

ARTICLE

REGULATING LAW ENFORCEMENT'S USE OF DRONES: THE NEED FOR STATE LEGISLATION

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The recent rise of domestic drone technology has prompted privacy advocates and members of the public to call for the regulation of the use of drones by law enforcement officers. Numerous states have proposed legislation to regulate government drone use, and thirteen have passed laws that restrict the use of drones by law enforcement agencies. Despite the activity in state legislatures, commentary on drones tends to focus on how courts, rather than legislative bodies, can restrict the government's use of drones. Commentators call for wider Fourth Amendment protections that would limit government surveillance. In the process, in-depth analysis of state drone regulations has fallen by the wayside.

This Article takes up the task of analyzing and comparing state laws regulating the government's use of drones for law enforcement purposes. While the oldest of these laws was enacted in 2013, the thirteen laws passed thus far exhibit wide variations and noteworthy trends. This Article surveys the quickly expanding list of laws, notes which regulations are likely to constrain government drone use, and identifies laws that provide only the illusion of regulation.

While some state legislatures have taken up the task of regulating government drone use, many have left the determination of standards for governmental drone use to the judiciary. This Article advances the thesis that the judiciary is ill-suited to address the rapidly-developing area of drone technology. Long-established Supreme Court precedent leaves the judiciary with very little power to curtail government drone use in law enforcement investigations. And were the judiciary to attempt the task of restricting law enforcement's use of drones, the solutions the courts would propose would likely be imprecise, unpredictable, and difficult to reverse. In light of these concerns, privacy advocates and law enforcement agencies alike should support the regulation of government drone use by state legislatures. Moreover, those states that have yet to develop their own regulations should draw upon lessons that can be learned from existing laws and the differences between them.

I. INTRODUCTION

Domestic drone use is on the rise. Private actors use drones for hobbyist purposes, and there is a strong push for the increased use of drones for commercial purposes.¹ The Federal Aviation Administration ("FAA") projects

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¹ See Alistair Barr et al., *Google Drones Lift Industry Hopes*, WALL ST. J., Aug. 29, 2014, available at <http://online.wsj.com/articles/google-drones-lift-industry-hopes-1409353944>, archived at <http://perma.cc/BZ77-4V4J> (reporting that Google's recent statement that it intends to use drones indicates growing confidence in drone technology and its commercial application potential).

that 30,000 private drones may be flying in United States airspace by the year 2020.² Many Americans are concerned about the rise of domestic drones. Pew Research reports that sixty-three percent of Americans think that “it would be a change for the worse if *personal and commercial drones are given permission to fly through most U.S. airspace.*”³

The federal government is also seeking to increase its use of drone technology, with multiple federal agencies devoting resources to use drones to assist in law enforcement activities.⁴ Drones are quickly becoming cheaper and more capable, which makes them cost-effective, versatile tools for law enforcement agencies.⁵

State governments are scrambling to address the regulatory issues that these drones raise.⁶ Issues of privacy and government overreach are the most common concerns and have prompted a substantial amount of legislation. Numerous states have enacted and proposed laws that would regulate a variety of drone uses, including private drone use that invades other people’s privacy, the operation of weaponized drones, and law enforcement agencies’ ability to use drones.

This Article addresses state laws that limit the ability of law enforcement agencies to use drones for surveillance and criminal investigation purposes. The aim of this Article is twofold. The initial goal is to survey those states that have passed regulations of drones and to compare the differences between these regulations. The ultimate goal is to advance the thesis that the legislative regulation of drones is preferable to their regulation by the courts, which would occur in the absence of legislative regulation. While it may be difficult for governments to adapt to changing technology, the courts have less flexibility and fewer resources to adequately regulate government drone use—which leaves state legislatures as the best avenue for addressing the issue.⁷

² Shaun Waterman, *Drones Over U.S. Gets OK by Congress*, WASH. TIMES, Feb. 7, 2012, available at <http://www.washingtontimes.com/news/2012/feb/7/coming-to-a-sky-near-you/?page=all>, archived at <http://perma.cc/PP3S-XKGB>.

³ Aaron Smith, *U.S. Views of Technology and the Future*, PEW RESEARCH INTERNET PROJECT (Apr. 17, 2014), <http://www.pewinternet.org/2014/04/17/us-views-of-technology-and-the-future/>, archived at <http://perma.cc/Y9R4-VDQC> (emphasis in original).

⁴ Gregory S. McNeal, *DOJ Report Reveals Details of Domestic Drone Usage*, FORBES, Sept. 28, 2013, available at <http://www.forbes.com/sites/gregorymcneal/2013/09/28/doj-report-reveals-details-of-domestic-drone-usage/>, archived at <http://perma.cc/H4WS-CSXG>.

⁵ For a detailed breakdown of the rise of drone usage and the fall of their prices, see Hillary B. Farber, *Eyes in the Sky: Constitutional and Regulatory Approaches to Domestic Drone Deployment*, 64 SYRACUSE L. REV. 1, 11–18 (2014).

⁶ See *Domestic Drones Move Faster than FAA: Our View*, USA TODAY, Dec. 8, 2013, available at <http://www.usatoday.com/story/opinion/2013/12/08/domestic-drones-federal-aviation-administration-editorials-debates/3911705/>, archived at <http://perma.cc/G2RM-MBAZ> (noting that the hype surrounding drone development is leading to rising drone use and that lawmakers must speed up the regulation process to address these changes).

⁷ By contrast, courts may be able to adequately regulate other aspects of drone use. For instance, courts may apply strict liability rules to tort cases that involve drones. See Michael Smith, *Danger From Above: Who’s Liable When Drones Fall From the Sky?*, TECHLAWGIC (June 26, 2014), <http://techlawgic.com/2014/06/confronting-danger-falling-drones-argument->

While several commentators have addressed various aspects of the regulation of government drones,⁸ the legal landscape of drone regulation is constantly shifting. Commentators' lists of state laws continually fall out of date due to state legislatures' ongoing passing of drone laws.⁹ Moreover, commentators who discuss drones and privacy tend to focus on how courts could limit drone use through the Fourth Amendment or other means, and so give short shrift to the option of legislative regulation.¹⁰

This Article fills these gaps by surveying the various drone laws that states have passed during the last two years, including laws recently passed in Illinois, Indiana, Iowa, Texas, and Wisconsin.¹¹ Moreover, this Article is the first to advance the argument that the legislative regulation of drones would serve the interests of both law enforcement agencies and privacy advocates, and that the alternative approach of judicial regulation would substantially impair the interests of both of these groups.¹²

strict-liability/, archived at <http://perma.cc/G8CP-WVRF>. Accordingly, this Article does not intend to foreclose the possibility of judicial regulation of *all* drone use. It is only interested in arguing against the judiciary's regulation of the government's use of drones for criminal investigations.

⁸ See, e.g., M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29 (2011) (arguing that drones may be the "jolt" that brings privacy law up to speed with advancing technology); Margot E. Kaminski, *Drone Federalism: Civilian Drones and the Things They Carry*, 4 CAL. L. REV. CIRCUIT. 57 (2013) (discussing the regulation of private and government drone use and surveying "potential axes" of how states may regulate drone use); see also Somini Sengupta, *Rise of Drones in U.S. Drives Efforts to Limit Police Use*, N.Y. TIMES, Feb. 15, 2013, available at <http://www.nytimes.com/2013/02/16/technology/rise-of-drones-in-us-spurs-efforts-to-limit-uses.html?pagewanted=all>, archived at <http://perma.cc/D277-NN67> (quoting critics of drone technology who are worried about the surveillance capabilities of drones).

⁹ Even some of the most recent scholarship on government drone use does not include discussion of all of the state laws that have now been passed. See Farber, *supra* note 5, at 31 (discussing the eight states that had passed drone legislation in 2013). Today, thirteen states have passed drone legislation, and more laws may be just around the corner. See, e.g., Melanie Mason, *California Legislature OKs Bill Regulating Law Enforcement's Drone Use*, LOS ANGELES TIMES, Aug. 27, 2014, available at <http://www.latimes.com/local/political/la-me-pc-legislature-drone-bill-20140827-story.html>, archived at <http://perma.cc/3Q5X-PSPB> (reporting on the California Assembly's recent passage of a law requiring warrants for drones used by law enforcement agencies).

¹⁰ See, e.g., Jonathan Olivito, Note, *Beyond the Fourth Amendment: Limiting Drone Surveillance Through the Constitutional Right to Informational Privacy*, 74 OHIO ST. L.J. 669, 694–700 (2013) (arguing for courts to take a broad view of the Constitution's protection of a right to "informational privacy" and using this approach to restrict private and government drone use); see also Taly G. Matiteyahu, *Drone Regulations and Fourth Amendment Rights: The Interaction of State Drone Statutes and the Reasonable Expectation of Privacy*, 2014 COLUM. J.L. & SOC. PROBS. (forthcoming 2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2425776, archived at <http://perma.cc/5XML-JVHR> (mentioning several state laws restricting government drone use, but only doing so in the context of the argument that these laws would enforce later Fourth Amendment cases related to drones).

¹¹ See *infra* Part I.

¹² Hillary Farber suggests a number of legislative proposals in her recent article on government drone use, but the bulk of her discussion and analysis focuses on how courts can approach drones in their Fourth Amendment jurisprudence. See Farber, *supra* note 5, at 31–47. While Farber's legislative proposals are useful and inform my thinking, this Article takes a stronger stance in favor of these laws and against overreliance on the judiciary.

Before moving on to a discussion of state legislation, it is worth emphasizing that this Article does not intend to advocate for a particular set of drone regulations, nor does this Article intend to express a preference for more or less restriction on the government's use of drones. This Article does, however, argue that state legislatures should regulate government drone use rather than courts. State laws that do not add to protections already guaranteed by the Constitution or existing laws will leave courts in essentially the same position they would be in without any state law, which in turn may cause courts to seek to expand their Fourth Amendment jurisprudence to regulate government drone use.¹³ Accordingly, while this Article remains agnostic on the proper amount of government drone usage, it will identify and criticize state laws that purport to regulate drones but fail to add any meaningful restrictions on government drone use.¹⁴ Additionally, when there is a particular type of law that would promote both the interests of privacy advocates and law enforcement agencies, this Article would urge states to adopt such a law.¹⁵

Finally, it is useful to consider some clarification about the terminology used in this Article. While the word "drone" is commonly associated with military drones that are used for reconnaissance and targeted strikes overseas, the term "drone" more broadly denotes a flying machine that is either controlled remotely or that operates autonomously (without human control).¹⁶ This Article adopts the latter meaning of the word and will therefore refer to "drones" as machines that are either remote-controlled or autonomous. Currently, drones are mostly remote-controlled given the complex technological requirements for autonomous flying technology. But since this Article focuses primarily on the potential for drones to be used for government surveillance, the status of drones as autonomous or remote-controlled does not make a meaningful difference, since both types of drones could be used for surveillance purposes.

Part I discusses the legal landscape of state drone regulation. It lists those states which have passed laws regulating government use of drones and describes the relevant provisions of each state's law. Part II discusses trends in state laws, some of their shortcomings, and how legislatures should carefully draft and continuously update drone legislation. Part II also discusses how some legislatures have drafted a number of laws ineffectually because the laws do not place any meaningful restrictions on the government's use of drones. Part III argues that legislative regulations of govern-

¹³ See *infra* Part III.B (discussing how courts may try to restrict government drone use and why this effort on the part of courts is undesirable).

¹⁴ See *infra* Part II.B.

¹⁵ See *infra* Part II.A (discussing laws pertaining to the government's use of drones to reconstruct and photograph crime scenes and traffic accidents).

¹⁶ *But see* John Villasenor, *What is a Drone Anyway?*, SCI. AM. (Apr. 12, 2012), <http://blogs.scientificamerican.com/guest-blog/2012/04/12/what-is-a-drone-anyway/>, archived at <http://perma.cc/X6YK-9S9D> (arguing that the term, "drone," should only be used to label devices that can fly "without a human in control").

ment drone use are preferable to judicial intervention. Judges have limited resources to tailor restrictions over government drone use, and courts will either provide too little privacy protection or begin to use unpredictable tests. In light of this dilemma, the ideal approach for regulating drones is for state legislatures to develop carefully tailored legislation that deals with the nuances of drone technology. While these laws may not be perfect, they are better than the judicial alternative.

II. A SURVEY OF STATE REGULATIONS OF GOVERNMENT DRONES

As drone use has ballooned in the past several years, states have reacted by passing a number of laws addressing the rise in drone technology. Numerous other states have proposed legislation regulating the government's use of drones.¹⁷ These proposals have met with mixed success.

States that have successfully passed legislation regulating government drone use include Florida,¹⁸ Idaho,¹⁹ Illinois,²⁰ Indiana,²¹ Iowa,²² Montana,²³ North Carolina,²⁴ Oregon,²⁵ Tennessee,²⁶ Texas,²⁷ Utah,²⁸ Virginia,²⁹ and Wisconsin.³⁰ The following Sections lay out the relevant provisions of each state's law regulating government use of drones. This Article places these laws under three broad categories: those that allow broad judicial exceptions to warrant requirements; those that explicitly provide statutory exceptions; and those that contain moratoriums on government drone use.

A. Broad Warrant Exception Laws

The first category of state drone laws requires government agencies to obtain warrants before using drones to obtain information, but permits judicially recognized exceptions to the warrant requirement. These laws permit law enforcement drone use if the law enforcement agency has obtained a search warrant issued by a judicial officer who has made a finding of proba-

¹⁷ See Allie Bohm, *Status of 2014 Domestic Drone Legislation in the States*, AM. CIVIL LIBERTIES UNION (June 30, 2014), <https://www.aclu.org/blog/technology-and-liberty/status-2014-domestic-drone-legislation-states>, archived at <https://perma.cc/3CCC-7L55> (detailing a list of regulations of government drone use that have been proposed and passed).

¹⁸ FLA. STAT. § 934.50 (2013).

¹⁹ IDAHO CODE ANN. § 21-213 (2013).

²⁰ 725 ILL. COMP. STAT. 167/10 et seq. (2015).

²¹ IND. CODE § 35-33-5-9 (2014).

²² IOWA CODE ANN. §§ 321.492B, 808.15 (West 2014) (to be finalized in 2015).

²³ MONT. CODE ANN. § 46-5-109 (2013).

²⁴ 2013 N.C. Sess. Laws 1040.

²⁵ OR. REV. STAT. § 837.310 et seq. (2013).

²⁶ TENN. CODE ANN. § 39-13-609 (2013).

²⁷ TEXAS GOV. CODE ANN. § 423.002 (West 2013).

²⁸ UTAH CODE ANN. § 63G-18-103 (West 2014).

²⁹ 2013 Va. Acts 1408.

³⁰ WIS. STAT. § 175.55 (2014).

ble cause to support the need for the warrant.³¹ However, the laws permit law enforcement agencies to use drones without obtaining a warrant as long as the use conforms to judicially recognized exceptions to the Fourth Amendment's or state constitutions' search warrant requirements.

Alaska's law initially appears to prohibit government drone use without a warrant.³² But the law goes on to permit drone use for criminal investigations in a manner that falls under an existing judicial exception to the warrant requirement.³³ Beyond the warrant requirement, Alaska requires law enforcement agencies to obtain any applicable permits that the FAA requires for drone operation.³⁴ Alaska also requires law enforcement agencies to keep records of their flights that are open to audit which record the date, time, and purpose of each time a drone is used.³⁵

Iowa's law requires officers to obtain a warrant before using drones, but also provides that a warrant is not required whenever there is an existing state or federal exception to the warrant requirement.³⁶ This broad provision is somewhat narrowed by a separate statute, which prohibits law enforcement agencies from using drones "for traffic law enforcement."³⁷

Montana's law requires officers to obtain a warrant before using a drone, but does not require a warrant if the information gathered by the drone is so done "in accordance with judicially recognized exceptions to the warrant requirement."³⁸ Moreover, information that is incidentally collected during a survey of "public lands or international borders" can be introduced in a probable cause hearing or at trial.³⁹

Utah's law, like Montana's, requires officers to obtain a search warrant before using drones to gather information unless this information is so gathered "in accordance with judicially recognized exceptions to warrant requirements."⁴⁰ The law also permits the government to use drone-gathered information provided by a third party so long as the information "appears to pertain to the commission of a crime," or the third party believes "in good faith" that there is an imminent risk of injury or death to some individual and that disclosing the information to the government would remedy the danger.⁴¹

³¹ See, e.g., ALASKA STAT. § 18.65.902(1)(A) (2014) (requiring law enforcement agencies to obtain a search warrant before obtaining information with drones); ALASKA STAT. § 12.35.010(a) (stating that a judicial officer may issue a search warrant upon a showing of probable cause).

³² ALASKA STAT. § 18.65.900 (2014).

³³ ALASKA STAT. § 18.65.902(1)(B) (2014).

³⁴ ALASKA STAT. § 18.65.901(a)(1) (2014).

³⁵ ALASKA STAT. § 18.65.901(a)(5)–(6) (2014).

³⁶ IOWA CODE ANN. § 808.15 (2014).

³⁷ IOWA CODE ANN. § 321.492B (2014).

³⁸ MONT. CODE ANN. § 46-5-109(1) (2013).

³⁹ MONT. CODE ANN. § 46-5-109(2) (2013).

⁴⁰ UTAH CODE ANN. § 63G-18-103(1)(a)–(b) (West 2014).

⁴¹ UTAH CODE ANN. §§ 63G-18-103(1)(c), 63G-18-103(2) (West 2014).

Wisconsin requires officers to obtain a search warrant before using drones to gather information whenever the person being monitored has a reasonable expectation of privacy.⁴² There are some exceptions to this requirement, including situations where the drone is used: to locate an escaped prisoner; to conduct a search and rescue operation; to conduct surveillance of a location before executing an arrest warrant; or to assist an officer when he or she has a reasonable belief that a person will suffer imminent harm or that there is an imminent risk of destruction of evidence.⁴³ The law also contains an exception that provides that law enforcement officers need not obtain warrants for drones that are used to monitor activities “in a public place.”⁴⁴

B. Warrant Restrictions with Explicit Statutory Exceptions

The next category of state drone laws are those laws which require law enforcement agencies to obtain warrants before using drones to gather information, but provide various statutory exceptions to the warrant requirement. Rather than a broadly-worded exception permitting drone use that falls under judicially-recognized exceptions to warrant requirements, these laws explicitly state the exceptions to the warrant requirement. Most state drone laws belong to this category, and these laws contain a number of overlapping exceptions.

Florida’s law prohibits the use of drones by law enforcement without a warrant from a judge unless several narrow exceptions apply.⁴⁵ Officers can use drones without a warrant when there is a significant risk of a terrorist attack, or when law enforcement officers are reasonably certain that the use of a drone is necessary to prevent imminent physical harm or the imminent escape of a suspect.⁴⁶ The law further provides that any evidence obtained in violation of the law will be inadmissible in a criminal prosecution.⁴⁷

Idaho’s law restricting the government’s use of drones appears to impose strict restrictions on government drone use, but it contains some notable loopholes. Law enforcement officers are generally required to obtain a warrant before using drones to gather information.⁴⁸ If the government fails to obtain a warrant and violates the statute, anybody whose image is wrongfully recorded by the drone can claim statutory damages in the amount of

⁴² WIS. STAT. § 175.55(2) (2014).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ FLA. STAT. § 934.50(3)–(4) (2013).

⁴⁶ *Id.*

⁴⁷ FLA. STAT. § 934.50(6) (2013).

⁴⁸ IDAHO CODE ANN. § 21-213(2) (2013).

\$1,000.⁴⁹ But warrants are not required when the government is responding to an emergency or is carrying out a controlled substances investigation.⁵⁰

Illinois's law regulating government drone use is similar to Florida's law as outlined above.⁵¹ However, Illinois has several other exceptions to the warrant requirement, including provisions permitting law enforcement agencies to use drones without a warrant to locate missing persons, or to survey a crime scene or the scene of a traffic collision.⁵²

Indiana generally requires law enforcement officers to obtain a search warrant before using drones.⁵³ However, officers do not need to obtain a warrant when: exigent circumstances exist; there is a "substantial likelihood of a terrorist attack;" in disaster-response situations; in rescue operations; in circumstances where the person observed has given consent; and in other surveillance activities that are not related to criminal investigation.⁵⁴

Oregon restricts law enforcement agencies' use of information gathered by drones and provides that information obtained in violation of its laws will not be admissible in judicial proceedings.⁵⁵ This information can be used at trial, however, when: a judge has issued a warrant;⁵⁶ there is probable cause to believe that a crime has been committed and exigent circumstances exist;⁵⁷ the person or people observed have consented;⁵⁸ the information has been collected during a response to an emergency;⁵⁹ or the government has used the drones to observe and reconstruct a crime scene.⁶⁰

Tennessee's law explicitly states that the government's use of a drone to collect information is a search within the meaning of the Fourth Amendment as well as the Tennessee Constitution, and that evidence collected in violation of the statute is inadmissible in court.⁶¹ Like many of the statutory schemes described in this subsection, Tennessee's law goes on to state a number of exceptions to its warrant requirement, including: terrorist attack scenarios; situations where there is a risk of imminent harm to somebody's life; and missing person searches.⁶²

Texas law prohibits the collection of images of a person or a person's property with a drone if those images are collected with "the intent to con-

⁴⁹ IDAHO CODE ANN. § 21-213(3) (2013). The statute's restriction on drone use and the statutory damages provision applies to both the government and to private parties.

⁵⁰ IDAHO CODE ANN. § 21-213(2) (2013).

⁵¹ 725 ILL. COMP. STAT. 167/10, 167/15(1)-(3) (2015).

⁵² 725 ILL. COMP. STAT. 167/15(4)-(5) (2015).

⁵³ IND. CODE § 35-33-5-9(a) (2014).

⁵⁴ IND. CODE §§ 35-33-5-9(b)(1)(A)-(E), 35-33-5-9(b)(2) (2014).

⁵⁵ OR. REV. STAT. § 837.310 (2013).

⁵⁶ OR. REV. STAT. § 837.320(1)(a) (2013).

⁵⁷ OR. REV. STAT. § 837.320(1)(b) (2013).

⁵⁸ OR. REV. STAT. § 837.330 (2013).

⁵⁹ OR. REV. STAT. § 837.335 (2013).

⁶⁰ OR. REV. STAT. § 837.340 (2013).

⁶¹ TENN. CODE ANN. § 39-13-609(g) (2013).

⁶² TENN. CODE ANN. § 39-13-609(d)(1), (3)-(5) (2013).

duct surveillance” on that individual or property.⁶³ If images are collected in violation of the law, they may not be used as evidence at trial.⁶⁴ Texas’s law provides for many exceptions to this warrant requirement, including situations when: the person observed consents; officers are pursuing a suspect; officers are searching for a missing person; and officers are documenting a crime scene, or engaging in a “high-risk tactical operation that poses a threat to human life.”⁶⁵

C. Moratoriums on Government Drone Use

The final category of state drone laws includes those states which have placed a moratorium on government drone use. While most states have chosen to regulate government drones using warrant requirements, North Carolina and Virginia have placed blanket restrictions on government drone use with only narrow exceptions.

North Carolina’s law places a moratorium on drone use by the government. The law prohibits government entities from obtaining, operating, and using information collected by a drone.⁶⁶ The only way a government entity can get around this prohibition is by obtaining a specific exemption from this statute’s restriction from the North Carolina’s Chief Information Officer.⁶⁷ The law further states that the prohibition on government drone use is to remain in effect until December 31, 2015.⁶⁸ In addition to the moratorium, North Carolina law restricts law enforcement officers from using drones to conduct surveillance unless the agency first obtains a warrant, conducts the surveillance in an effort to combat an imminent terrorist attack, or is conducting surveillance of something in “plain view” from a location where law enforcement agents have “a legal right to be.”⁶⁹ In the event that the government violates these restrictions, people who are the objects of government surveillance have the right to sue, and they may obtain liquidated damages of \$5,000 for “each photograph or video that is published or otherwise disseminated,” plus attorney’s fees.⁷⁰ While these restrictions are arguably inapplicable—since law enforcement agencies are prohibited from using drones in the first place due to North Carolina’s moratorium—these restrictions may end up staying in place once the moratorium expires.

Virginia also has enacted a moratorium that prohibits government drone use.⁷¹ The only exceptions to the moratorium are for when the government uses drones to assist in a search for a missing child during an Amber Alert,

⁶³ TEXAS GOV. CODE ANN. § 423.003 (2013). The term “surveillance” is not defined.

⁶⁴ TEXAS GOV. CODE ANN. § 423.005 (2013).

⁶⁵ TEXAS GOV. CODE ANN. § 423.002(a)(6)–(9) (2013).

⁶⁶ 2014 N.C. Sess. Laws 25–26.

⁶⁷ *Id.*

⁶⁸ 2014 N.C. Sess. Laws 25.

⁶⁹ 2014 N.C. Sess. Laws 227–28.

⁷⁰ 2014 N.C. Sess. Laws 228.

⁷¹ 2013 Va. Acts 1408.

in a search and rescue operation, or in a training operation.⁷² At the time of publication, the Virginia moratorium is set to expire July 1, 2015.⁷³

While all of these states have passed their laws within the last several years, and while all of them address similar concerns about the government's increasing ability to use drones for surveillance, there is quite a bit of variation among the states. The next Part emphasizes particular areas where state regulations differ, points out which of these regulations have a meaningful impact on the government's use of drones, and identifies which of the laws are under-restrictive.

III. A COMPARATIVE ANALYSIS OF STATE DRONE REGULATIONS

The thirteen states⁷⁴ that have passed laws regulating the government's use of drones have all done so in an effort to restrain—or to appear to restrain—the government's use of drone technology. A common worry about government drone use is that the introduction of drones to the law enforcement toolkit will threaten people's privacy. Privacy advocates worry that the government will use drones to engage in widespread, continuous surveillance, which would require fewer resources and less manpower than equivalent surveillance from planes or helicopters would require.⁷⁵ At the same time, advocates for law enforcement agencies note that drones can be a useful tool and that their ability to constantly monitor a particular area can aid in providing security and preventing crime.⁷⁶

The states that have enacted legislation regulating government use of drones should balance the interests of privacy and security, which often conflict. To address the concerns of privacy advocates, states seek to enact laws that meaningfully constrain the power of law enforcement to abuse or overuse drone technology. But law enforcement agencies must be given some leeway so that they may take advantage of technological developments.

This Section evaluates how well the state laws that have been passed address these concerns and handle the situations where these interests come into conflict. First, this Section discusses the appeal of the warrant requirement to privacy advocates and some limits on this requirement that can pro-

⁷² *Id.*

⁷³ *Id.*

⁷⁴ This is the number of states that have passed laws regulating government drone use at the time of this Article's publication. This number is likely to change, as additional state legislatures introduce and pass laws restricting government drones.

⁷⁵ See Kaminski, *supra* note 8, at 72 ("Because of their relatively low cost and hovering abilities, drones give rise to a specter of pervasive surveillance"); Calo, *supra* note 8, at 31–32 (discussing the potential for drone technology and surveillance to become widespread and the privacy concerns that this will likely raise).

⁷⁶ See Maggie Clark, *Boston Bombings Show Future Use For Police Drones*, HUFFINGTON POST (May 1, 2013), http://www.huffingtonpost.com/2013/05/01/boston-bombing-drones_n_3192694.html, archived at <http://perma.cc/3ZQD-KVPC>.

mote non-invasive, beneficial employment of drone technology. This Section then identifies several state laws that purport to limit the government's ability to use drones, but in actuality contain loopholes that significantly curtail any effect the restrictions may have.

A. *The Appeal of the Warrant Requirement*

Eleven of the thirteen states that regulate government drone use require law enforcement agencies to obtain a warrant before gathering information with a drone.⁷⁷ Requiring law enforcement agencies to obtain warrants may discourage the blanket surveillance that worries privacy advocates. Warrants would require law enforcement agencies to obtain enough information to have probable cause that a crime has been committed before being allowed to use drones to gather information.⁷⁸ This information must then be presented to a judge in a manner that describes the scope of the warrant with particularity.⁷⁹

Using drones for broad surveillance without any particular suspects in mind would likely not meet the particularity requirement of a warrant.⁸⁰ Requiring law enforcement officers to obtain a warrant before using drones limits the ability of officers to engage in broad surveillance, obtain incriminating information, and then claim that this establishes a basis for probable cause.⁸¹ Because the warrant requirement would curtail law enforcement agencies' ability to engage in overly broad use of drones, privacy advocates encourage the adoption of warrant requirements in state laws regulating government drone use.⁸²

While warrants are appealing to privacy advocates, the enactment of overly broad restrictions on drone use can curtail some non-invasive, beneficial uses of drones, such as diagramming crime scenes or traffic accidents and monitoring traffic violations. Additionally, while privacy advocates may wish to restrict the government's ability to use drones for surveillance, some surveillance can still be valuable, and drones can help police collect evi-

⁷⁷ FL. STAT. § 934.50(3)–(4) (2013); IDAHO CODE ANN. § 21-213(2) (2013); 725 ILL. COMP. STAT. 167/10, 167/15(1)–(3) (2014); IND. CODE § 35-33-5–9(a) (2014); IOWA CODE ANN. § 808.15 (2014); MONT. CODE ANN. § 46-5-109(1) (2013); OR. REV. STAT. § 837.320(1)(a)–(b) (2013); TENN. CODE ANN. § 39-13-609(d)(2) (2013); TEXAS GOV. CODE ANN. § 423.002(a)(7) (2013); UTAH CODE ANN. § 63G-18-103(1)(a) (2014); WIS. STAT. § 175.55(2) (2014).

⁷⁸ See U.S. CONST. amend. IV (stating that warrants shall only issue on probable cause); see also Wayne R. LaFave et al., 2 CRIMINAL PROCEDURE § 3.3(a)–(b) (3d ed. 2013) (describing the requirement for probable cause and the nature of probable cause).

⁷⁹ See LaFave et al., *supra* note 78, at 3.4(e) (outlining that a warrant must describe with particularity the area to be searched, such as an address or unit number in the event that an apartment complex is to be searched).

⁸⁰ See *id.*

⁸¹ See, e.g., OR. REV. STAT. § 837.310(2)(b) (2013) (stating that information collected by a drone without a warrant cannot be used to establish probable cause that a crime has been committed).

⁸² See Farber, *supra* note 5, at 45–46.

dence and prevent crimes.⁸³ Accordingly, the interests of privacy advocates and law enforcement must be balanced.

The common exceptions to the warrant requirement stand as examples of how state laws attempt to strike a balance between privacy interests and law enforcement. While many of the states that have enacted restrictions over the government's use of drones have enacted warrant requirements, almost all of these warrant requirements have exceptions for situations involving missing person searches,⁸⁴ imminent threats to physical well-being,⁸⁵ and terrorist threats.⁸⁶

An area where there is less uniformity is the government's use of drones to diagram crime scenes or traffic accidents. Using drones for these purposes is arguably not very invasive—the scope of the images the drones collect is limited to the scene of the crime or accident, and the images are used for the limited purpose of collecting information about the aftermath of an event rather than the activities of an unaware suspect. Moreover, drones can obtain full shots of a scene, which can give a helpful perspective to officers seeking to determine just how a crime was carried out or how an accident unfolded.⁸⁷

In light of the benefits of using drones to diagram crime or accident scenes and the lack of countervailing policy rationales, it would not be surprising if states uniformly permitted this use of drones. But in fact, states do not uniformly allow drones for this purpose. Only three states have an explicit exception to the warrant requirement that specifically allows officers to use drones to diagram the scene of a crime or an accident.⁸⁸ Other states, however, may implicitly allow this type of use. For example, Wisconsin permits the use of drones without a warrant as long as the use occurs in a

⁸³ See sources cited *infra* note 87.

⁸⁴ 725 ILL. COMP. STAT. 167/15 (4) (2014); IDAHO CODE ANN. § 21-213(2) (2013); TENN. CODE ANN. § 39-13-609(d)(5) (2013); TEXAS GOV. CODE ANN. § 423.002(a)(8)(D) (2013); 2013 Va. Acts 1408.

⁸⁵ FL. STAT. § 934.50(3)–(4) (2013); 725 ILL. COMP. STAT. 167/15 (3) (2014); OR. REV. STAT. § 837.335(2)(a) (2013); TENN. CODE ANN. § 39-13-609 (d)(3) (2013); TEXAS GOV. CODE ANN. § 423.002(a)(8)(E) (2013); WIS. STAT. § 175.55(2) (2014).

⁸⁶ FL. STAT. § 934.50(3)–(4) (2013); 725 ILL. COMP. STAT. 167/15 (1) (2014); IND. CODE § 35-33-5-9(b)(1)(B) (2014); TENN. CODE ANN. § 39-13-609(d)(1) (2013).

⁸⁷ See Matt Buxton, *Drones Could Improve Police Work at Crash Investigations*, NEWSMINER.COM (Aug. 28, 2014), http://www.newsminer.com/news/local_news/drones-could-improve-police-work-at-crash-investigations/article_bc9e8f1c-2e7b-11e4-8444-0017a43b2370.html, archived at <http://perma.cc/A2P9-NJFA> (detailing how research is demonstrating that drones can quickly photograph crime scenes and provide helpful evidence for juries); see also *Law Enforcement: Crime Scene Investigation and Gathering Evidence*, DRAGANFLY INNOVATION INC., <http://www.draganfly.com/uav-helicopter/draganflyer-x8/applications/government.php>, archived at <http://perma.cc/FW68-36RR> (noting in an advertisement that aerial photography can quickly photograph the entire scene while avoiding contamination); *Traffic Crash Reconstruction*, TRAFFIC RECONSTRUCTION & TRANSPORTATION COMPLIANCE, <http://www.tranetc.com/page/accident-reconstruction> (last visited Apr. 16, 2015), archived at <http://perma.cc/QB2X-6DXB> (advertising how an accident reconstruction company uses drones to obtain aerial shots of accident scenes).

⁸⁸ 725 ILL. COMP. STAT. 167/15 (5) (2014); OR. REV. STAT. § 837.340 (2013); TEXAS GOV. CODE ANN. § 423.002(a)(8)(B)–(C) (2013).

“public place,” which could probably be read to cover crime and accident scene diagramming scenarios, unless a crime takes place on private property.⁸⁹

An exception to the warrant requirement in situations involving crime or accident scene photography would further the interests of law enforcement without infringing on privacy interests. When a crime occurs on public property, it is unclear what individual privacy rights would be violated by a drone used to document the scene. When a crime occurs on private property, if police are already on the property investigating that crime, it is unlikely that using a drone to monitor that crime scene would infringe the property owner's privacy any more than the investigation that is underway. Accordingly, states that are considering or have enacted warrant requirements for law enforcement drone use may benefit from enacting exceptions that permit police officers to use drones to diagram crime and accident scenes. This exception brings the payoff of allowing law enforcement to use new technology with very little risk to privacy interests.

This issue of states failing to include a sensible exemption to a warrant requirement illustrates a common drawback of the legislative approach. Drones are an emerging technology, and their range of useful applications has yet to be fully realized. While a risk of overly restrictive laws exists, this risk can be addressed through careful drafting and continued updating of laws after they are enacted.

B. Superfluous Drone Restrictions and Significant Loopholes

While requiring law enforcement agencies to obtain a warrant before using drones may result in overly broad restrictions, several state constraints on drone use are undermined by the opposite problem—narrow statutes that do not practically limit the government beyond other restrictions already in place. States purport to protect the privacy interests of their citizens by passing laws restricting the government's ability to use drones. In order for a law to effectively protect privacy, however, it must add to protections that are already guaranteed by the Constitution. If a state law does not restrict the government any more than existing constitutional law does, then the state law is merely superfluous.

With this in mind, consider the drone restrictions in Iowa, Montana, Utah, and Wisconsin. Montana and Utah use very similar language in their regulations permitting drone use that is “in accordance with judicially recognized exceptions to the warrant requirement.”⁹⁰ Wisconsin law only requires a warrant for government drone use when the drones are collecting information from a place where a person has a “reasonable expectation of pri-

⁸⁹ WIS. STAT. § 175.55(2) (2014).

⁹⁰ MONT. CODE ANN. § 46-5-109(1) (2013); see UTAH CODE ANN. § 63G-18-103(1)(b) (2014).

vacy.”⁹¹ Iowa law permits police to use drones without a warrant in situations where there is an existing state or federal exception to the warrant requirement.⁹²

These laws are all similar in that they provide exceptions to their warrant requirements for situations where existing Fourth Amendment jurisprudence would already permit an exception to the warrant requirement. While this may seem sensible at first glance, an investigation of Fourth Amendment jurisprudence, the existing, court-developed exceptions to the warrant requirement, and the nature of drone use reveals that these state laws place no meaningful restrictions on government use of drones. These issues are addressed below.

C. The Fourth Amendment and Judicial Exceptions to the Warrant Requirement

The Fourth Amendment protects individuals from “unreasonable searches and seizures.”⁹³ In *Katz v. United States*, Justice Harlan clarified the scope of this protection in his concurrence, setting forth a test that required “first that a person have exhibited an actual, subjective expectation of privacy and, second, that the expectation be one that society is prepared to recognize as ‘reasonable.’”⁹⁴ The Court adopted Harlan’s concurrence in later cases where it held that the pivotal question in search and seizure cases is whether a person’s reasonable expectation of privacy has been violated.⁹⁵

Two Supreme Court cases are particularly important when it comes to evaluating the government’s use of drones. In *California v. Ciraolo*, police officers observed a defendant’s yard when they flew over it in a plane.⁹⁶ The officers were 1,000 feet off the ground, but were able to identify marijuana plants in the defendant’s fenced-in yard.⁹⁷ They used this evidence to obtain a search warrant, the execution of which led them to find and seize numerous marijuana plants.⁹⁸ The Supreme Court held that the officers had not infringed on any reasonable expectation of privacy, and therefore had not undertaken a Fourth Amendment search.⁹⁹ Even though the marijuana plants were close to the defendant’s home, the officers saw these plants from a

⁹¹ WIS. STAT. § 175.55(2) (2014).

⁹² IOWA CODE ANN. § 808.15 (2014). This broad exception to the warrant requirement is somewhat limited by a different Iowa law that places a blanket prohibition on law enforcement drone use in “traffic law enforcement” situations. IOWA CODE ANN. § 321.492B (2014).

⁹³ U.S. CONST. amend. IV.

⁹⁴ 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

⁹⁵ *See, e.g., California v. Ciraolo*, 476 U.S. 207, 211 (1986).

⁹⁶ *Id.* at 209.

⁹⁷ *Id.*

⁹⁸ *Id.* at 209–10.

⁹⁹ *Id.* at 214–15.

lawful vantage point and did not intrude on the defendant's property when making their observations from the plane.¹⁰⁰

Similarly, in *Florida v. Riley*, officers observed marijuana growing in a greenhouse in the defendant's fenced-in backyard from the vantage point of a helicopter 400 feet above the ground.¹⁰¹ Officers used this information to obtain a search warrant for the property, which, when executed, revealed that marijuana was indeed being grown in the defendant's greenhouse.¹⁰² A plurality of the Justices held that no Fourth Amendment search had taken place because the officers flew their helicopter within navigable airspace and viewed the defendant's drugs from this lawful vantage point.¹⁰³ Because FAA regulations permitted the police to fly at the height of 400 feet, the defendant could not have reasonably expected that no one would fly over his house at that height, and thus the officers had not infringed upon his Fourth Amendment interests.¹⁰⁴ Justice O'Connor emphasized in her concurrence that the important inquiry was not what FAA regulations permitted, but rather whether members of the public commonly flew helicopters at a height of 400 feet.¹⁰⁵ Because there was reason to believe that the public commonly flew helicopters over the defendant's property at this height, Justice O'Connor concluded that the defendant did not have a reasonable expectation that his property would not be viewed from helicopters flying at that height.¹⁰⁶

These two cases are significant because they reveal that law enforcement agencies have a great deal of leeway when it comes to conducting aerial surveillance of suspects. *Ciraolo* and *Riley* establish that law enforcement officers can conduct surveillance over a suspect's property near the exterior of the home so long as the surveillance is done in a manner consistent with the behavior of the general public.¹⁰⁷ Moreover, other opinions of the Court establish that people do not have a reasonable expectation of privacy in their public movements, and so the government may use drones to monitor movements of people when they are outside of the home without implicating the Fourth Amendment.¹⁰⁸

The Fourth Amendment thus permits a wide range of government surveillance activities, including observing a person or home from the air, or tracking a person's public movements. These are precisely the types of activ-

¹⁰⁰ *Id.*

¹⁰¹ 488 U.S. 445, 448 (1989).

¹⁰² *Id.* at 448–49.

¹⁰³ *Id.* at 450–51.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 455 (O'Connor, J., concurring).

¹⁰⁶ *Id.*

¹⁰⁷ See also *Dow Chemical Co. v. United States*, 476 U.S. 227, 238–39 (1986) (holding that no Fourth Amendment search occurred when a government agent took aerial photographs of the land surrounding a factory).

¹⁰⁸ See *United States v. Knotts*, 460 U.S. 276, 277–79 (1983); see also *United States v. Karo*, 468 U.S. 705, 711–15 (1984).

ities that law enforcement agencies' drones would carry out. Accordingly, as long as the government uses drones for these purposes the government would not conduct any Fourth Amendment searches, and thus would not be constitutionally required to obtain search warrants.

D. Laws Permitting Judicially Recognized Warrant Exceptions Provide No Additional Restrictions

Because of the judicially recognized exceptions to the warrant requirement outlined above, government drone activity that obtains information about a person's publicly visible actions is not subject to constitutional warrant requirements. This drone activity therefore would not be subject to the warrant requirements of Iowa, Montana, Utah, and Wisconsin's drone laws.¹⁰⁹ Montana and Utah explicitly state that any judicially-recognized warrant exceptions are exceptions to their laws' warrant requirements.¹¹⁰ These provisions would almost certainly include the exceptions to the warrant requirement described in *Ciraolo*, *Riley*, and other Supreme Court cases permitting police surveillance of public activities.¹¹¹ Law enforcement officers in Montana and Utah could therefore use drones without warrants so long as their observations were limited to the public movements of suspects, or they operated drones in a manner similar to other members of the public.

Wisconsin specifies that its law only applies when the person observed has a "reasonable expectation of privacy."¹¹² This mirrors the language of Fourth Amendment case law.¹¹³ Therefore, Wisconsin's law would not apply when the government observes a person's public movements or when the government flies a drone in a manner similar to other members of the public, because in all of those cases, the Supreme Court has held that the person observed does not have a reasonable expectation of privacy.¹¹⁴ Similarly, Iowa's drone law states that it does not apply to situations where there are pre-existing federal or state exceptions to the warrant requirement.¹¹⁵ Thus, the broad surveillance permitted by the Supreme Court's case law is lawful in Iowa so long as it is not done in the course of traffic law enforcement.¹¹⁶

In addition to these four states' laws, there is one final state drone law that deserves mention as an example of an ostensible restriction with a notably broad exception. Idaho's drone law requires officers to obtain a warrant in order to use drones, but there is an exception to this requirement when

¹⁰⁹ See sources cited *supra* notes 36, 38, 40 & 42.

¹¹⁰ MONT. CODE ANN. § 46-5-109(1) (2013); UTAH CODE ANN. § 63G-18-103(1)(b) (2014).

¹¹¹ See discussion *supra* Part III.C.

¹¹² WIS. STAT. § 175.55(2) (2014).

¹¹³ See *Katz*, 389 U.S. at 361 (Harlan, J., concurring); see also *Ciraolo*, 476 U.S. at 211.

¹¹⁴ See cases cited *supra* notes 95-106 and accompanying text.

¹¹⁵ IOWA CODE ANN. § 808.15 (2014).

¹¹⁶ See IOWA CODE ANN. § 321.492B (2014) (prohibiting the government's use of drones for traffic law enforcement).

officers are carrying out “controlled substance investigations.”¹¹⁷ Law enforcement agencies cite drug investigations as a reason for the purchase and use of drones.¹¹⁸ As the facts of *Ciraolo* and *Riley* demonstrate, officers frequently seek to use aerial surveillance to look into people’s yards and onto people’s property to determine whether drugs are being grown on the property. One likely reason for officers to use drones to monitor a suspect’s public movements would be to track whether that person is moving in a pattern that indicates whether that suspect is engaged in drug trafficking activity.

While the exception in Idaho’s drone law is not as vast as the exceptions in the laws of Iowa, Montana, Utah, and Wisconsin, the Idaho statute gives law enforcement the opportunity to use drones so long as that use is related to drug crimes. Because drones would be particularly useful in drug investigations and because their use would likely not fall afoul of the Supreme Court’s Fourth Amendment jurisprudence, the Idaho law does little to constrain this avenue of drone use that law enforcement officers are likely to take.

Admittedly, laws that provide exemptions based on existing exceptions to the warrant requirement may provide some additional protection in states where state courts have interpreted the state’s constitution to provide broader protection than the Fourth Amendment.¹¹⁹ In those states, laws based on judicial exceptions to the warrant requirement may allow the courts more leeway in regulating government drone use. But even though courts may have more power in these states to restrict government drone use, the novelty of drone technology and the concerns of pervasive surveillance would still require the courts to venture into new territory in applying the state constitutions.¹²⁰ These preliminary inquiries into novel factual situations carry the risk of creating judicial restrictions that are imprecise, overly restrictive, and irreversible—a risk that this Article turns to now.

¹¹⁷ IDAHO CODE ANN. § 21-213(2) (2013).

¹¹⁸ See Melanie Reid, *Grounding Drones: Big Brother’s Tool Box Needs Regulation Not Elimination*, 20 RICH. J.L. & TECH. 9, 9 (2014) (noting several instances of the government using drones for drug investigations); see also Jeff Chirico, *Are Police Drones Invading Your Privacy?*, CBS46.COM (June 3, 2013, 2:48 PM), <http://www.cbs46.com/story/22175057/are-police-drones-invading-your-privacy>, archived at <http://perma.cc/HW7P-V8J8> (noting an application by the Gadsden Police Department in Alabama to use drones “for secret surveillance of drug transactions”).

¹¹⁹ This exception itself may be limited, however, if a state adopts an exception like Iowa’s, which provides that warrants are not required in situations where there are existing federal exceptions to the warrant requirement. See IOWA CODE ANN. § 808.15 (2014).

¹²⁰ See Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 858–60 (2004) (hereinafter *Fourth Amendment*) (noting that developing technology presents complicated factual questions that courts are ill-equipped to address).

IV. LEGISLATIVE REGULATION OF DRONES IS PREFERABLE TO THE JUDICIAL ALTERNATIVE

Many commentators approach the subject of regulating law enforcement agencies' use of drones from a court-centered perspective.¹²¹ Confronted with the prospect of increased government surveillance through use of drones, these commentators argue that Fourth Amendment doctrine should be applied in new, flexible, and sometimes strained manners to deal with the emergence of drone technology.¹²²

While the Fourth Amendment's prohibition on unreasonable searches and seizures may seem like a good place to turn to curtail the government's use of drones, turning to the courts for the regulation of government drone use presents a dilemma. On one hand, courts may be unable to meaningfully restrict government drone use in light of Supreme Court precedent that gives the government broad leeway when conducting surveillance of people's public activities. On the other hand, courts might attempt to extend constitutional protections so that law enforcement agencies' use of drones is curtailed by the Fourth Amendment. This could lead to unpredictable, imprecise, and permanent restrictions on government drone use.

This section explores both horns of this dilemma. The judiciary is not the right avenue to address the government's use of drones in light of its potential ineffectiveness and unpredictability. Instead, the best avenue for regulating the government's use of drones is the enactment of state legislation that restricts drone use enough to protect privacy interests but permits law enforcement to take advantage of drone technology.¹²³

A. *The Judiciary's Inability to Curtail Government Drone Use*

Privacy advocates are concerned that the government may use drones to engage in constant, blanket surveillance of people.¹²⁴ Drone technology has

¹²¹ See, e.g., JAY STANLEY & CATHERINE CRUMP, AM. CIVIL LIBERTIES UNION, PROTECTING PRIVACY FROM AERIAL SURVEILLANCE: RECOMMENDATIONS FOR GOVERNMENT USE OF DRONE AIRCRAFT 13–15 (2011) (arguing that the pervasive nature of drone surveillance implicates the Fourth Amendment); Timothy T. Takahashi, *Drones and Privacy*, 14 COLUM. SCI. & TECH. L. REV. 72, 108–12 (2012) (arguing that drones may be a “catalyst” that prompt a new “paradigm” of Fourth Amendment review that would apply to the government's use of advanced technology); see also Sean Sullivan, *Domestic Drone Use and the Mosaic Theory* 24–26, UNIVERSITY OF NEW MEXICO SCHOOL OF LAW LEGAL STUDIES RESEARCH PAPER SERIES (2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2212398, archived at <http://perma.cc/VL8K-JT86> (arguing that in light of the Fourth Amendment's failure to adequately regulate government drone use, the government should apply the “mosaic theory” of the Fourth Amendment so that courts can restrict government drone surveillance).

¹²² For a broader exploration of how commentators tend to respond to the prospect of technological change by advocating broad interpretations of the Fourth Amendment, see *Fourth Amendment*, *supra* note 120, at 803–04.

¹²³ Federal regulation, as an alternative or supplement to state regulation, is discussed in Section IV.D.

¹²⁴ Kaminski, *supra* note 8, at 72; Calo, *supra* note 8, at 32.

made significant progress over the last several years, and its decreasing cost and increasing capabilities raise the concern that law enforcement agencies could use drones extensively and invasively.¹²⁵ In spite of this danger, there is very little that courts can do to curtail government drone surveillance under existing Fourth Amendment case law.¹²⁶ As has already been discussed, *Ciraolo* and *Riley* establish that the government may engage in aerial surveillance of people's yards and the exterior of their homes as long as it does so to no greater extent than what would be allowed of the general public. Moreover, the Supreme Court has held that people do not have a reasonable expectation of privacy in their public movements, meaning that drones may observe people's walking and driving patterns without implicating the Fourth Amendment.¹²⁷

Privacy advocates note that a passage in *United States v. Knotts* indicates that all might not be lost on the Fourth Amendment front.¹²⁸ While the holding in *Knotts* supports the argument that the government is permitted to observe people's public movements,¹²⁹ part of the opinion suggests that "dragnet" type surveillance may warrant the application of "different constitutional principles."¹³⁰ Those who hope to see courts curtail government drone use on Fourth Amendment grounds argue that this portion of *Knotts* may require different rules in situations where the government engages in constant surveillance of an individual's public activity.¹³¹

While there may indeed be some support for this argument in cases more recent than *Knotts*, the limit on "dragnet" type surveillance may not be particularly helpful for privacy advocates. The opinion certainly contains the promising line: "[I]f such dragnet type law enforcement practices as respondent envisions should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable."¹³² But in context, the Court makes this statement while dismissing a slippery-slope argument.¹³³ The line is not necessary for the Court's ruling in the case, nor is it a promise that the Court will indeed apply different principles in a case involving dragnet surveillance. Rather, the Court is simply telling the defendant that concerns of dragnet surveillance have no bearing on the case at hand.

In light of controlling Supreme Court case law, privacy advocates would be hard-pressed to curtail government drone use by raising Fourth

¹²⁵ Farber, *supra* note 5, at 18.

¹²⁶ See Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 MINN. L. REV. 1, 19–21 (2008) (arguing that the Fourth Amendment has been weakened and is not an adequate avenue for addressing increased government surveillance).

¹²⁷ See *Knotts*, 460 U.S. at 277–79, 282; see also *Karo*, 468 U.S. at 711–15.

¹²⁸ See STANLEY & CRUMP, *supra* note 121, at 14.

¹²⁹ See *Knotts*, 460 U.S. at 282.

¹³⁰ *Id.* at 284.

¹³¹ See STANLEY & CRUMP, *supra* note 121, at 14.

¹³² *Knotts*, 460 U.S. at 284.

¹³³ *Id.* at 283–84.

Amendment objections in the courts.¹³⁴ The Supreme Court has held that people do not have a reasonable expectation of privacy that restricts the government from observing their houses and movements from above. Accordingly, while privacy advocates may wish to challenge law enforcement drone use on Fourth Amendment grounds, these advocates would face an uphill battle in doing so.¹³⁵ One recent development in Fourth Amendment jurisprudence, however, may give privacy advocates an alternative line of case law to pursue restrictions on the use of drones by law enforcement. While the likelihood of success for this line of attack is unclear, it does not undermine the need for state legislative solutions for drone regulation.

B. The Problem with Judicial Expansion of the Fourth Amendment

Most Fourth Amendment case law suggests that courts will be largely incapable of restricting government drone use. There are, however, some indications in recent cases that courts could apply an expanded version of Fourth Amendment protections in light of developing technology. Although there are alternative theories of expanded protections,¹³⁶ the one with the most support is the “mosaic theory” of the Fourth Amendment.¹³⁷ This subsection discusses what might happen if privacy advocates succeed at convincing courts to curtail government drone use by appealing to the mosaic theory of the Fourth Amendment. While some privacy interests may end up being protected by these rulings, relying on the judiciary to tailor this protection leads drone laws down a dangerous, uncertain road.

1. The Mosaic Theory of the Fourth Amendment

Courts seeking to use the Fourth Amendment to restrict the use of drones by law enforcement agencies may turn to what Orin Kerr has labeled the “mosaic theory” of the Fourth Amendment.¹³⁸ Under the mosaic theory, a series of individual actions by the government may, in aggregate, constitute a Fourth Amendment search, even if each individual action is not a Fourth Amendment search.¹³⁹

¹³⁴ Admittedly, some states may rely on their own constitutional prohibitions of unreasonable searches and seizures to place heightened restrictions on government drone use. However, even if courts were to designate government drone use as a Fourth Amendment search, their doing so might not have much impact on the government’s continued use of the technology. See GERALD N. ROSENBERG, *THE HOLLOW HOPE: CAN COURTS BRING ABOUT SOCIAL CHANGE?* 320–24 (1993) (discussing the “inefficacy” of the Fourth Amendment’s exclusionary rule).

¹³⁵ Reid, *supra* note 118, at 82–83 (2014).

¹³⁶ See Bankston & Soltani, *infra* note 162.

¹³⁷ See Orin S. Kerr, *The Mosaic Theory of the Fourth Amendment*, 111 MICH. L. REV. 311, 313 (2012) (hereinafter *Mosaic Theory*); see also discussion *infra* Part IV.B.I.

¹³⁸ *Id.*

¹³⁹ *Id.*

The mosaic theory finds its origins in the case of *United States v. Maynard*,¹⁴⁰ and in its potential adoption by the Supreme Court in *United States v. Jones*.¹⁴¹ In *Jones*, law enforcement officers suspected that the defendant was trafficking drugs, and installed a Global Positioning System (“GPS”) tracking device on the defendant’s car.¹⁴² The officers had obtained a warrant that required them to attach the device within ten days, but they attached the device on the eleventh day.¹⁴³ The GPS tracking device sent constant updates to officers that detailed the defendant’s location and movements, and government agents collected this information for twenty-eight days.¹⁴⁴ When the case went to trial, the court ruled that the government could introduce this GPS data during their prosecution, reasoning that the defendant did not have a reasonable expectation of privacy in the public movements of his vehicle, and that collecting this information was not a Fourth Amendment search.

The Supreme Court held that the government’s use of the GPS device was a search under the Fourth Amendment.¹⁴⁵ The majority reasoned that the government’s actions would have been considered a “search” under the original meaning of the Fourth Amendment because the government had physically occupied the defendant’s property in the process of installing the GPS device.¹⁴⁶ The majority noted that the Fourth Amendment had historically been interpreted to apply to situations where the government engaged in common law trespass upon defendants’ property.¹⁴⁷

While the majority relied on the trespass theory of the Fourth Amendment, five of the nine Justices endorsed “a version” of the mosaic theory.¹⁴⁸ In his concurrence in the judgment, Justice Alito admitted that while short-term monitoring of a person’s public movements was not a Fourth Amendment search, the government crossed over into the territory of conducting a Fourth Amendment search after twenty-eight days of continuous monitoring.¹⁴⁹ While four weeks of GPS monitoring was enough to implicate the Fourth Amendment, Justice Alito declined to identify a bright-line as to the point in time where GPS monitoring became a Fourth Amendment search.¹⁵⁰ Three other Justices joined Alito’s concurrence.

Additionally, while Justice Sotomayor joined Justice Scalia’s opinion for the Court, she wrote a separate concurrence in which she made clear that she would take into account the effect of long-term government monitoring

¹⁴⁰ 615 F.3d 544 (D.C. Cir. 2010).

¹⁴¹ 132 S. Ct. 945 (2012).

¹⁴² *Id.* at 948.

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ *Id.* at 949.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Mosaic Theory*, *supra* note 137, at 313.

¹⁴⁹ *Jones*, 132 S. Ct. at 964 (Alito, J., concurring in the judgment).

¹⁵⁰ *Id.*

in deciding whether a reasonable expectation of privacy exists.¹⁵¹ Justice Sotomayor noted that long-term monitoring would tend to reveal intimate details about an individual in addition to publicly observable movements, and she argued that knowledge that one is under constant surveillance “chills associational and expressive freedoms.”¹⁵² Justice Sotomayor’s distinctive treatment of long-term surveillance combined with Justice Alito’s conclusion that long-term surveillance constitutes a Fourth Amendment search indicates that five of the Supreme Court Justices support the view that repeated instances of monitoring that do not individually constitute Fourth Amendment searches may, in the aggregate, become a Fourth Amendment search.¹⁵³

In light of this implied support at the Supreme Court level, courts hoping to curtail government drone use on Fourth Amendment grounds will likely turn to the mosaic theory of the Fourth Amendment. Existing case law suggests that a single instance of the government’s use of a drone to observe somebody’s public movement or to look into somebody’s yard is not a Fourth Amendment search.¹⁵⁴ But if the government were to use drones to constantly or repeatedly monitor a person’s movements or a person’s home, this activity might rise to the level of a Fourth Amendment search under the mosaic theory.¹⁵⁵

Government-operated drones are particularly enticing targets for this approach to the Fourth Amendment because a central concern of privacy advocates is that the cheap, efficient nature of drones will allow the government to perpetually monitor citizens.¹⁵⁶ If the government uses drone technology to continuously monitor its citizens, the mosaic theory would seem to be a fitting avenue to challenge the government’s actions. Further, because the recently decided *Jones* case suggests that a majority of Supreme Court Justices support the mosaic theory, it is probably the most feasible avenue for courts that seek to circumvent restrictive Fourth Amendment case law in order to limit the government’s use of drones.

2. *Problems with the Mosaic Theory as Applied to Government Drones*

While the mosaic theory of the Fourth Amendment may have intuitive appeal, and while it may seem particularly suited for cases of government drone surveillance, courts would take Fourth Amendment law down an uncertain and dangerous road were they to adopt the mosaic theory. The mo-

¹⁵¹ *Id.* at 956 (Sotomayor, J., concurring).

¹⁵² *Id.* at 955–56 (Sotomayor, J., concurring).

¹⁵³ *Mosaic Theory*, *supra* note 137, at 328.

¹⁵⁴ See discussion *supra* Part III.A.

¹⁵⁵ See Sullivan, *supra* note 121, at 23–26 (arguing that the mosaic theory should be applied to government drone use); see also Takahashi, *supra* note 121, at 110.

¹⁵⁶ Kaminski, *supra* note 8, at 72; Calo, *supra* note 8, at 32.

saic theory raises a number of problems, including the lack of a clear test for when aggregate government actions become a search, the lack of any clear formula for courts to use to compare different types of government drone use when aggregating the actions into a mosaic, the danger of conflicting decisions between and within jurisdictions, and the irreversibility of court decisions.

The first problem with the mosaic theory is that it does not offer a clear test for courts to use when deciding whether a government's actions in the aggregate constitute a Fourth Amendment search. Orin Kerr notes that the mosaic theory is unclear and correctly points out that the three opinions in which the mosaic theory appeared—*Maynard* and Justices Alito's and Sotomayor's concurrences in *Jones*—all used different methods for determining whether a search had occurred.¹⁵⁷

Drones present a particular problem when it comes to formulating a clear test because they are a recent technological development. It is hard enough to determine when a reasonable person would feel their privacy has been violated because most people do not have knowledge or expectations of police investigative practices.¹⁵⁸ This decision is made even more complicated when police are investigating suspects with drones—a technology that both ordinary civilians and police officers will probably find unfamiliar and lack knowledge or expectations regarding their use. Courts must develop a test to determine when a person's reasonable expectation of privacy would be violated by police investigation tactics that employ a technology to which most people—police and civilians—have not been exposed. This is an extremely difficult task, and it is not clear how courts will be able to develop a consistent, predictable approach.

The second problem with the mosaic theory is that there is no clear formula for comparing different kinds of government drone use.¹⁵⁹ The basic idea behind the theory is articulable: at some point, a series of individually permissible government actions becomes invasive or oppressive enough that a Fourth Amendment search occurs. But law enforcement agencies can use drones in a host of ways. Is it more invasive when the government uses a drone to peer into somebody's backyard or when the government tracks that person's drive to work using a drone? When has a drone watched over some-

¹⁵⁷ *Mosaic Theory*, *supra* note 137, at 330–31; *see also* United States v. *Maynard: D.C. Circuit Deems Warrantless Use of GPS Device an Unreasonable Search*, 124 HARV. L. REV. 827, 833–34 (2011) (criticizing the *Maynard* court's departure from Fourth Amendment precedent and characterizing the resulting test as "loosely defined"). *But see* Kevin S. Bankston & Ashkan Soltani, *Tiny Constables and the Cost of Surveillance: Making Cents Out of United States v. Jones*, 123 YALE L.J. ONLINE 335, 350–52 (2014) (suggesting that a mathematical formula may be applied that increases Fourth Amendment scrutiny in situations where officers use technology to achieve broader surveillance without the costs that similarly broad surveillance would incur if carried out by traditional methods).

¹⁵⁸ *Mosaic Theory*, *supra* note 137, at 330–31.

¹⁵⁹ For a more general discussion of the difficulty of aggregating government surveillance actions into a coherent mosaic theory approach, *see Mosaic Theory*, *supra* note 137, at 333–36.

body's house long enough for it to be as invasive as a search that results from continued tracking of that person's day-to-day movements? Different drones probably have different qualities of cameras, and they may monitor homes or movements from different distances. How do these qualities factor into the aggregation of the government's activities?

These questions are likely to arise if courts choose to adopt the mosaic theory in the context of the government's use of drones. While GPS monitoring of a subject's location raises a number of tough questions on its own, drones and their variations in surveillance patterns, distances from the subject, and camera qualities, present a host of unique factors courts must consider when applying the mosaic theory. It is not at all clear how courts will resolve these various questions.¹⁶⁰ Nor is it clear how law enforcement officers will conform their own conduct to the law in light of the vague and undefined nature of the mosaic theory approach.¹⁶¹

The third problem with the mosaic theory is the high probability of decisional variation both between and within jurisdictions. This problem is a product of the preceding two concerns. Because the mosaic theory requires courts to answer numerous difficult questions, there is a high probability that courts will reach different decisions on when government usage of drones amounts to a Fourth Amendment search. This is more likely to happen between jurisdictions, as courts within jurisdictions might ultimately establish distinct bodies of precedent. But the questions regarding drone usage may be so complicated that courts within the same jurisdiction might reach different outcomes in similar situations. While appellate courts eventually may resolve these conflicts, the mosaic theory would likely lead to substantial confusion and a variety of judicial decisions in the short term.

The problem of conflicting judicial opinions is also likely to arise if courts use approaches other than the mosaic theory to restrict government drone use. While the mosaic theory is arguably the best-supported approach that courts could employ, courts might find other ways to expand Fourth Amendment protections.¹⁶² Because the Supreme Court's case law is clear, states seeking to expand Fourth Amendment protections would have to

¹⁶⁰ *Mosaic Theory*, *supra* note 137, at 346–47 (noting the murkiness of the mosaic theory and how it would be difficult for courts to apply it in practice).

¹⁶¹ See Wayne LaFave, “Case-By-Case Adjudication” Versus “Standardized Procedures”: *The Robison Dilemma*, 1974 S.Ct.Rev. 127, 141 (1974) (“A highly sophisticated set of rules, qualified by all sorts of ifs, ands, and buts and requiring the drawing of subtle nuances and hairline distinctions, may be the sort of heady stuff upon which the facile minds of lawyers and judges eagerly feed, but they may be ‘literally impossible of application by the officer in the field.’”); see also *Dunaway v. New York*, 442 U.S. 200, 213–14 (1979) (“A single, familiar standard is essential to guide police officers, who have only limited time and expertise to reflect on and balance the social and individual interests involved in the specific circumstances they confront.”).

¹⁶² See, e.g., Bankston & Soltani, *supra* note 157, at 350–52 (proposing a mathematical approach that would evaluate the breadth of high-tech surveillance compared to the cost of similar surveillance using conventional means).

branch out from this precedent, and the variety of theories they might adopt in doing so could lead to further inter-jurisdictional conflict.

The fourth problem with the mosaic theory is that decisions made by the courts are far harder to reverse than decisions made by the legislature. For example, a state supreme court may decide to restrict drone use in a manner that severely constrains the activity of a law enforcement agency in an unforeseen way. Undoing this decision will be difficult for the state, especially if the court claims to have based its decision on federal constitutional grounds. The only way it could be changed would be for the U.S. Supreme Court to reverse the decision, the state supreme court to reverse the decision, or the states to ratify an amendment to the U.S. Constitution. These avenues for changing the law of drone surveillance are far more cumbersome and unlikely than changes via the state legislative process.¹⁶³ Further, the likelihood of decisions having unintended consequences is high in light of the early nature and rapid development of drone technology.

Thus, while the mosaic theory has attracted some endorsements from commentators, it raises a host of practical concerns in the context of judicially-developed restrictions on drone usage in law enforcement. Because the mosaic theory is the best-established avenue for courts to restrict government drone use using the Fourth Amendment, the problems with the mosaic theory suggest that courts are not in a good position to develop restrictions on government drone use.

One may object that the first two problems with the mosaic theory may seem to be inherent to any situation when a court needs to engage in line-drawing. Courts, in dealing with questions of reasonable searches or seizures, are required to engage in fact-intensive inquiries in order to determine the scope of reasonable expectations of privacy. The mosaic theory may simply be one of these instances.

While a comprehensive response to this objection is beyond the scope of this article, a brief reply is in order. What sets the mosaic theory apart from other Fourth Amendment questions is that it requires an entirely new layer of analysis on top of settled Fourth Amendment standards. The Supreme Court has taken *Katz*'s "reasonable expectation of privacy" standard and formulated a number of rules that establish when a Fourth Amendment search has taken place. Years of cases have refined doctrinal rules that observations of activities in plain view,¹⁶⁴ information disclosed to third parties,¹⁶⁵

¹⁶³ See *Mosaic Theory*, *supra* note 137, at 350 (noting that if Congress errs in passing a law regulating surveillance, it can "amend its prior handiwork relatively easily"); see also David C. Thompson & Melanie F. Watchell, *An Empirical Analysis of Supreme Court Certiorari Petition Procedures: The Call for Response and the Call for the Views of the Solicitor General*, 16 GEO. MASON L. REV. 237, 240–41 (2009) (noting the small percentage of petitions the United States Supreme Court reviews).

¹⁶⁴ See *Washington v. Chrisman*, 455 U.S. 1, 5–7 (1982) (holding that officer's observation of contraband in plain view is not a search when the officer observed contraband from a location where he had a right to be).

and discarded items left in public places¹⁶⁶ are not Fourth Amendment searches. But under the mosaic theory, if the government carries out too many of these non-searches, a Fourth Amendment search occurs.

The mosaic theory's potential application across virtually all Fourth Amendment doctrine means that the stakes are higher when courts decide to engage in mosaic theory reasoning. This differentiates the use of the mosaic theory from other situations where courts develop, apply, and refine rules or standards. The likelihood that drones may prompt mosaic theory jurisprudence should give pause to law enforcement advocates who may otherwise propose that legislatures stay out of regulating government drone use. Indeed, state legislation may be the best way to ensure consistent and predictable regulation of drone usage, without the threat of developing a confusing doctrine or standards that are not easily reversed.

C. State Legislation as the Best Mechanism for Regulating Government Drones

Relying on the judiciary to regulate the government's use of drones is not a satisfactory outcome for any parties concerned with government drone use. Privacy advocates would most likely be disappointed by courts' inability to meaningfully restrict the government's actions. And those interested in strong law enforcement would be concerned by the potential for courts to apply new, vague, and expanded Fourth Amendment protection to those observed by government drones.

While both privacy advocates and law enforcement advocates may be disappointed by judicial regulation of government drones, state-level legislation of government drone use is an avenue of regulation that both sides of the debate could support. There is potential for flexibility and variation at the state legislative level, as the thirteen states that have passed drone laws illustrate.¹⁶⁷ Where law enforcement interests win out, states might enact laws requiring warrants only when broad exceptions do not apply.¹⁶⁸ This would impose a relatively low burden on law enforcement agencies and leave them largely free to use drone technology in criminal investigations. In states where privacy advocates' interests are stronger, states might pass broader warrant requirements with fewer exceptions. This would put the burden on law enforcement agencies by requiring them to go through the process of obtaining a warrant in most situations where they seek to use drones.

¹⁶⁵ See *Smith v. Maryland*, 442 U.S. 735, 744 (1979) (holding that there is no reasonable expectation of privacy in numbers dialed into phones since those numbers are disclosed to phone companies).

¹⁶⁶ See *California v. Greenwood*, 486 U.S. 35, 40 (1988) (holding that there is no reasonable expectation of privacy in trash bags left on the curb outside of one's house).

¹⁶⁷ See *supra* Part II.

¹⁶⁸ State legislatures seeking broad, fact-based exceptions to the warrant requirement could look to Idaho's law, which contains an exception to the warrant requirement in cases involving drug trafficking, for guidance. See IDAHO CODE ANN. §21-213(2) (2013).

Privacy advocates should support legislative regulation of government drone use. Laws that would require law enforcement officers to obtain warrants before using drones for surveillance would curtail the possibility of drones being used in an abusive or pervasive manner.¹⁶⁹ Warrants that would require law enforcement officers to specifically describe the scope of their proposed searches before carrying out any surveillance could discourage the widespread government drone use and constant surveillance that opponents of government drone use fear.

Moreover, the legislative avenue carries a distinct advantage for privacy advocates who wish to restrict government drone use. States could pass laws that call for damages in instances where law enforcement officers use drones in violation of the law. Idaho's statute is an example of such a law. In Idaho, if a government agency conducts surveillance on a person without a warrant in violation of the drone restriction, the person who is the target of that surveillance is entitled by statute to recover \$1,000.¹⁷⁰ Laws that include monetary penalty provisions might further discourage law enforcement agencies from misusing drones by adding disincentives beyond the exclusion of any evidence obtained by the use of the drone.

Law enforcement agencies should also support the enactment of state laws that regulate the use of drones. This may seem counterintuitive at first, since these laws would limit the government's ability to use drones to investigate crimes. But if the legislature does not regulate the government's use of drones, then there is a risk that the judiciary will attempt to take up the task and usher in new Fourth Amendment doctrines that are unpredictable and (unlike legislation) very difficult to alter or reverse.¹⁷¹ Even if the legislature enacts laws that restrict the government's use of drones, law enforcement agencies may find these laws preferable to the judicial alternative since the laws will reduce the possibility that courts will take a broader, potentially disruptive, approach to the Fourth Amendment in the context of government drone use.

Furthermore, law enforcement agencies can push for exceptions to drone restrictions. Most state laws that restrict government drone use already have exceptions that permit warrantless use of drones in situations where there is an imminent risk of harm, a missing person investigation, or a risk of a terrorist attack.¹⁷² While only three of the thirteen states that have passed drone regulations provide exemptions for law enforcement officers' use of drones to survey crime and accident scenes,¹⁷³ there is no reason why such

¹⁶⁹ Farber, *supra* note 5, at 45.

¹⁷⁰ IDAHO CODE ANN. § 21-213(3) (2013).

¹⁷¹ See *Mosaic Theory*, *supra* note 137, at 345–46, 350; see also LaFave, *supra* note 161, at 141.

¹⁷² See TENN. CODE ANN. § 39-13-609 (2013); TEXAS GOV. CODE ANN. § 423.002 (2013); UTAH CODE ANN. § 63G-18-103 (2014).

¹⁷³ 725 ILL. COMP. STAT. 167/15 (5) (2014); OR. REV. STAT. § 837.340 (2013); TEXAS GOV. CODE ANN. § 423.002(a)(8)(B)–(C) (2013).

exceptions could not be included in future state legislation. Since this type of use would probably not raise significant privacy concerns, exceptions to drone restrictions that permit the imaging of crime and accident scenes should not meet much resistance.

Law enforcement agencies could also advocate for broader exceptions than those that are currently present in most state laws. For example, agencies could encourage states to adopt laws promoting drone use in specific areas of law enforcement. In Idaho, for instance, law enforcement officers are not required to obtain a warrant when they are carrying out “controlled substance investigations.”¹⁷⁴ This would permit law enforcement agencies to use drones in a wide range of circumstances. Accordingly, law enforcement agencies may wish to advocate for restrictions on drones, but simultaneously push for wide-ranging exceptions to these laws.

Law enforcement agencies would do well to avoid going too far with their advocacy, however. As has been discussed at length in this article, if a state passes a law that permits warrantless drone use whenever there is an existing exception to the warrant requirement, that law will have very little effect on government use of drones.¹⁷⁵ This could leave courts in virtually the same situation as they would be were there no laws restricting government drone use at all. If that were the case, courts might respond by applying the mosaic theory or an alternate, broader reading of the Fourth Amendment to regulate government drone use. While law enforcement agencies should certainly advocate for restrictions that will best ensure safe and effective implementation of drone technology, agencies should avoid promoting hollow regulations that provide no effective restrictions.

State legislatures have the ability to encourage or discourage particular types of government drone use by enacting laws that can regulate when law enforcement officers may use drone technology. Because state laws can be precisely tailored and readily revised, they are preferable to the broad, unpredictable judicial alternative. Moreover, the interests of law enforcement agencies and privacy advocates would be best served by legislative regulation of government drone use. While these two interest groups may advocate very different versions of state laws, both groups should agree that some sort of state law should regulate the government’s use of drones.

D. The Effect of Potential Federal Regulation on State Legislation

While state laws that regulate the government’s use of drone are preferable to judicial alternatives, state legislation exists in the context of efforts by the federal government to regulate the usage of drones.¹⁷⁶ It may not seem clear why states, rather than the federal government, should regulate

¹⁷⁴ IDAHO CODE ANN. § 21-213(2) (2013).

¹⁷⁵ See discussion *supra* Part III.B.1.

¹⁷⁶ See McNeal *supra* note 5.

their own use of drones. The uniformity that federal regulations could achieve may seem preferable to the variety of drone laws among the states. Further, if the federal government eventually passes laws regulating government drone use, these laws could preempt state legislation. State legislatures may be reluctant to pass drone laws if the federal government will eventually be the ultimate decision-maker on drone regulations. This section addresses concerns for state legislation in the context of potential federal regulation.

1. *Why State Drone Laws Are Preferable to Federal Drone Laws*

One possible objection to a push for state legislation regulating government drone use is that federal legislation would be a preferable approach. Legislation enacted by the federal government applies to all fifty states, and any contrary state laws would be preempted by the federal law.¹⁷⁷ Uniform federal law may be desirable since it would make the law governing law enforcement drone use more predictable and eliminate interstate variation.

While several commentators have expressed a general preference for increased regulation of drones,¹⁷⁸ few have advocated explicitly for exclusive federal regulation of government drone use.¹⁷⁹ In the context of regulating drone use by both government and private actors, Margot Kaminski argues that states, rather than the federal government, should be the ones drafting and implementing drone restrictions because they have experience regulating privacy violations and can experiment with various regulations.¹⁸⁰

Kaminski's argument has merit. While laws enacted by the federal government may foster predictability between the states, drone regulation is still at an early stage. All of the regulations discussed in this Article have been enacted in the last two years.¹⁸¹ These regulations represent a variety of approaches to the issue of government drone use, but there has been very little time to evaluate the impact of these laws. Moreover, because drone technology is still in its early stages and is rapidly developing, laws regulating this

¹⁷⁷ See U.S. CONST. art. VI ("This Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding.").

¹⁷⁸ See, e.g., Farber, *supra* note 5, at 45–46 (calling for action by "Congress and the states"); Reid, *supra* note 118, at 94 (calling for action by "state and federal regulators").

¹⁷⁹ J. Tyler Black provides several proposals for federal legislation and does not go into depth regarding state laws; but because he remains equivocal about the desirability of legislation, his commentary falls short of advocating for federal drone legislation. J. Tyler Black, Note, *Over Your Head, Under the Radar: An Examination of Changing Legislation, Aging Case Law, and Possible Solutions to the Domestic Police Drone Puzzle*, 70 WASH. & LEE L. REV. 1829, 1865–75 (2013).

¹⁸⁰ Kaminski, *supra* note 8, at 67–68.

¹⁸¹ See *supra* Part I.

technology should remain flexible in order to account for potential technological change.

All of these circumstances warrant regulation of government drone use by the states rather than by the federal government. Drone technology is a recent development, and the regulation of this technology should be subjected to experimentation, which the states are able to provide.¹⁸² While regulations of government drones may vary among the states, this variation gives policymakers a chance to observe which regulations work and which are ineffective.

2. *The Unlikely Prospect of Federal Preemption of State Drone Laws*

In her discussion of state drone laws, Kaminski raises the possibility that federal laws might end up preempting state laws.¹⁸³ If a federal law conflicts with a state law, the federal law will be deemed to control under the Constitution's Supremacy Clause.¹⁸⁴ Kaminski points out that there is potential for "overlap of federal regulatory authority with state regulation even of small, low-flying drones."¹⁸⁵

While Kaminski notes the possibility of federal preemption, she points out that even if the government ends up regulating drone use, the regulations may still be drafted in a manner that permit states to regulate drones.¹⁸⁶ If federal laws or regulations are drafted to give states the power to develop their own laws governing drones, federal preemption would not be a significant concern for the states.

Additionally, President Obama recently announced that he intends to issue an executive order that would require the National Telecommunications and Information Administration ("NTIA") to develop "privacy guidelines for commercial drones operating in U.S. airspace."¹⁸⁷ The NTIA's regulations would not address government use of drones, meaning that there is no indication that the federal government intends to issue any laws or regulations that would preempt state regulations on this issue.¹⁸⁸

¹⁸² See *Gonzales v. Raich*, 545 U.S. 1, 42 (2005) (O'Connor, J., dissenting) (quoting *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting)) ("One of federalism's chief virtues, of course, is that it promotes innovation by allowing for the possibility that 'a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.'").

¹⁸³ Kaminski, *supra* note 8, at 73.

¹⁸⁴ U.S. CONST. art. VI.

¹⁸⁵ Kaminski, *supra* note 8, at 73.

¹⁸⁶ *Id.* at 73–74.

¹⁸⁷ Erin Mershon & Kevin Robillard, *President Barack Obama to Issue Executive Order on Drone Privacy*, POLITICO (July 23, 2014, 9:34 PM), <http://www.politico.com/story/2014/07/executive-order-drone-privacy-barack-obama-109303.html>, archived at <http://perma.cc/AE69-CSD3>.

¹⁸⁸ *Id.*

For these reasons, while preemption is a concern that should not be ignored, there is no indication that the federal government is planning to enact any laws or regulations that would preempt the state laws discussed in this article.¹⁸⁹ Even if the federal government did plan to enact laws on government drone use, the federal government could draft them to permit states to continue to develop their own regulations as well.¹⁹⁰ Because drone technology is in its early stages and because existing state regulations have not been in place for long, the federal government would probably want to draft any federal laws or regulations in this manner in order to foster state experimentation.

V. CONCLUSION

As drone technology continues to develop, law enforcement agencies will probably seek to expand their use of drones.¹⁹¹ As government drone use increases, privacy advocates will probably become concerned about invasive surveillance and seek to limit the government's ability to use drone technology. Privacy advocates have the options of challenging the government's use of drones in court or, instead, pushing for legislative measures that limit government drone use.

Privacy advocates would do well to seek legislative measures restricting the government's use of drones rather than pursue legal challenges. Legislative measures may have a real impact on the government's use of drone technology, and if states enact laws to regulate government drone use, courts will feel less pressure to expand Fourth Amendment protections in unpredictable, imprecise ways. Additionally, law enforcement agencies should give serious consideration toward supporting legislative limits on government drone use in order to avoid the unpredictable alternative of judicially-imposed limits.

While privacy advocates and law enforcement agencies will almost certainly disagree on the appropriate scope of drone restrictions, the interests of both of these groups would be best served by state legislation, rather than litigation. Those states that have enacted drone legislation should pay attention to the impact of their laws, and they should update their laws as drone technology continues to develop. States that have yet to develop drone regulations should give serious consideration towards doing so—and they should look to the thirteen states that have enacted drone regulations when drafting

¹⁸⁹ While the FAA recently released a notice of proposed rulemaking regarding drones, the notice only applies to non-hobbyist, privately operated drones. See *Overview of Small UAS Notice of Proposed Rulemaking*, FED. AVIATION ADMIN., http://www.faa.gov/regulations_policies/rulemaking/media/021515_suas_summary.pdf (last visited Apr. 16, 2015), *archived at* <http://perma.cc/4LXD-39EL>.

¹⁹⁰ Kaminski, *supra* note 8, at 73–74.

¹⁹¹ See STANLEY & CRUMP, *supra* note 121, at 6–8 (describing the increasing use of drones by the federal government and state law enforcement agencies).

and debating their own legislation. By developing clear guidelines for government drone use, state legislatures can balance the interests of law enforcement agencies and privacy advocates, and ensure that law enforcement is able to take advantage of new technology without infringing on the privacy of citizens.