



## **LEGAL MEMORANDUM**

**TO:** The Police Foundation and the U.S. Department of Justice – COPS Office

**FROM:** Anne T. McKenna, Esquire  
**Silverman|Thompson|Slutkin|White|LLC**

**DATE:** June 23, 2014

**RE:** *Community Policing and UAS Guidelines to Enhance Community Trust*  
*2013-CK-WX-K002*

**Legal Memorandum Number Five: UAS/UAV Related Publications, Law Review Articles, Research, and Peer Review Sources (Task 1 – Line Item (5))**

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### **LEGAL MEMORANDUM 5: OVERVIEW**

This legal memorandum has been drafted pursuant to the principal legal consultant contract entered into between The Police Foundation and Anne T. McKenna to provide legal analysis and memoranda to be used by the Police Foundation, its Project Advisory Group, and the U.S. Department of Justice – COPS Office in the project entitled “*Community Policing and UAS Guidelines to Enhance Community Trust*” (the “COPS Contract”). Pursuant to the COPS Contract Task 1 (detailed description of work appended to the COPS Contract), this memorandum (“Legal Memo 5”) provides an overview and analysis of current research, law review articles, and other peer-reviewed publications on the benefits and problems associated with UAS usage.

Legal Memo 5 is structured as follows:

- I. Overview of Recent Major Research Publications
  - II. Overview of Law Review Articles (in reverse chronological order)
  - III. Overview of In-depth Media Articles from the Prior Calendar Year (in reverse chronological order)
  - IV. Citation to Blogs with UAS/UAV-related Posts that Have High Web Traffic
  - V. Overview of Peer Review Publications and Peer Published Guidance
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## I. OVERVIEW OF RECENT MAJOR RESEARCH PUBLICATIONS

A. ***2013 Unmanned Aircraft Systems (UAS) Legislation***, NATIONAL CONFERENCE OF STATE LEGISLATURES, available at: <http://www.ncsl.org/research/civil-and-criminal-justice/unmanned-aerial-vehicles.aspx>.

This article lists and describes every law enacted in state legislatures in 2013 surrounding UAS usage and regulations. Over the course of the year, 43 states introduced 130 bills and resolutions, resulting in 16 new laws and resolutions enacted by 13 different states. Laws include definitions of drones, regulation of who may use UASs and for what circumstances, what types of data may be collected, as well as funding for drone research. For a full description of each statute, visit the above link.

B. ***Integration of Civil Unmanned Aircraft Systems (UAS) into the National Airspace System (NAS) Roadmap***, FEDERAL AVIATION ADMINISTRATION, U.S. DEPT. OF TRANSPORTATION, Nov. 7, 2013. available at: [http://www.faa.gov/about/initiatives/uas/media/uas\\_roadmap\\_2013.pdf](http://www.faa.gov/about/initiatives/uas/media/uas_roadmap_2013.pdf)

This roadmap outlines the steps the FAA needs to take in order to safely integrate UASs into the National Airspace System, in accordance with the Congressional Mandates in the *FAA Modernization and Reform Act of 2012*. It includes goals, metrics, and target dates for the use of the FAA and its government and industry partners in implementing key actions for UAS integration. It includes a description of proposed civil and commercial applications of drone usage, as well as an outline of current FAA UAS policies and the basis for them. The roadmap then enters a discussion of privacy and civil liberties considerations in regards to UAS usage and the operational tests sites to be utilized by the FAA, and states that each test site will implement a privacy policy guided by the Fair Information Practice Principles. The discussion of privacy and civil liberties is brief, and the focus of the publication is safe operation and usage as well as federal safety regulations and licensing procedures.

C. ***Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Legislative Responses***, Richard M. Thompson II, CONGRESSIONAL RESEARCH SERVICE, Apr. 3, 2013.

The author begins by defining drones and identifies current and future technologies that could be outfitted to drones. The author then undergoes a thorough examination of the Fourth Amendment jurisprudence, including what constitutes a search in the home, open fields, in public airspace, along U.S. borders as well as prolonged searches. This is the most thorough of these resources. The author also includes the best arguments for and against the use of drones in certain scenarios based on past Supreme Court precedent. Considerations for whether use of drone surveillance is a search include location, sophistication of technology used, and duration of surveillance. Whether a targeted individual is at home, in his backyard, in the public square or near a national border will play a large role in determining whether he/she is entitled to privacy. Aerial surveillance cases (*Ciraolo*, *Riley*, *Dow*) were premised on naked eye searches. The sophistication of the technology available (facial recognition, thermal imaging, etc.) to drones may diminish the relevance of this prior jurisprudence. Drones have the ability to break down any practical privacy safeguard. Drones can see things from several angles, which raises the

question: should people have to account for that when demonstrating subjective expectation of privacy? In consideration of duration of surveillance, some case law already exists. In the Fifth Circuit case, *US v. Cuevas-Sanches*, law enforcement put a video camera on a utility pole overlooking the defendant's 10-foot-high fence surrounding his backyard. The 5<sup>th</sup> Circuit said the video camera was a search. On the subject of drones and warrants, the author argues that if law enforcement is using drones for a need other than law enforcement (Special Needs Doctrine, uses such as search and rescue missions, environmental protection, etc.), drones will probably be found constitutional. However, if drones are used primarily for law enforcement purposes, a warrant may be required unless one of the exceptions applies.

D. ***Privacy Impact Assessment for the Robotic Aircraft for Public Safety (RAPS) Project***, John Appleby, U.S. DEPARTMENT OF HOMELAND SECURITY, Nov. 16, 2012.

The DHS applies Fair Information Practice Principles (FIPP) to DHS programs and activities that raise privacy concerns or involve collection of personally identifiable information from individuals. The DHS applied their FIPP (developed from the underlying concepts of the Privacy Act of 1974) to test the use of drones by the first responder community. The test used drones equipped with sensors and cameras that could capture images and transmit them to a ground control system, but did not include technology such as facial recognition. However, DHS conducted this evaluation on a test group, meaning that everyone participating in the study volunteered and many of the privacy concerns by the everyday public do not apply. The DHS considers the following principles: Transparency, Purpose Specification, Data Minimization, Use Limitation, Data Quality and Integrity, Security, and Accountability and Auditing.

## II. OVERVIEW OF RECENT LAW REVIEW ARTICLES

A. ***Anonymity, Faceprints, and the Constitution***, Kimberly N. Brown, 21 *Geo. Mason L. Rev.* 409 (Winter 2014).

Brown's article argues for recognition of anonymity as a constitutional value that is both implicit in Fourth Amendment jurisprudence and explicit in First Amendment jurisprudence, and suggests that a modern shift in technology's intersection with data warrants a fresh look at Fourth Amendment doctrine that currently excuses surveillance based on information obtained in public or from third parties. Brown commences by defining "anonymity" and exploring the historical background of the concept, arguing that "respect for the capacity to remain physically and psychologically unknown to the government traces back" to the founding of our nation. Brown also discusses facial recognition technology (FRT) and various concerns and harms related thereto. Brown then reviews the existing Fourth and First Amendment jurisprudence (dividing the Fourth Amendment discussion into two sections: the pre-digital age and the digital age) that, arguably, identifies anonymity as a constitutional value warranting more explicit doctrinal protection. Finally, Brown argues that our constitutional jurisprudence should be reconciled to address the manipulation – as opposed to acquisition – of FRT data to derive new and exceedingly intimate information about individuals. Brown also offers guidelines for consideration by lower courts and legislators as they address the threat of limitless surveillance presented by new technologies such as FRT

**B. *Watching the Watchmen: Drone Privacy and the Need for Oversight*, Ben Jenkins, 102 KY. L.J. 161 (2013–2014).**

Jenkins, a 2014 graduate, argues that in order to safeguard privacy against UAS surveillance by the government, Congress should implement legislation that provides a framework for protection while still allowing for industry growth and innovation. Jenkins starts with a discussion of the background of drones and their legal landscape, specifically what they are, their various uses, the available technology, and the current Fourth Amendment jurisprudence. Jenkins then explains why, in his view, drones present a unique threat to privacy, addressing current shortfalls in Fourth Amendment jurisprudence and in legislative efforts to address the public's privacy concerns. Jenkins suggests amending the proposed legislation to address shortfalls therein, concluding that proper anticipatory action and ongoing oversight are necessary to ensure that police technology does not erode the minimum expectations of privacy guaranteed by the Fourth Amendment.

**C. *Contextual Expectations of Privacy*, Andrew D. Selbst, 35 CARDOZO L. REV. 643 (Dec. 2013).**

Selbst evaluates the modern meaning of the Fourth Amendment's "reasonable expectation of privacy" in the light of Helen Nissenbaum's theory of contextual integrity. The theory of contextual integrity states that privacy is essentially the right to an appropriate flow of personal information. What flow of information is deemed as "appropriate" is based on social expectations and social contexts, and therefore the structure of the "informational norm" varies widely. Selbst includes a description of the current method generally used by the courts to determine if there has been a Fourth Amendment violation—the *Katz* test—and points out some flaws with this method. For example, if information is accessible to anyone other than a government official—such as bank records and lists of phone numbers a person frequently calls—then it is outside the scope of the Fourth Amendment. The logic of *Katz*, Selbst argues, is circular: if a person knows he or she is being watched, he or she must expect to be watched, therefore limiting circumstances in which a person has a justifiable expectation of privacy. If this theory is pressed, it presents the possibility of the complete erosion of privacy. Selbst then goes on to address multiple situations in which privacy is concerned, and how the theory of contextual integrity can be implemented to define reasonable and unreasonable expectations of privacy.

**D. *Unmanned and Unchecked: Confronting the Unmanned Aircraft System Privacy Threat Through Interagency Coordination*, Patrice Hendriksen, Note, 82 GEO. WASH. L. REV. 207 (Dec. 2013).**

Hendriksen, a 2014 graduate, argues that Congress should amend the FAA Modernization and Reform Act of 2012 (FMRA) to mandate interagency coordination with the ultimate goal of creating a Memorandum of Understanding that clarifies responsibilities, recommends permissible use guidelines, and creates accountability for the privacy implications related to the integration of UAS into law enforcement functions. Hendriksen concludes that such an amendment would effectively address the complexity of UAS operations and close the currently existing privacy gap in the law. Hendriksen commences the Note with the factual and legal background for his/her analysis, setting forth the current and projected status of domestic UAS use with a discussion of the FMRA and UAS technology. Hendriksen then addresses the

relevant Fourth Amendment jurisprudence and analyzes surveillance *via* UAS under the Fourth Amendment. In this regard, Hendriksen concludes that applying the Fourth Amendment to UAS surveillance yields uncertain and insufficient limitations. Thus, Hendriksen proposes that Congress amend the FMRA to compel interagency coordination regarding the privacy threat posed by UAS technology. Finally, Hendriksen identifies and discusses legislative and single-agency counterproposals, highlighting their inadequacies.

**E. *THE DRONES ARE COMING! Will the Fourth Amendment Stop Their Threat to Our Privacy?* Robert Molko, 78 BROOK. L. REV. 1279 (Summer 2013).**

Molko analyzes the protection the Fourth Amendment offers in the face of the increasingly common usage of drones by local law enforcement to monitor criminal activity in communities. Molko begins the article with a brief summation of current drone technology and usage, and the FAA Modernization and Reform Act of 2012. He then discusses the difficulty of using the Katz test to aid courts to determine a citizen's privacy expectations when it comes to drones. Despite these difficulties, however, Molko argues that this test can be applied in new ways to effectively protect privacy while still enabling the government to adequately provide security for its citizens. One of the main privacy concerns surrounding long-term drone surveillance is that the accumulation of information would give government unprecedented ability to sort through this information to find a collection of minute details which, in conjugation, could allow a person to be convicted of a crime. Molko suggests this power be limited via a congressionally mandated limit on drone data storage in situations where there is no reasonable suspicion that criminal activity is occurring in the surveilled area. Until Congress acts, however, Molko states that the courts can use the reasonable expectation of privacy test to outline the boundaries of drone usages by the government.

**F. *Over Your Head, Under the Radar: An Examination of Changing Legislation, Aging Case Law, and Possible Solutions to the Domestic Police Drone Puzzle*, J. Tyler Black, Note, 70 WASH. & LEE L. REV. 1829 (Summer 2013).**

Black, a 2014 graduate, argues that though drones' potential for a positive impact on society is substantial, they also carry the potential for abuse because the technology can outstrip certain constitutional protections and case law governing naked-eye aerial observation by police. Black commences by surveying drone capabilities and providing background on FAA drone regulations prior to the FAA Modernization and Reform Act of 2012 (FMRA). Black then briefly explores the FMRA, which expanded the use of drones domestically. Black provides an overview of the Supreme Court's aerial observation case law, discussing the "widening divergence in the application" of this jurisprudence. Black concludes the Note by listing possible legislative and judicial remedies and suggestions that arguably would guard against inappropriate drone use by police.

**G. *Floating Toward a Sky Near You: Unmanned Aircraft Systems and the Implications of the FAA Modernization and Reform Act of 2012*, Brandon Bellows, 78 J. AIR L. & COM. 585 (Summer 2013).**

Bellows, a 2014 graduate, commences his Comment with a hypothetical designed to bring light to the privacy, safety, and compliance issues surrounding the use of UASs. Bellows

then traces the evolution of the UAS from a military tool to a non-military domestic instrument and surveys current and future UAS use. Bellows reviews the current state of UAS law, focusing particularly on the FMRA and its provisions for UASs in the national airspace, and briefly highlighting state-level rumblings about UAS regulation and states' efforts to remedy apparent deficiencies spotted in the FAA's forthcoming UAS regulatory scheme. Finally, Bellows analyzes the developing FAA regulatory scheme for UASs, making broad suggestions about certain topics such as safety and privacy.

**H. *The Drones Are Coming: Use of Unmanned Aerial Vehicles for Police Surveillance and Its Fourth Amendment Implications*, Philip J. Hiltner, 3 WAKE FOREST J.L. & POL'Y 397 (June 2013).**

Hiltner, a 2013 graduate, explores how the opportunity for technology enhanced aerial surveillance via UASs implicates Fourth Amendment issues. Hiltner commences by providing background on the current capabilities of UASs. Hiltner then briefly explains the current FAA regulations regarding UASs and the FAA Modernization and Reform Act of 2012. Hiltner discusses how Fourth Amendment jurisprudence regarding surveillance of the home might affect police usage of drones and also looks at police drone usage for general public surveillance. Finally, Hiltner concludes by offering suggestions of steps that could be taken to allow police forces to capitalize on the many advantages UASs provide without diminishing the public's privacy expectations.

**I. *Warrantless Government Drone Surveillance: A Challenge to the Fourth Amendment*, Jennifer O'Brien, 30 J. INFO. TECH. & PRIVACY L. 155 (Spring/Summer 2013).**

O'Brien, a 2014 graduate of The John Marshall Law School, posits that "the drone presents one of the greatest challenges to society's privacy expectations under the Fourth Amendment." O'Brien commences her Comment by providing an overview of drone capabilities and the current FAA regulation on drones. O'Brien then details Fourth Amendment jurisprudence with regards to various forms of surveillance employed by the government and discusses the anticipated application of that case law to government use of drones within the U.S. O'Brien concludes with a discussion of the changes that need to be made in the Supreme Court's Fourth Amendment analysis in order to adequately protect the public's privacy interests without unduly burdening law enforcement.

**J. *Observations From Above: Unmanned Aircraft Systems and Privacy*, John Villasenor, 36 HARV. J.L. & PUB. POL'Y 457 (Spring 2013).**

Villasenor considers the constitutional, statutory, and common law frameworks that will inform privacy rights with respect to observation *via* unmanned aircraft. Villasenor begins the article with a discussion of the history of UAS technology and a description of the technology available today. He then addresses the current regulatory environment in the U.S., paying particular attention to the FAA Modernization and Reform Act of 2012. Villasenor examines the application of the Supreme Court's Fourth Amendment jurisprudence to government operation of unmanned aircraft, discussing in detail certain cases (*Dow*, *Ciraolo*, *Riley*, *Kyllo*, *Jones*) as well as the interpretations they suggest regarding the constitutionality of surveillance *via* UAS. Villasenor also addresses the operation of UAS by private entities and explores the laws that

might be used to combat violations of privacy by private entities and individuals. Villasenor concludes the article by considering potential new voluntary and statutory privacy solutions and discussing the preemption issues that may arise when non-federal entities attempt to regulate UAS use. Villasenor ultimately concludes that the Constitution will provide a much stronger measure of protection against government UAS privacy abuses than is generally appreciated.

**K. *The New Privacy Battle: How the Expanding Use of Drones Continues to Erode Our Concept of Privacy and Privacy Rights*, Chris Schlag, 13 U. PITT. J. TECH. L. & POL'Y 1 (Spring 2013).**

Schlag, a 2014 graduate, suggests that the best way to ensure that our individual privacy rights are not eroded by the incorporation of drone technology into our daily lives is for Congress to enact a baseline consumer protection law that manages both governmental and private party use of drones in national airspace. Schlag begins by discussing the history and development of drone technology and the domestic integration of drones. Schlag then evaluates various Fourth Amendment privacy issues arising out of domestic drone use, specifically within the context of surveillance and technology development, and examines current regulatory schemes, administrative controls, and available judicial protections. The article then considers potential solutions to those privacy concerns and argues that the FAA and state legislative enactments alone fail to guard against privacy invasions from both publicly and privately operated domestic drones. Schlag concludes by summarizing the necessity of a baseline federal consumer protection law which would, arguably, ensure drone-use practices by police or private parties do not violate reasonable expectations of privacy.

**L. *The Sentinel Clouds Above the Nameless Crowd: Protecting Anonymity from Domestic Drones*, Matthew L. Burow, 39 New Eng. J. on Crim. & Civ. Confinement 427 (Spring 2013).**

Burow, a 2013 graduate, commences this Note by reviewing the Supreme Court's Fourth Amendment and aerial surveillance jurisprudence, arguing that those decisions do not protect modern society from the intrusiveness of UASs. Burow also argues that *U.S. v. Jones*, addressing law enforcement's use of GPS technology, may pave the way for the protection of public anonymity. Burow then explores the concept of anonymity in public spaces and discusses the psychological and societal ramifications of a "Big Brother" surveillance society. Burow further explores areas where the legislature can take immediate action to help prevent constant UAS surveillance, arguing that both federal and state legislatures need to do their part to legitimize the constitutionally enumerated right to anonymity.

**M. *Drones and Privacy*, Timothy T. Takahashi, 14 COLUM. SCI. & TECH. L. REV. 72 (Mar. 23, 2013).**

Dr. Takahashi introduces the subject of government surveillance *via* UAS by relating the story of the June 23, 2011, Predator drone-assisted arrest of the owner and inhabitants of a North Dakota ranch. Takahashi first examines whether Posse Comitatus and/or the Fourth Amendment were violated during this particular arrest, concluding that a defense argument on either of those grounds was, in that case, unlikely to be successful. Takahashi then details the various technologies that UAV/UASs can be outfitted with. Takahashi makes an interesting point

relevant to data retention issues: “Traditional police eavesdropping and surveillance required humans to personally investigate and observe other humans in action. Advances in digital storage technology enable permanent storage of extraordinarily detailed data. Law enforcement need no longer prospectively observe behavior to take action; they may retrospectively review archived surveillance data.” 14 COLUM. SCI. & TECH. L. REV. 72, 92.

Takahashi then delves into the history of Fourth Amendment jurisprudence, addressing the traditional property law roots of the Fourth Amendment and detailing the evolution of Fourth Amendment protections. He further examines modern-day Fourth Amendment jurisprudence as it relates to new technologies, concluding that “the *Katz* “reasonable expectation of privacy” standard has already reached its breaking point when applied to emergent surveillance technology.” Ultimately, Takahashi concludes that because of the multitude of technologies that can be leveraged with UASs, it is likely that the Supreme Court will need to re-evaluate the current constitutional paradigm for privacy.

N. ***Privacy-Invasive Technologies and Recommendations for Designing a Better Future for Privacy Rights*, Alexandra Rengel, 8 INTERCULTURAL HUM. RTS. L. REV. 177 (2013).**

This article, derived from the Intercultural Human Rights Law Review Annual Symposium held October 19, 2012, addresses more than just the “privacy threat” posed by UASs. In the short section addressing UASs directly, Rengel briefly defines and describes UASs, their capabilities and advantages, their regulation by the FAA, and the general privacy concerns surrounding their use. According to Rengel, “[p]rivacy concerns, regarding unmanned aerial vehicles, center on the fact that these vehicles provide almost limitless access to view and record events from the sky, without the consent or knowledge of those being surveyed.” 8 INTERCULTURAL HUM. RTS. L. REV. 177, 203.

The takeaway from Rengel’s article is that “[t]he law needs to be proactive regarding privacy issues. [ . . . ] In order to achieve better results, jurists and legislators must partner with designers and manufacturers of technology, as well as privacy and other experts, to create laws that address potential issues regarding privacy.” 8 INTERCULTURAL HUM. RTS. L. REV. 177, 228.

O. ***Drones in the Homeland: A Potential Privacy Obstruction under the Fourth Amendment and the Common Law Trespass Doctrine*, Ajoke Oyegunle, 21 COMMLAW CONSPICUOUS 365 (2013).**

Oyegunle, a 2014 graduate, begins by outlining some concerns of the FAA Modernization and Reform Act of 2012, including its failure to inform the American public of the impending large-scale integration of UASs into the National Airspace System, its failure to list requirements for applicants to attain approval to deploy drones, and its failure to articulate who may utilize drones and for what purposes. The Act also directs the FAA to simplify the process for government agencies to obtain licenses to drones, a concerning direction given the bounty of privacy concerns that drones create. Oyegunle then examines the constitutional and common law implications of domestic drone use, discussing aerial surveillance and trespass doctrine case law, surveillance technology, and applying equilibrium-adjustment theory and mosaic theory analyses. Finally, Oyegunle presents the potential benefits and harms of drones, as



well as possible solutions. Oyegunle ultimately concludes that before the FMRA is implemented, comprehensive privacy safeguards must be instituted.

**P. *Beyond the Fourth Amendment: Limiting Drone Surveillance Through the Constitutional Right to Informational Privacy*, Jonathan Olivito, 74 OHIO ST. L.J. 669 (2013).**

Olivito, a 2014 graduate, is the first (and possibly only) legal scholar to argue that courts should analyze drone surveillance challenges under the assumed constitutional right to informational privacy as first articulated by the Supreme Court in *Whalen v. Roe*. Under this approach, the courts would apply a balancing test that weighs the individual privacy interests against the government interests in drone surveillance and, in the case of a violation, would then prohibit the government from storing, aggregating, transferring, or distributing any information gathered in the challenged surveillance. Olivito further notes that this proposed balancing test and remedies could apply broadly to other public surveillance systems that gather and aggregate extensive amounts of information (e.g., license plate readers and city-wide cameras/CCTV). Olivito commences by examining the physical capabilities of drones and describing their current and potential future domestic applications. Olivito then explains why, in his view, current Fourth Amendment jurisprudence and statutory, regulatory, and tort law provide inadequate protections against drone privacy intrusions. Olivito analyzes the current application of the constitutional right to informational privacy and the right's disparate application among the circuits. Olivito then argues that courts should use the constitutional right to informational privacy when confronted with claims of privacy intrusion involving drone surveillance.

**Q. *Unmanned But Accelerating: Navigating the Regulatory and Privacy Challenges of Introducing Unmanned Aircraft into the National Airspace System*, Benjamin Kapnik, 77 J. AIR L. & COM. 439 (Summer 2012).** In this article, Kapnik, a 2013 graduate of George Washington University Law School, addresses the short-term regulatory and privacy hurdles facing the unmanned aircraft industry. Kapnick commences by discussing the difficulty of defining “unmanned aircraft” and examining the existing and then-forthcoming regulations and statutes governing unmanned aircraft. Kapnick then examines the impact of privacy law on the operation of UAVs by both government and private entities or individuals, discussing both Fourth Amendment jurisprudence (*Katz*, *Ciraolo*, *Riley*, *Kyllo*) (with a section devoted entirely to *Jones*) and criminal and civil privacy statutes and common law. Kapnik concludes that unmanned aircraft are on their way and the legal system must adjust accordingly.

**R. *Beyond Orwell: The Application of Unmanned Aircraft Systems in Domestic Surveillance Operations*, Paul McBride, 74 J. AIR L. & COM. 627 (Summer 2009).** McBride, a 2010 graduate of Southern Methodist University Dedman School of Law, commences by discussing the development and modern applications – both military and civilian/law enforcement – of UAS technology. McBride then considers the evolution of Supreme Court precedent regarding warrantless surveillance, aerial surveillance in particular. McBride then analyzes the use of UASs in domestic surveillance in light of existing Supreme Court jurisprudence, arguing that the surveillance of the curtilage of the home using UAS platforms and technologies is a search under the Fourth Amendment. McBride concludes this Comment by noting that future developments as to both the composition of the Supreme Court and the availability of certain technologies may significantly impact the resolution of the constitutionality of UAS surveillance.

**S. *Big Brother Will Soon Be Watching—Or Will He? Constitutional, Regulatory, and Operational Issues Surrounding the Use of Unmanned Aerial Vehicles in Law Enforcement*, Joseph J. Vacek, 85 N.D. L. REV. 673 (2009).**

In this article, which significantly pre-dated the FAA Modernization and Reform Act of 2012, Vacek concludes that the eventual use of UAVs in domestic law enforcement is a near certainty, which will require the Supreme Court to reevaluate our notions of privacy under the Fourth Amendment and reasonable searches under *Kyllo*. Vacek begins by addressing the background issues posed by government use of UASs, providing an overview of available UAVs/UASs, a discussion of the current U.S. regulatory scheme, and an examination of the constitutional limitations on aerial surveillance. Vacek then illustrates the burdensome process a local law enforcement agency had to endure (at the time of publication) to utilize UAVs in operations. Vacek's article then addresses various then-recent regulatory developments regarding the operation of small UAVs. The article concludes by exploring where Fourth Amendment jurisprudence might go when we're faced with continuous, ubiquitous airborne surveillance.

**T. *The Integration of Unmanned Aerial Vehicles Into the National Airspace*, Timothy M. Ravich, 85 N.D. L. REV. 597 (2009).**

In this article, which significantly pre-dated the FAA Modernization and Reform Act of 2012, Ravich argues that UAV operations have outpaced the law and that given the actual proliferation of UAVs, it is time for lawmakers to more directly address UAV integration into the national airspace as a matter of law. Ravich commences with a brief background of the way in which the law has historically dealt with air and land rights relative to new and unprecedented developments in aviation. Ravich then discusses the operative regulatory regime in existence (at the time of publication), evaluates its fitness in the UAV context, and introduces the development of UAV-related laws in foreign jurisdictions.

**U. *Unmanned Aerial Exposure: Civil Liability Concerns Arising from Domestic Law Enforcement Employment of Unmanned Aerial Systems*, Geoffrey Christopher Rapp, 85 N.D. L. REV. 623 (2009).**

As the title suggests, Rapp's article addresses civil liability concerns related to police use of UAVs/UASs, concluding that civil litigation will inevitably follow the coming UAV revolution. Rapp commences by examining what might go wrong and hypothesizing worst-case scenarios in various contexts (*e.g.*, ground damage, air-to-air collision, communications interference, constitutional rights and privacy, landowner's rights, environmental concerns, and piracy). Rapp then provides an overview of existing aviation liability law and details the special doctrines of governmental immunity that protect law enforcement authorities from civil litigation, specifically addressing any special considerations likely to arise from the introduction of UAVs into the national airspace and the integration of UAV-related civil claims into the existing body of aviation tort law. Rapp concludes by addressing selected additional legal considerations, specifically conflicts of laws and insurance law.

### **III. OVERVIEW OF IN-DEPTH MEDIA ARTICLES**

**A. FORBES:**

**Sean Lawson, *Next Moves in the Battle Over Domestic Drones*, FORBES, Apr. 22, 2014, available at <http://www.forbes.com/sites/seanlawson/2014/04/22/next-moves-in-the-battle-over-domestic-drones/print/>.**

In this *Forbes* article, Sean Lawson reports on the FAA decision to launch an official investigation into the use of small drone over the 4/20 rally in Denver, Colorado. Lawson posits that the FAA's actions are arbitrary and capricious, and that people recognize and accept the various socially beneficial uses of drones. However, the main takeaway from this article is that "peoples' primary concern is government, in particular law enforcement, use of [drone] technology for surveillance."

**Gregory McNeal, *DOJ Report Reveals Details of Domestic Drone Usage*, FORBES, Sept. 28, 2013, available at <http://www.forbes.com/sites/gregorymneal/2013/09/28/doj-report-reveals-details-of-domestic-drone-usage/print/>.**

In this *Forbes* article, Gregory McNeal reports that as of May 2013, four U.S. Department of Justice agencies were testing or using drones to support their operations. Specifically, the FBI has actually used drones to support its operations, ATF plans to deploy drones to support future operations, and the DEA and the U.S. Marshals Service have acquired drones but do not have plans to deploy them operationally. According to the DOJ Inspector General report, officials from the FBI and ATF have developed procedures regarding how they will operate drones but contended that they did not need to develop special drone privacy protocols, seeing no difference between drones and manned aircraft. The Inspector General, however, disagreed with this assessment and recommended that the Office of the Deputy Attorney General convene a working group to address this issue.

#### B. U.S.A. TODAY:

**Sandy Johnson, *Balancing Privacy, Jobs in the Domestic Drone Debate*, U.S.A. TODAY, Apr. 11, 2014, available at <http://www.usatoday.com/story/news/nation/2014/04/11/stateline-privacy-jobs-drones/7590409/>.**

In this article that appeared in multiple news sources, U.S.A. Today among them, Sandy Johnson reports on North Dakota's wholly unique approach to drones. North Dakota police do not need a warrant to use drones and the state has not enacted any drone laws. Instead, drone flights are overseen by Alan Frazier, an associate professor at University of North Dakota, who is in charge of the Law Enforcement Unmanned Aircraft Systems Research Project. Frazier reports to a university compliance panel that specified five situations in which drones may be used: to search for lost people; perform post-disaster assessments; photograph crime and accident scenes; search for crime suspects who pose a risk to public safety; and assist with traffic control at major events. Frazier's assessment is that no warrant is needed to fly drones: "It's not a drone concern – it's an information technology concern. The real concern is what's happening with that data."

#### C. NEW YORK TIMES:

**Matthew L. Wald, *F.A.A. Picks Diverse Sites to Carry Out Drone Tests*, N.Y. TIMES, Dec. 30, 2013, available at [http://www.nytimes.com/2013/12/31/us/politics/us-names-domestic-test-sites-for-drone-aircraft.html?\\_r=0&pagewanted=print](http://www.nytimes.com/2013/12/31/us/politics/us-names-domestic-test-sites-for-drone-aircraft.html?_r=0&pagewanted=print).**

In this New York Times article from December 2013, Matthew Wald reports on the FAA selection of various institutions to operate UAV/UAS test sites throughout the United States. Though the article does not disclose the location(s) of the test sites, the institutions selected to do the testing include Griffiss International Airport (a former Air Force base near Rome, NY), Virginia Tech (who has an agreement to work with Rutgers University in NJ), the University of Alaska, the State of Nevada, the North Dakota Department of Commerce, and Texas A&M University Corpus Christi. The testing will explore how to set safety standards, how to train and certify ground-based pilots, how to ensure that the aircraft will operate safely even if radio links are lost, and how to replace the traditional method for avoiding collisions. The FAA has put several privacy requirements in place for the test program, for example, site operators will be required to publish privacy policies covering how the data gathered will be used and how long it will be retained. Michael P. Huerta, the administrator of the FAA, envisions that integration of UAV/UAS into the national airspace will be a staged process.

**Anne Eisenberg, *Preflight Turbulence for Commercial Drones*, N.Y. TIMES, Sept. 7, 2013, available at <http://www.nytimes.com/2013/09/08/business/preflight-turbulence-for-commercial-drones.html?pagewanted=print>.**

In this *New York Times* article, Anne Eisenberg briefly addresses the perceived benefits or advantages and concerns surrounding commercial use of drones. Eisenberg notes that several states are legislatively limiting the use of drones and that local groups have arisen in opposition to the use of drones by the government. According to Jay Stanley, a senior policy analyst at the ACLU, it comes down to putting in place privacy protection “so that people can innovate around this technology without the cloud of Big Brother hanging over them.”

**Somini Sengupta, *U.S. Border Agency Allows Others to Use Its Drones*, N.Y. Times, July 3, 2013, available at <http://www.nytimes.com/2013/07/04/business/us-border-agency-is-a-frequent-lender-of-its-drones.html?pagewanted=all&pagewanted=print>.**

In this *New York Times* article from last summer, Somini Sengupta reports on the lending of Customs and Border Protection-owned Predator drones to other domestic agencies, including for example, the FBI, the North Dakota Army National Guard, the Texas Department of Public Safety, and the U.S. Forest Service. Some of the commonly voiced concerns mentioned in the article relate to privacy and data practices and policies, the potential that CBP plans to weaponize its drones, and “indiscriminate” surveillance. For the record, CBP has stated that “when conducting joint operations with state, local and other federal agencies, its own privacy policies govern the use of data collected by the drones and ‘the live feed from any aircraft is encrypted and only accessible to those with specific clearance.’”

#### D. THE ECONOMIST:

***Unmanned Aircraft: Game of Drones*, THE ECONOMIST, Dec. 21, 2013, available at <http://www.economist.com/node/21591862/print>.**

This article from the print edition of *The Economist* details, once again, the arguments we keep hearing from both drone proponents and detractors. Compare the following quote from Lucien Miller of Innov8tive Designs, a UAS firm in San Diego county: “The good stuff you can

do is endless,” with the paragraph addressing detractors’ concerns: “Polls find deep public concern over the privacy implications of drones. Some cities have banned them altogether, albeit probably temporarily. One Colorado town is considering allowing locals to shoot drones from the sky, and may offer rewards for recovering their parts.”

E. **NEWSMAX:**

**David Alan Coia, *US Domestic Drone Use Sidesteps Warrants for Thermal Imaging*, NEWSMAX, Aug. 11, 2013, available at <http://www.newsmax.com/PrintTemplate.aspx/?nodeid=519767>.**

In this article from Newsmax, David Alan Coia reports on the FBI’s use of surveillance drones equipped with thermal imaging devices as revealed in written communication between Stephen D. Kelley, assistant director of the FBI’s office of Congressional Affairs, and Senator Rand Paul (R-Ky.). The FBI disclosed that it has used drones in eight criminal cases and two national security cases, and that in none of these instances did it acquire a search warrant or judicial order. The FBI’s stated policy is that it “will not use UAVs to acquire information in which individuals have a reasonable expectation of privacy under the Fourth Amendment.” But when Sen. Paul asked for clarification about the interpretation being applied regarding “reasonable expectation of privacy,” he was referred to the FBI’s partially classified Domestic Intelligence and Operations Manual. Interestingly, the spokesman for the FAA, Les Dorr, stated that “The FAA’s sole mission is safety, so as far as what someone would put on an unmanned aircraft is relevant to us only to the extent that it would affect the airworthiness of the unmanned aircraft. We don’t regulate the actual use of them.”

F. **WASHINGTON LAWYER:**

**Sarah Kellogg, *Drones: Coming to the Skies Near You*, WASHINGTON LAWYER, July–Aug. 2013, at 22, available at <https://www.dcbar.org/bar-resources/publications/washington-lawyer/articles/july-august-2013-drones.cfm>. T**

his article from the July/August 2013 issue of the D.C. Bar’s journal, provides an in-depth look at drones, addressing the following topics: the military history of drones; the thorny legal issues raised by using weaponized drones in the war on terror; the numerous commercial and law enforcement benefits offered by drones; the challenges faced in integrating drones into our national airspace; the legislative efforts to limit the use of drones domestically; the privacy concerns related to using drones for surveillance and data-gathering; and the potential future issues that may arise as drones become autonomous.

IV. **CITATION TO BLOGS WITH UAS/UAV-RELATED POSTS THAT HAVE HIGH WEB TRAFFIC**

- [http://www.pbs.org/newshour/bb/science/jan-june13/drones\\_04-18.html](http://www.pbs.org/newshour/bb/science/jan-june13/drones_04-18.html)
- <http://www.npr.org/2012/04/17/150817060/drones-move-from-war-zones-to-the-home-front>

- <http://www.theatlantic.com/politics/archive/2013/05/obamas-domestic-drone-standard-is-now-tighter-than-rand-pauls/276188/>

## V. OVERVIEW OF PEER REVIEW PUBLICATIONS AND PEER PUBLISHED GUIDANCE

### A. *Special Operations Standard Operating Procedures*, ARLINGTON, TX POLICE DEPT., Mar. 3, 2013.

This SOP from the Arlington, Texas Police Department provides an incredibly comprehensive guide to operating a drone and the safety precautions to be considered before, during, and post flight. However, it provides scant guidelines for law enforcement about what use may be constitutional under the Fourth Amendment, especially in relation to advanced technologies which may be attached to the drone. Procedures are very safety conscious and comprehensive, and include the training of pilots and observers (an observer is required to maintain a line of sight of the drone and to assist the pilot in carrying out all safety requirements) and pre-flight briefings considering factors such as weather. A camera operator will also receive training on the camera and sensing equipment operations. Procedures include flight requirements used prior to a mission. This section also notes interesting considerations for pilots and their supervisors prior to flight. While they are listed for safety reasons, there is some Fourth Amendment overlap in these conditions. Safety procedures avoid “air-to-air” conflict including communication with air traffic control. The Procedures list prohibits acts including using a drone when a warrant is required, but these are not specific. While the Arlington, Texas procedures are one of the more comprehensive procedural guidelines on drones, they do not provide working legal guidelines for officers in the field.

### B. *Recommended Guidelines for the use of Unmanned Aircraft*, INT’L ASS’N OF CHIEFS OF POLICE, AVIATION COMMITTEE, Aug. 2012.

The IACP is helpful for its broad policy recommendations. For example, it discourages the use of weapons and other enhanced technology while utilizing drones and gives guidance on when a search warrant is required. However, it is not very specific. The IACP recommends that communities be actively involved when law enforcement considers utilizing drones. These guidelines also include system requirements, and discuss procedures for transparency and safety, as well as discouraging equipping drones with weapons and enhanced technologies. In regards to Operational Procedures, the recommended guidelines discuss the procedures used to acquire a drone and how the use of that drone should be kept transparent. The focus is on transparency through audits and using “Reverse 911” to alert those living and working in the vicinity of deployed home. The operational procedures also address when a warrant is required, although only in broad terms, and is more useful as a general principle than clear law enforcement guidelines.

### C. Jay Stanley and Catherine Crump, *Protecting Privacy from Aerial Surveillance: Recommendations for Government Use of Drone Aircraft*, AM. CIVIL LIBERTIES UNION, Dec. 2011.

This Report is helpful to understanding the major privacy concerns and also acknowledges the issue of enhanced technology capable of being used by drones. The ACLU Report begins by discussing what a drone is and different kinds of drones. The Report then identifies different types of advanced surveillance technology that drones can use such as high power lenses and video analytics. This may be useful in identifying the types and concerns of enhanced technologies drones are capable of utilizing. The Report lists several privacy concerns including some that may affect First Amendment Constitutional rights, which may be useful to assess ACLU privacy concerns. The report goes on to address Fourth Amendment and drone use. The ACLU argues that while there are no Fourth Amendment cases which take a position on the use of drones specifically, courts should scrutinize drones which carry enhanced technology. The Report addresses the following cases: *CA v. Ciraolo* (flying in public airspace), *Dow Chemical Co. v US* (use of advanced camera to take photos from the air), *FL v. Riley* (flying helicopter in public airspace), and *US v. Knotts* (ACLU discusses language regarding prolonged surveillance). The ACLU finally makes recommendations including usage restrictions, image retention restrictions, public notice, democratic control, and auditing.