.’”).

³⁷ See, e.g., *United States v. Knotts*, 460 U.S. 276, 281–82 (1983); *Smith v. Maryland*, 442 U.S. 735, 742 (1979) (citations omitted). Congress later took action to require warrants for pen registers, but it is important to note that a warrant for a pen register is not a Constitutional requirement. See, e.g., *Electronic Communications Privacy Act (ECPA)*, ELEC. PRIVACY INFO. CTR., <https://epic.org/privacy/ecpa/> (last visited Feb. 20, 2018).

A. *What is a Search?* *Olmstead*,³⁸ *Katz*, and *Kyllo*³⁹

Harkening back to seventeenth century common law, the Supreme Court has repeatedly emphasized the importance of the distinction between the curtilage of one's home and an open field.⁴⁰ While the curtilage ("the area to which extends the intimate activity associated with the 'sanctity of a man's home and the privacies of life.'")⁴¹ is sheltered from government surveillance, an open field has no such protection.⁴² Three cases in particular highlight the evolution of the Court's interpretation of the Fourth Amendment—*Olmstead*, *Katz*, and *Kyllo*. In *Olmstead*, the Court held that a physical trespass is an integral part of a search under the Fourth Amendment.⁴³ Although police officers performed a wiretap by installing devices to telephone wires, the devices were installed in the basement of a shared office building and telephone poles near the defendants' houses.⁴⁴ "The insertions were made without trespass upon any property of the defendants,"⁴⁵ and even though the officers listened to conversations for a matter of months,⁴⁶ the Court found the trespass issue to be dispositive.⁴⁷

Taken literally, *Olmstead* would lead to rather absurd results. Some courts justified their finding of a search in remote computer investigations because of the brushing of electrons involved in the transmission of the information.⁴⁸ And a listening device inserted through the walls of a residence constituted a search (because of the

³⁸ *Olmstead v. United States*, 277 U.S. 438 (1928), *overruled by Katz v. United States*, 389 U.S. 347 (1967).

³⁹ *Kyllo v. United States*, 533 U.S. 27 (2001).

⁴⁰ See *California v. Ciraolo*, 476 U.S. 207, 212–13 (1986) ("The protection afforded the curtilage is essentially a protection of families and personal privacy in an area intimately linked to the home, both physically and psychologically, where privacy expectations are most heightened.").

⁴¹ *Oliver v. United States*, 466 U.S. 170, 180 (1984) (quoting *Boyd v. U.S.*, 116 U.S. 616, 630 (1886)).

⁴² See *Oliver*, 466 U.S. at 189 (quoting *Boyd*, 116 U.S. at 630); *United States v. Dunn*, 480 U.S. 294, 303–04 (1987) (citations omitted); *Hester v. United States*, 265 U.S. 57, 59 (1924) (citation omitted) (holding that the Fourth Amendment does not apply to open fields and remarking that the difference between a person's house and an open field is "as old as the common law").

⁴³ See *Olmstead*, 277 U.S. at 487.

⁴⁴ See *id.* at 457.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ See *id.* at 464 ("The Amendment does not forbid what was done here. There was no searching. There was no seizure. The evidence was secured by the use of the sense of hearing and that only. There was no entry of the houses of offices of the defendants.").

⁴⁸ See, e.g., *CompuServe, Inc. v. Cyber Promotions*, 962 F. Supp. 1015, 1021 (S.D. Ohio 1997) (citations omitted).

intrusion of the device on the house's integrity),⁴⁹ but the same device installed in an outer office would not be a search if the device never made physical contact with the subject's property.⁵⁰ Recognizing that strict adherence to the trespass-based standard was illogical, the Court announced a new rule nearly forty years later.

In *Katz*, the Court moved away from its trespass-based approach to defining searches. The Court held that attaching an electronic listening and recording device to the outside of a phone booth in order to obtain information about a target's phone conversations violated the Fourth Amendment.⁵¹ "[T]he reach of [the] Amendment cannot turn upon the presence or absence of a physical intrusion into any given enclosure;" rather, "the Fourth amendment protects people—and not simply 'areas'—against unreasonable searches and seizures."⁵² The Court also emphasized the importance of judicial oversight. "Searches conducted without warrants have been held unlawful 'notwithstanding facts unquestionably showing probable cause,' for the Constitution requires 'that the deliberate, impartial judgment of a judicial officer . . . be interposed between the citizen and the police.'"⁵³ However, the Court's holding does not apply to what can be observed without assistance or intrusion—"what a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection."⁵⁴

Writing in concurrence, Justice Harlan articulated a new standard for analyzing Fourth Amendment issues: the Fourth Amendment applies to situations where a person has "exhibited an actual (subjective) expectation of privacy and . . . that the expectation [is] one that society is prepared to recognize as 'reasonable.'"⁵⁵ Courts have since adopted Justice Harlan's two-part test.⁵⁶

In 2001, the Court considered whether using infrared scanners to detect heat signatures emanating from a residence constituted a search under the Fourth Amendment.⁵⁷ The agents in *Kyllo* performed the scan from vehicles parked outside of the defendant's

⁴⁹ See *Silverman v. United States*, 365 U.S. 505, 506–07, 509–10 (1961) (citation omitted).

⁵⁰ See *Goldman v. United States*, 316 U.S. 129, 135 (1942) (citation omitted).

⁵¹ *Katz v. United States*, 389 U.S. 347, 358 (1967).

⁵² *Id.* at 353.

⁵³ *Id.* at 357 (internal citations omitted) (first quoting *Agnello v. United States*, 269 U.S. 20, 33 (1925); and then quoting *Wong Sun v. United States*, 371 U.S. 471, 481–82 (1963)).

⁵⁴ *Id.* at 351 (first citing *Lewis v. United States*, 385 U.S. 206, 210 (1966); and then citing *United States v. Lee*, 274 U.S. 559, 563 (1927)).

⁵⁵ *Id.* at 361 (Harlan, J., concurring).

⁵⁶ See, e.g., *Smith v. Maryland*, 442 U.S. 735, 740–41 (1979) (citations omitted).

⁵⁷ *Kyllo v. United States*, 533 U.S. 27, 29 (2001).

home, never making contact with his physical property.⁵⁸ The scan itself lasted only a few minutes and did not in any way infringe upon the home's integrity.⁵⁹ The Court held that this scan was a search within the meaning of the Fourth Amendment, but in doing so emphasized that the technology used in that case was not available to the general public.⁶⁰ This conclusion, of course, begs the question: If certain technological devices (infrared scanners, for instance) do become commonplace, do people's reasonable expectations of privacy change?

B. Aerial Surveillance

On several occasions, the Court has spoken directly to aerial surveillance. The three cases most relevant to this discussion are *California v. Ciraolo*, *Dow Chemical Co. v. United States*,⁶¹ and *Florida v. Riley*.⁶² *Ciraolo* and *Dow* were decided in 1986; *Florida v. Riley* followed three years later. In *Ciraolo*, the police received an anonymous tip that Ciraolo was growing marijuana in his backyard.⁶³ Officers on foot were unable to see into Ciraolo's yard because he had erected two fences—the outer six feet tall, the inner ten.⁶⁴ The officers then secured a private plane and flew over Ciraolo's residence at a height of 1,000 feet (within navigable airspace), from which they observed and photographed marijuana plants growing in Ciraolo's yard.⁶⁵ On the basis of the information thus collected, officers obtained a search warrant for Ciraolo's residence.⁶⁶

The Supreme Court summarily rejected Ciraolo's argument that his yard was within the curtilage of his home and therefore any government surveillance of it required a warrant.⁶⁷ Instead, the Court accepted that the yard *was* within the curtilage, but insisted that the curtilage “does not itself bar all police observation. The Fourth Amendment protection of the home has never been extended to require law enforcement officers to shield their eyes when passing

⁵⁸ *See id.* at 29–30.

⁵⁹ *See id.*

⁶⁰ *Id.* at 40.

⁶¹ *Dow Chem. Co. v. United States*, 476 U.S. 227 (1986).

⁶² *Florida v. Riley*, 488 U.S. 445 (1989).

⁶³ *California v. Ciraolo*, 476 U.S. 207, 209 (1986).

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.* at 212, 215.

by a home on public thoroughfares.”⁶⁸ The Court therefore held that Ciraolo’s expectation of privacy was unreasonable, and that it was “not an expectation that society is prepared to honor.”⁶⁹

The same term, the Court held in *Dow* that the Environmental Protection Agency (“EPA”)’s aerial surveillance of a chemical manufacturing plant did not constitute a search within the meaning of the Fourth Amendment.⁷⁰ After Dow refused to allow the EPA to perform a site inspection, the EPA conducted aerial surveillance using planes and an aerial mapping camera.⁷¹ The planes that the EPA used were flown within navigable airspace at all times.⁷² The Court rejected Dow’s argument that trade secret laws protected its facility from aerial surveillance and emphasized that members of the general public could have created duplicate images.⁷³ After all, the Court noted, “there is no prohibition of photographs taken by a casual passenger on an airliner, or those taken by a company producing maps for its mapmaking purposes.”⁷⁴

Three years later, in *Florida v. Riley*,⁷⁵ the Court again considered aerial surveillance in a marijuana cultivation case.⁷⁶ Local police received a tip that Riley was growing marijuana.⁷⁷ Riley lived on a five-acre parcel of land and had a partially enclosed greenhouse.⁷⁸ Two sides of the greenhouse were left open, but his home and various foliage prevented any passersby from seeing inside.⁷⁹ When officers could not see into the greenhouse from the road, they obtained a helicopter and circled Riley’s property at a height of 400 feet.⁸⁰ Several panels on the greenhouse roof were missing, allowing the officers to see inside, where they observed marijuana plants.⁸¹ The

⁶⁸ *Id.* at 213.

⁶⁹ *Id.* at 214, 215.

⁷⁰ *Dow Chem. Co. v. United States*, 476 U.S. 227, 229, 239 (1986).

⁷¹ *Id.* at 229.

⁷² *Id.* (citation omitted).

⁷³ *Id.* at 231–32.

⁷⁴ *Id.* at 232. Even at the time that it was issued, the Court’s *Dow* ruling faced criticism for failing to adequately address how new technology impacts reasonable privacy expectations. See Diane Rosenwasser Skalak, *Dow Chemical Co. v. United States: Aerial Surveillance and the Fourth Amendment*, 3 PACE ENVTL. L. REV. 277, 293 (1986).

⁷⁵ Not to be confused with *Riley v. California*, a 2014 Supreme Court decision about the Fourth Amendment’s application to cell phones. See *Riley v. California*, 134 S. Ct. 2473 (2014). References to “*Riley*” are to *Riley v. California*.

⁷⁶ See *Florida v. Riley*, 488 U.S. 445, 447–48 (1989) (citations omitted).

⁷⁷ *Id.* at 448.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

officers then obtained a search warrant.⁸²

Following the *Ciraolo* precedent, the Court held that, although the greenhouse was within the curtilage of Riley's home and he certainly had manifested a subjective intent to keep its contents private, no Fourth Amendment search had occurred because Riley could not reasonably have expected that his greenhouse would have been safe from all aerial observation.⁸³ Interestingly, though, the Court did remark in *dicta* that the case may have been decided differently if the helicopter's altitude at the time of the observation had violated any aircraft regulation.⁸⁴ The Court emphasized that anyone could have flown over Riley's property in a helicopter at that altitude and seen the plants in his greenhouse.⁸⁵

Current aerial surveillance jurisprudence, then, provides little justification for the argument that surveillance by UAVs constitutes a search within the meaning of the Fourth Amendment. The Court has clearly indicated that the public does not have a reasonable expectation that areas outside of their home will be protected from observation by vehicles passing overhead.⁸⁶ Moreover, the Court has also said that the interior of the home, if visible from the outside, is also not protected: "What a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection."⁸⁷ As the law stands, it would appear to be entirely constitutional for the Government to use UAVs to patrol every neighborhood, using their cameras to capture real-time footage of not only a person's movements in public, but also whatever the drone might be able to view through doors, windows, and skylights.

There is, however, one way in which the Court could avoid such a result. The Court could find a principled distinction between its current leading cases on aerial surveillance, *Ciraolo*, *Dow*, and *Florida v. Riley*, and a hypothetical case where the surveillance is performed by a UAV rather than a police officer in an aircraft. The

⁸² *Id.* at 448–49.

⁸³ *Id.* at 450 (citation omitted).

⁸⁴ *Id.* at 451–52 ("We would have a different case if flying at that altitude had been contrary to law or regulation. . . . This is not to say that an inspection of the curtilage of a house from an aircraft will always pass muster under the Fourth Amendment simply because the plane is within the navigable airspace specified by law. But it is of obvious importance that the helicopter in this case was *not* violating the law, and there is nothing in the record or before us to suggest that helicopters flying at 400 feet are sufficiently rare in this country to lend substance to respondent's claim that he reasonably anticipated that his greenhouse would not be subject to observation from that altitude.")

⁸⁵ *Id.* at 451.

⁸⁶ *Id.* at 449–50 (citations omitted).

⁸⁷ *Katz v. United States*, 389 U.S. 347, 351 (1967) (citation omitted).

Court has stressed that individuals reasonably expect that planes and helicopters will pass overhead, but there are two important differences between surveillance in a plane or helicopter and surveillance conducted by a drone. First, drones are not yet commonplace—people today are unlikely to reasonably anticipate that the contents of their backyards can be recorded and scanned in great detail. It may not be long before drones are ubiquitous, but even then, many drones' small sizes would make it unlikely that people would even be aware of their presence, let alone become acclimated to it.⁸⁸

Moreover, the maneuvering and observation capabilities of a drone are far superior to those of a plane or helicopter. Drones can hover, virtually silent and invisible.⁸⁹ They need not circle an area, and can get far closer to their targets than a plane or helicopter could. A drone therefore differs significantly from a private or commercial flight that happens to pass over a house, allowing passengers to observe contraband. Drones are more versatile than traditional aircraft, and since they are by definition unmanned,⁹⁰ the argument that aerial surveillance only turns up evidence that would have been observable by any member of the public flying overhead is not entirely persuasive.

But while the Court could make a principled distinction between UAVs and other aircraft used for surveillance, this seems unlikely. Without abrogating previous aerial surveillance case law, this result would have to be premised entirely on the differences between drones and other forms of aerial surveillance. And as drones become more common and law enforcement increasingly dependent upon them, this seems less and less likely.

III. THE COURT GRAPPLES WITH 21ST CENTURY TECHNOLOGY

Over the past few years, the Supreme Court has considered how new technology informs Fourth Amendment analysis. While there have been no recent cases specifically addressing aerial surveillance,

⁸⁸ See Robert A. Heverly, *Game of Drones: The Uses and Potential Abuses of Unmanned Aerial Vehicles in the U.S. and Abroad: The State of Drones: State Authority to Regulate Drones*, 8 ALB. GOV'T L. REV. 29, 36–37, 46 (2015). After all, planes and helicopters have to carry passengers. Some drones are small enough to be carried in a backpack and launched by hand. *Id.* at 36. And if drones become so commonplace that it becomes unreasonable for a person to expect privacy outside of his secured, barricaded home (with no open windows, cracks, or skylights through which a drone might peer), then no claim of a Fourth Amendment violation would survive the first part of the *Katz* test—a reasonable expectation of privacy.

⁸⁹ *Id.* at 36, 46.

⁹⁰ *Id.* at 30, 46.

the Court's application of the Fourth Amendment to GPS devices and cell phones offer insight into how the Justices may view a challenge to drone surveillance.

A. Jones and the Return of Physical Trespass Doctrine

In 2012, the Supreme Court considered whether GPS tracking of a vehicle constitutes a search under the Fourth Amendment. While *U.S. v. Jones* does not speak directly to the issue of UAV surveillance, it offers important insight into how the Court considers paradigm-shifting surveillance innovations.⁹¹ *Jones* stands as an indicator of what may come in eventual drone cases.

Jones, a D.C. nightclub owner, was suspected of drug trafficking.⁹² Government agents obtained a warrant to place a GPS device on his Jeep, but did so outside the terms of the warrant.⁹³ Over the course of four weeks, agents tracked every movement of Jones's vehicle, which ultimately led them to a drug warehouse.⁹⁴ Jones appealed his conviction, arguing that the tracking of his vehicle was a search under the Fourth Amendment.⁹⁵ Though all nine Justices agreed that this case involved a search within the meaning of the Fourth Amendment,⁹⁶ they splintered in their reasoning.

1. The Majority Opinion

Justice Scalia authored the majority opinion, which he rooted in trespassory searches in the style of *Olmstead*: "The Government physically occupied private property for the purpose of obtaining information. We have no doubt that such a physical intrusion would have been considered a "search" within the meaning of the Fourth Amendment when it was adopted."⁹⁷ He emphasized the Fourth Amendment's close ties to property rights, explaining that the *Katz* "reasonable expectation" test supplemented rather than supplanted the traditional trespassory inquiry.⁹⁸ Justice Scalia found that

⁹¹ See Matthew R. Koerner, Note, *Drones and the Fourth Amendment: Redefining Expectations of Privacy*, 64 DUKE L.J. 1129, 1138 (2015).

⁹² *United States v. Jones*, 565 U.S. 400, 402 (2012).

⁹³ *Id.* at 402–03. The warrant gave the agents ten days to attach the device and specified that it should be attached in D.C. Agents did not attach the device to Jones's vehicle until the eleventh day, and did so while the Jeep was parked in Maryland. *Id.*

⁹⁴ *Id.* at 403, 404.

⁹⁵ See *id.* at 404 (citations omitted).

⁹⁶ See *id.* at 401.

⁹⁷ *Id.* at 404–05 (citation omitted).

⁹⁸ See *id.* at 407–08 (citations omitted).

officers “encroached on a protected area,”⁹⁹ and thereby conducted a search.¹⁰⁰

Responding to criticism from concurring opinions that the trespassory approach provides little guidance for cases without physical contact, Justice Scalia stated that “[s]ituations involving merely the transmission of electronic signals without trespass would *remain* subject to *Katz* analysis.”¹⁰¹ He did, however, acknowledge that “achieving the same result through electronic means, without an accompanying trespass, [may be] an unconstitutional invasion of privacy,” but insisted that an answer to that question was unnecessary in *Jones*.¹⁰² Because the Court declined to address the issue, there is no firm guidance on whether surveillance without physical contact—the sort conducted by UAVs—would constitute a search within the meaning of the Fourth Amendment.

2. The Concurrences

Writing alone, Justice Sotomayor criticized the majority opinion for providing little guidance in cases of “modes of surveillance that do not depend upon a physical invasion on property.”¹⁰³ She also expressed misgivings about allowing the Executive, “in the absence of any oversight from a coordinate branch, a tool so amenable to misuse, especially in light of the Fourth Amendment’s goal to curb arbitrary exercises of police power.”¹⁰⁴

Similarly, Justice Alito’s concurring opinion also emphasized the need for Congressional action.¹⁰⁵ Justice Alito drew attention to the flaws in the majority opinion, arguing that Justice Scalia did not address the most important issue—Scalia’s almost myopic focus on the actual attachment of the GPS device prevented him from considering “what is really important (the *use* of a GPS for the purpose of long-term tracking).”¹⁰⁶ Justice Alito found the majority’s emphasis on traditional principles of trespass too simplistic, because “it is almost impossible to think of late-18th-century situations that

⁹⁹ *Id.* at 410.

¹⁰⁰ *Id.* (citation omitted).

¹⁰¹ *Id.* at 411 (emphasis in original). For reasons previously discussed, the *Katz* analysis does not provide particularly clear guidance in terms of UAV searches, either. *See supra* Part II.

¹⁰² *Jones*, 565 U.S. at 412.

¹⁰³ *Id.* at 415 (Sotomayor, J., concurring).

¹⁰⁴ *Id.* at 416.

¹⁰⁵ *See id.* at 429–30 (Alito, J., concurring).

¹⁰⁶ *Id.* at 424.

are analogous to what took place in this case.”¹⁰⁷ Indeed, it does seem illogical to draw on expectations with regards to trespassory searches at the time the Fourth Amendment was passed in order to analyze GPS surveillance. (One can imagine that it was not the fact that government agents physically attached the device to his Jeep that Jones objected to—it was probably their subsequent monitoring of his every movement for the following four weeks.) Justice Alito warned that “the Court’s reliance on the law of trespass will present particularly vexing problems in cases involving surveillance that is carried out by making electronic, as opposed to physical, contact with the item to be tracked.”¹⁰⁸

In the six years since *Jones* was decided, the Court has yet to articulate a clear standard for searches that do not involve a physical intrusion. The *Jones* Court’s reinvigoration of the *Olmstead* test has meant that there is little guidance for law enforcement agencies who want to use new and improved technology to track suspects’ movements.

B. Riley and the Court’s Acknowledgement of Shifting Technological Norms

Two years after *Jones* was decided, the Court considered whether a search of a person’s cell phone required a warrant.¹⁰⁹ The Court remarked that cell phones are “such a pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy.”¹¹⁰ Writing for the Court, Chief Justice Roberts remarked that smart phones were “unheard of ten years ago; a significant majority of American adults now own” such devices.¹¹¹ Indeed, such “technology [was] nearly inconceivable just a few decades ago,” a tacit acknowledgement that the Court’s previous guidance was not designed to encompass the thorny issues raised by rapidly evolving technology.¹¹²

In *Riley*, the Justices consolidated two cases¹¹³ presenting one

¹⁰⁷ *Id.* at 420.

¹⁰⁸ *Id.* at 426.

¹⁰⁹ *Riley v. California*, 134 S. Ct. 2473, 2480 (2014).

¹¹⁰ *Id.* at 2484 (citation omitted).

¹¹¹ *Id.*

¹¹² *See id.*

¹¹³ *Id.* at 2480. David Riley’s case involved a traffic stop that led to his vehicle being impounded. *Id.* (citation omitted). An inventory search revealed weapons that were linked to a gang-related shooting. *See id.* at 2480–81. The arresting officer seized Mr. Riley’s smartphone, and other officers examined the contents of the phone some time later at the police station. *Id.* at 2480. In the second case, a police officer observed Brima Wurie selling drugs

question—whether, upon arrest, police officers could search an individual’s cell phone without a warrant.¹¹⁴ The Court’s analysis turned on the reasonableness of a search incident to arrest.¹¹⁵ Usually, police officers are permitted to search an individual who is arrested both to preserve evidence and to ensure officer safety.¹¹⁶ Here, the Court found that digital data can be used neither to harm an officer nor to assist in an escape, and thus there is no justification for searches incident to arrests to include the arrestee’s cell phone.¹¹⁷ Instead, officers must first obtain a warrant.¹¹⁸

Central to the Court’s opinion was the importance of cell phones to modern life.¹¹⁹ Chief Justice Roberts wrote that many cell phones “are in fact minicomputers that also happen to have the capacity to be used as a telephone” and are functionally “cameras, video players, rolodexes, calendars, tape recorders, libraries, diaries, albums, televisions, maps, [and] newspapers.”¹²⁰ It was the nature of the information contained in cell phones that led the Court to require probable cause for content searches.¹²¹ The Court’s focus on the centrality of digital content to daily life and the extremely personal information that can be gleaned from unrestricted access to that data bodes well for privacy advocates.¹²² In acknowledging that society’s expectations of privacy have evolved with the times, the Court has at least opened the door to claims that new surveillance technologies could also pose new Fourth Amendment challenges.

C. Carpenter and the Way Forward

The Supreme Court heard oral arguments in *United States v. Carpenter* on November 29, 2017;¹²³ its decision may not be issued

from a car. *Id.* at 2481. The officer arrested Mr. Wurie and, upon arriving at the station, seized two cell phones from him. *Id.* One, a flip phone, received calls from a number labeled “my house,” which was displayed on the phone’s external screen. *See id.* Officers accessed the phone’s call log, looked up the number associated with “my house,” and then traced the number to an apartment. *Id.* After obtaining a warrant, officers searched the apartment and found drugs and assorted paraphernalia. *Id.*

¹¹⁴ *Id.* at 2480.

¹¹⁵ *See id.* at 2482.

¹¹⁶ *See, e.g.,* *Chimel v. California*, 395 U.S. 752, 762–63 (1969).

¹¹⁷ *Riley*, 134 S. Ct. at 2485, 2495.

¹¹⁸ *Id.* at 2495.

¹¹⁹ *Id.* at 2494–95 (citation omitted).

¹²⁰ *Id.* at 2489.

¹²¹ *Id.* at 2494–95 (citation omitted).

¹²² *See e.g.,* Lauren E. Babst, *No More Shortcuts: Protect Cell Site Location Data with a Warrant Requirement*, 21 MICH. TELECOMM. TECH. L. REV. 363, 380 (2015).

¹²³ *Carpenter* Transcript, *supra* note 28, at 1.

until the conclusion of the spring term. “*Carpenter* highlights the clash between established Fourth Amendment doctrines and what many argue are the heightened privacy concerns of a digital era.”¹²⁴ The central question the Court must answer is whether the Fourth Amendment requires a search warrant for historical cell phone location data.¹²⁵ The Court will have to grapple with third-party doctrine, a historically complicated area of Fourth Amendment jurisprudence¹²⁶ that is beyond the scope of this article. Nevertheless, the briefings and arguments themselves offer useful insight into how the Court views evolving technology and the extent to which increasingly sophisticated devices inform a reasonable expectation of privacy.

In his opening statement to the Court, Mr. Nathan Wessler neatly summarized the petitioner’s position: the warrantless collection of his client’s cell phone location data over a long time “disturbs people’s long-standing, practical expectation that their longer-term movements in public and private spaces will remain private.”¹²⁷

Justice Kagan remarked that both *Carpenter* and *Jones* involved “reliance on a new technology that allows for 24/7 tracking.”¹²⁸ Although GPS trackers are different from cell phone location records, “in both cases, you have a new technology that allows for 24/7 tracking and a conclusion by a number of justices in *Jones* that that was an altogether new and different thing that did intrude on people’s expectations of who would be watching them when.”¹²⁹ The paradigm shift that Justice Kagan identified would also encompass drone surveillance—the same privacy concerns implicated by cell phone location monitoring and GPS tracking are implicated by UAVs.

Carpenter’s ultimate outcome will likely hinge on third party doctrine, which holds that documents that are voluntarily given to a third party are not entitled to Fourth Amendment protection.¹³⁰ The application of third party doctrine to drone surveillance is beyond the scope of this article, but nevertheless, *Carpenter* promises to be the most important Fourth Amendment case of the Court’s 2017-2018

¹²⁴ John Castellano, *Symposium: Justices Poised to Consider, or Reconsider, Fourth Amendment Doctrines as They Assess the Scope of Privacy in a Digital Age*, SCOTUSBLOG (Aug. 1, 2017), <http://www.scotusblog.com/2017/08/symposium-justices-poised-consider-reconsider-fourth-amendment-doctrines-assess-scope-privacy-digital-age/>.

¹²⁵ *Id.*

¹²⁶ *Id.*; see, e.g., *Smith v. Maryland*, 442 U.S. 735, 744 (1979) (citation omitted).

¹²⁷ *Carpenter* Transcript, *supra* note 28, at 3.

¹²⁸ *Id.* at 47.

¹²⁹ *Id.*

¹³⁰ *Smith*, 442 U.S. at 743–44.

term and could articulate a new standard for how the Fourth Amendment adequately protects information in the modern age.

Assuming, however, that the Court does not use *Carpenter* to announce a sweeping new formulation of what constitutes a search, where does that leave us? The trespass-based inquiry is completely unhelpful in a drone surveillance case. The *Katz* reasonable expectation of privacy test is also problematic when it comes to drones. As Blitz, et al., observed, once UAVs become commonplace, “[i]t will be hard for people to argue that they are unsettled and made insecure by police drone use in a world where they expect—and have adapted to—being subject to drone surveillance by everyone else.”¹³¹ Ultimately, the solution may lie with the legislative branch.

IV. THE CURRENT REGULATORY LANDSCAPE

In February of 2012, President Obama signed the Federal Aviation Administration (“FAA”) Modernization and Reform Act, which required the FAA to integrate drones into the National Airspace System.¹³² Even before the FAA’s drone regulations were promulgated, privacy advocates worried about adequate privacy protections.¹³³ In April of 2012, Edward J. Markey and Joe Barton, who were at the time co-chairs of the Congressional Bi-Partisan Privacy Caucus, wrote a letter to the Acting Administrator of the FAA to express their concerns.¹³⁴ They were troubled by the “potential for drone technology to enable invasive and pervasive

¹³¹ Marc Jonathan Blitz et al., *Regulating Drones Under the First and Fourth Amendments*, 57 WM. & MARY L. REV. 49, 76 (2015).

¹³² FAA Modernization and Reform Act of 2012, 49 U.S.C. § 332 (2012). In 2008 and 2010, the Department of Homeland Security championed the use of military satellites to assist in domestic terrorism investigations. Congress rejected the proposal on Posse Comitatus grounds. Bennett, *supra* note 8.

¹³³ See Bob Brewin, *Congress to FAA: Don’t Let Domestic Drones Spy on Americans*, NEXTGOV 1 (Apr. 20, 2012), <http://www.nextgov.com/emerging-tech/2012/04/congress-to-faa-dont-let-domestic-drones-spy-on-americans/51068/>. Many question whether these issues should be decided by the FAA. See Benjamin Wittes & John Villasenor, *FAA Regulation of Drones Will Challenge Our Privacy Expectations*, WASH. POST, (Apr. 19, 2012), http://www.washingtonpost.com/opinions/faa-regulation-of-drones-will-challenge-our-privacy-expectations/2012/04/19/g1QA9IH8TT_story.html (“The privacy issues associated with UAVs are part of a larger set of questions unrelated to aviation: how to protect individuals in the context of the rapid proliferation of information-gathering technologies to governments, companies and our neighbors. In some respects, UAVs are not so different from cellphone cameras, networked computers and other technologies that reduce the space for keeping personal affairs from view.”).

¹³⁴ Letter from Edward J. Markey and Joe Barton, U.S. H. Reps. & Co-Chairmen of the Cong. Bi-Partisan Privacy Caucus, to Michael P. Huerta, Acting Admin’r, Fed. Aviation Admin. (Apr. 19, 2012), https://fas.org/irp/congress/2012_cr/drones041912.pdf [hereinafter Huerta Letter].

surveillance without adequate privacy protections,” and questioned how the FAA would address “the law’s potential privacy implications.”¹³⁵ Today, the FAA imposes strict rules on professional and hobbyist drone operators, including a requirement that drones remain in visual line-of-sight to their operators.¹³⁶ But the FAA’s regulations do not sufficiently address the possibility of government agents using drones for aerial surveillance in the absence of probable cause.¹³⁷

The Department of Justice has also issued guidance about the use of drones, requiring that its agents operate drones “consistent with the U.S. Constitution” and prohibiting agents from using drones “solely for the purpose of monitoring activities protected by the First Amendment or the lawful exercise of other rights secured by the Constitution and laws of the United States.”¹³⁸ The Department has also required Senior Component Officials for Privacy in agencies using drones to annually review their drone programs for compliance with law and policy.¹³⁹ These officials must also identify privacy risks and make recommendations about methods of protecting privacy and civil liberties.¹⁴⁰

While it is a good sign that federal agencies have taken steps to ensure that drones are not used to contravene the law and have implemented practices designed to address privacy and civil liberty concerns, internal guidance and even regulations do not serve as an adequate safeguard. Department policies can change. Regulations can be altered or rescinded after a notice and comment period. If the Court does not find that the Fourth Amendment mandates probable cause for drone surveillance, and agencies cannot be left to their own devices to determine drone policy, then Congress is the body best able to limit law enforcement use of drones and to ultimately prevent Big Brother from becoming a reality.

¹³⁵ *Id.*

¹³⁶ *See, e.g.*, Getting Started, FED. AVIATION ADMIN., https://www.faa.gov/uas/getting_start ed/, (last updated December 15, 2017).

¹³⁷ *See* Michael L. Smith, *Regulating Law Enforcement’s Use of Drones: The Need for State Legislation*, 52 HARV. J. ON LEGIS. 423, 453 (2015).

¹³⁸ *See* DEP’T OF JUST., DEPARTMENT OF JUSTICE POLICY GUIDANCE, DOMESTIC USE OF UNMANNED AIRCRAFT SYSTEMS (UAS) 2 (May 22, 2015), <https://www.justice.gov/file/441266/download>. The Department of Justice also states that its agents shall not retain personally identifiable information obtained by drone for more than 180 days “unless retention of the information is determined to be necessary for an authorized purpose or is maintained in a system of records covered by the Privacy Act.” *Id.* at 3.

¹³⁹ *Id.* at 3.

¹⁴⁰ *Id.*

V. THE NEED FOR LEGISLATIVE ACTION

For more than thirty years, the Supreme Court's approach to aerial surveillance has been criticized for inadequately protecting citizens' privacy.¹⁴¹ Under current Court precedent, it would appear that drones gathering and relaying information are probably not performing searches within the meaning of the Fourth Amendment. By focusing on the physical attachment of the GPS to the defendant's vehicle, the *Jones* majority opinion had no need to grapple with difficult privacy expectations.¹⁴² The Justices may elect to directly address privacy expectations in *Carpenter*, but even if they do, the Court's eventual decision will not directly address warrantless aerial surveillance. Although the Court has begun to accept that new technologies have caused a shift in what society deems a reasonable expectation of privacy, there is nothing yet to indicate that drone surveillance mandates a warrant.¹⁴³ A drone gathering information on an individual, operating within FAA guidelines for safe altitudes,¹⁴⁴ would probably not be performing a search under the Fourth Amendment.

Justice Alito's concurring opinion in *Jones* urged Congress to take up the many issues left unresolved by the majority.¹⁴⁵ Congress could pass legislation governing the use of drones, just as it did the use of wire tapping.¹⁴⁶ Legislatures are, by their nature, more attuned to the opinions of the populace, and courts are often reluctant to create rules that are better suited for promulgation by one of the political branches.

Technological innovations are often accompanied by paradigm shifts in terms of the public's privacy concerns. But while a plane or helicopter, used for aerial surveillance in *Ciraolo* and *Florida v. Riley*, respectively, is clearly visible to the naked eye, drones are capable of being just the opposite. It is easy to envision, in ten years' time or so,

¹⁴¹ Skalak, *supra* note 74, at 293 ("It is clear that with advancing technological developments, the law regarding searches and seizures must mirror those developments. . . . The courts cannot rely on antiquated interpretations of the law and make them work in an unworkable situation. . . . [The Court should not] refuse[] to recognize that increased capabilities in surveillance techniques allow searching in ways that cost, convenience, and manufacturing techniques prohibit effective protection.").

¹⁴² See *United States v. Jones*, 565 U.S. 400, 404 (2012) (citation omitted).

¹⁴³ See S. Alex Spelman, *Drones: Updating the Fourth Amendment and the Technological Trespass Doctrine*, 16 NEV. L.J. 373, 416, 417 (2015).

¹⁴⁴ See *id.* at 396; see also *Florida v. Riley*, 488 U.S. 445, 452–53 (1989) (quoting *California v. Ciraolo*, 476 U.S. 207, 212–13, 215 (1986)).

¹⁴⁵ See *Jones*, 565 U.S. at 429–30.

¹⁴⁶ See Electronic Communications Privacy Act of 1986, 18 U.S.C. § 2511 (2012).

a world in which drones are widely used but rarely seen. As new technologies render searches less costly and more effective, private citizens are left with fewer options to avoid surveillance.¹⁴⁷ As the *Katz* Court remarked, “the very nature of electronic surveillance precludes its use pursuant to the suspect’s consent.”¹⁴⁸

Assuming that a drone does not stumble upon a crime every time it is deployed, some portion of the population will be watched without ever knowing that they are being tracked. This is especially troubling given drones’ vast technical capabilities. Drones are capable of hovering, peering through windows and skylights, tracking movements, and detecting heat signatures.¹⁴⁹ Almost crude by comparison, “GPS monitoring generates a precise, comprehensive record of a person’s public movements that reflects a wealth of detail about her familial, political, professional, religious, and sexual associations.”¹⁵⁰ And historical cell site location data can “chart a minute-by-minute account of a person’s locations and movements and associations over a long period.”¹⁵¹ The Justices have indicated some discomfort with the idea that such sophisticated technologies could be used to track an individual’s public movements without a showing of probable cause and a warrant.¹⁵² When it comes to drones, those concerns are magnified. The information gathered through drone surveillance—potentially everything from a person’s occupation, friendships, and reading materials to personal grooming habits and

¹⁴⁷ See Spelman, *supra* note 143, at 379–380. A hundred years ago, a person under surveillance might have been able to elude the agents following him. But methods of electronic surveillance provide no notice to the suspect. This is relevant in that it informs reasonable expectations about privacy, an integral part of the *Katz* test. See *Katz v. United States*, 389 U.S. 347, 353 (1967).

¹⁴⁸ *Katz*, 389 U.S. at 358.

¹⁴⁹ See Spelman, *supra* note 143, at 379–80; Huerta Letter, *supra* note 134.

¹⁵⁰ *Jones*, 565 U.S. at 415 (Sotomayor, J., concurring).

¹⁵¹ *Carpenter* transcript, *supra* note 28, at 5.

¹⁵² See *Riley v. California*, 134 S. Ct. 2473, 2497 (2014) (Alito, J., concurring) (“Many forms of modern technology are making it easier and easier for both government and private entities to amass a wealth of information about the lives of ordinary Americans.”); *Florida v. Riley*, 488 U.S. 445, 466 (1989) (Brennan, J., dissenting) (disagreeing with the court’s decision that allowed warrantless helicopter surveillance from an altitude of 400 feet); *Dow Chem. Co. v. United States*, 476 U.S. 227, 240 (1986) (Powell, J., concurring in part and dissenting in part) (“[The court’s role is to] ensure[] that Fourth Amendment rights would retain their vitality as technology expanded the Government’s capacity to commit unsuspected intrusions into private areas and activities. . . . [The majority opinion’s approach] will not protect Fourth Amendment rights, but rather will permit their gradual decay as technology advances.”); see also *Jones*, 565 U.S. at 402, 413 (citation omitted) (considering a question particularly relevant to drones and their ability to track individuals: whether the government may place a Global Positioning System (GPS) on an individual’s vehicle and track his or her public movements without a warrant, and holding that a warrant was required); *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (holding that use of thermal imaging devices to track an individual requires a warrant).

sexual proclivities—would present an unthinkably intrusive and intimate look at a target's life.

As the Court concluded in *Jones*, the body best able to deal with rapidly changing technology and reasonable privacy expectations is Congress.¹⁵³ Congressional legislation is essential to protect citizens' privacy interests from unfettered UAV surveillance, especially since it seems unlikely that courts will provide meaningful recourse for targeted individuals.

Any legislation on this matter should differentiate between general surveillance (like border patrols, monitoring natural disasters, etc.) and targeted surveillance of an individual or a group of individuals. The former could be exempt from a warrant requirement, while the latter would receive at least some level of oversight before being subjected to UAV surveillance. In doing so, Congress would be able to strike an appropriate balance between the significant privacy concerns raised by drones and their importance to national security in the coming years. Ideally, this legislation could serve as a compromise between persistent overhead police surveillance and a prohibition on using a tool that could greatly enhance public safety.

It is important that any drone legislation takes into account drones' versatility. Routine UAV flights to obtain information about wild fires or traffic patterns are markedly different from surveillance of a particular individual. The legislation could make this distinction explicit: if drones are being deployed to investigate a particular person or area, they are conducting a search and therefore require a warrant.¹⁵⁴ The moment a drone is directed to target a specific individual, group of individuals, or limited geographic area (perhaps a city block), it is conducting a search and therefore the government must have probable cause.¹⁵⁵ Long-established Fourth Amendment exceptions, such as exigent circumstances in the event that a crime is being commissioned or there is a threat to public safety, would still apply to allow officers to act quickly. Additionally, reviewing any historical drone footage to target individuals or specific geographic areas would also carry a warrant requirement. This would prevent officers from abusing the powerful tools at their disposal. By creating

¹⁵³ *Jones*, 565 U.S. at 427–28 (Alito, J., concurring) (citations omitted).

¹⁵⁴ See, e.g., Russell Contreras, *NM Joins Other States in Grappling with Drones*, KRQE NEWS 13 (Feb. 24, 2015), <http://krqe.com/2015/02/24/nm-joins-other-states-in-grappling-with-drones/>. For reasons discussed previously, it seems unlikely that a court will find this to be a search under the Fourth Amendment; however, there is nothing to prevent Congress from defining a search to include such behavior. See, e.g., *California v. Ciraolo*, 476 U.S. 207, 215 (1986).

¹⁵⁵ See, e.g., Contreras, *supra* note 154.

a bright-line rule that using a drone to target a specific individual, group, or geographic area is a search, Congress could strike the appropriate balance between protecting privacy interests and promoting public safety. Drones used for more general purposes would not face the same requirement. This distinction would strike the appropriate balance between Fourth Amendment privacy concerns and the wide applicability of UAVs.

Representative Jason Lewis of Minnesota has introduced a bill with bipartisan support that aims to balance privacy, public safety, and economic interests.¹⁵⁶ The Drone Innovation Act of 2017 would require the Secretary of Transportation to promulgate regulations governing UAVs.¹⁵⁷ The draft legislation provides that the “Secretary shall not authorize the operation of a small or civil unmanned aircraft in airspace local in nature above property where there is a reasonable expectation of privacy or without permission of the property owner.”¹⁵⁸

While the bill does not limit causes of action that sound in tort related to the operation of drones,¹⁵⁹ it also does not specifically address limitations on the use of drones by police officers. Furthermore, the bill envisions state and local governments retaining considerable control over any local drone programs.¹⁶⁰ Local control over UAV programs does provide state and local jurisdictions with considerable flexibility, which seems likely to spur economic innovation. But when it comes to privacy issues, consistency is far preferable. Otherwise, states may find themselves with a hodgepodge of differing approaches to and assumptions about reasonable privacy expectations. It is illogical that one county could require a warrant for aerial surveillance of a person’s yard, while the next county would not mandate one in order for its police officers to fly a drone outside the open window of a rental apartment. As of April 2018, the bill has not yet left committee.¹⁶¹

A national approach is ideal, but in the absence of federal

¹⁵⁶ Jake Lamb, *Congress Introduces Bipartisan Drone Innovation Act: Republican Rep. Jason Lewis Leads Legislation on Drone Use and Innovation*, FLYING MAG. (June 20, 2017), <https://www.flyingmag.com/congress-introduces-bipartisan-drone-innovation-act>; Jonathan Rupprecht, *Drone Innovation Act of 2017 (HR 2930)*, RUPPRECHT L.P.A., <https://jrupprechtllaw.com/drone-innovation-act-hr-2930> (last visited Mar. 1, 2018).

¹⁵⁷ Rupprecht, *supra* note 156.

¹⁵⁸ Drone Innovation Act of 2017, H.R. 2930, 115th Cong. § 5(a) (2017).

¹⁵⁹ *Id.* § 5(b)(2).

¹⁶⁰ *Id.* § 3(d)(5),(9),(10).

¹⁶¹ *All Information (Except Text) for H.R.2930 - Drone Innovation Act of 2017*, CONGRESS.GOV, <https://www.congress.gov/bill/115th-congress/house-bill/2930/all-info> (last visited Apr. 26, 2018).

legislation, some states have begun to regulate drones for themselves. In 2017, Florida passed the Freedom from Unwarranted Surveillance Act, which explicitly prohibits law enforcement from using “a drone to gather evidence or other information.”¹⁶² The statute carves out exceptions for warrants, specific terrorism threats, and exigent circumstances.¹⁶³ Other exceptions include government use of drones for things like aerial mapping and making determinations about utilities.¹⁶⁴ Violations of the act are subject to civil action and punitive damages, and “[e]vidence obtained or collected in violation of this act is not admissible as evidence in a criminal prosecution in any court of law in [Florida].”¹⁶⁵

Florida’s statute directly addresses both privacy and public safety concerns and strikes a clear, logical, and fair balance between the two competing interests. In Florida, government agents can use drones to map traffic patterns, determine ideal locations for public utilities, and respond to disasters.¹⁶⁶ But Florida residents are not subject to unrestricted aerial surveillance—law enforcement officials can only use drones to collect information to be used in a criminal proceeding if they first obtain a warrant, and failure to follow proper procedure results in any illegally obtained evidence being thrown out of court.¹⁶⁷ By excluding UAV-related evidence obtained in contravention of the statute, the Florida legislature has provided a powerful disincentive for law enforcement officials to abuse their authority to keep a watchful eye over Florida residents.

The Florida statute is a useful model for any future federal legislation on drone surveillance. It minimizes the tension between civil liberties and public safety and severely punishes those who violate others’ reasonable expectations of privacy. Florida has struck an appropriate balance, and Congress would be wise to consider similar legislation to ensure that reasonable privacy expectations do not vary wildly depending on state lines. Even if the Supreme Court does not find that the Fourth Amendment requires probable cause for government UAV surveillance, Congress can and should act to protect their constituents’ privacy interests.

¹⁶² FLA. STAT. § 934.50(3)(a) (2017).

¹⁶³ *Id.* § 934.50(4)(a)–(c).

¹⁶⁴ *Id.* § 934.50(4)(f)–(4)(g).

¹⁶⁵ *Id.* § 934.50(6).

¹⁶⁶ *Id.* § 934.50(4)(c), (f).

¹⁶⁷ *Id.* § 934.50(4)(b), (6).

VI. CONCLUSION

In her *Jones* concurrence, Justice Sotomayor expounded upon the dangers posed by warrantless GPS tracking:

Awareness that the Government may be watching chills associational and expressive freedoms. And the government's unrestrained power to assemble data that reveal private aspects of identity is susceptible to abuse. The net result is that GPS monitoring—by making available at a relatively low cost such a substantial quantum of intimate information about any person whom the government, in its unfettered discretion, chooses to track—may “alter the relationship between citizen and government in a way that is inimical to democratic society.”¹⁶⁸

These concerns are far more troubling when the technology being used without a warrant is a surveillance drone. Despite the extraordinarily alarming possibilities of such “unfettered discretion,” recent Supreme Court jurisprudence suggests that the warrantless use of drones is permissible under the Court's current understanding of the Fourth Amendment. But even if the Court was inclined to find the warrantless use of drones to be a violation of the Fourth Amendment, it would be very difficult for the Court to reach this result. By the time a case involving warrantless drone surveillance reaches the Court (which would likely take a number of years), drones will have become commonplace. Citizens' reasonable expectations of privacy are changing rapidly and will continue to evolve, especially if drone delivery services begin in earnest.

The best way to directly address the potential for warrantless drone surveillance is through legislative action. To prevent the erosion of privacy rights, Congress should pass legislation governing domestic drone surveillance. Such a statute could differentiate between targeted surveillance requiring a warrant and more general surveillance (i.e., of a large area, as in monitoring natural disasters or even traffic conditions, which would not carry a warrant requirement). But unless Congress acts, it would appear that the United States is moving quickly toward the world described by George Orwell—one in which police aircraft roam the skies, peering in through windows and skylights, and privacy is a thing of the past.

¹⁶⁸ United States v. Jones, 565 U.S. 400, 416 (2012). (Sotomayor, J., concurring) (quoting United States v. Cuevas-Perez, 640 F.3d 272, 285 (7th Cir. 2011) (Flaum, J., concurring)).