

# ValpoScholar

## Valparaiso University Law Review

Volume 49  
Number 1 Fall 2014

pp.219-265

Fall 2014

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#### Recommended Citation

Shane Crotty, *The Aerial Dragnet: A Drone-ing Need for Fourth Amendment Change*, 49 Val. U. L. Rev. 219 (2015).

Available at: <https://scholar.valpo.edu/vulr/vol49/iss1/13>

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## Notes

### THE AERIAL DRAGNET: A DRONE-ING NEED FOR FOURTH AMENDMENT CHANGE

*"There was of course no way of knowing whether you were being watched at any given moment."<sup>1</sup>*

#### I. INTRODUCTION

After a stressful day of work, Tom walks out of the front door of his home, gets into his vehicle, and heads off to the casino.<sup>2</sup> The next day, Tom visits an Alcoholics Anonymous meeting after his appointment with a psychiatrist. On any given day or span of days, Tom could visit a liquor store, funeral home, sexually transmitted disease clinic, casino, psychiatrist, strip club, take his significant other to an abortion clinic, or travel to the home of his troubled brother. Tom's brother has a heavy drug problem and Tom contacts him on a daily basis to help provide moral support with the hope that his brother will become clean. Unknown to Tom or anyone in his family, his brother has recently become involved in the large-scale production of illegal drugs. A law enforcement agency has placed Tom under investigation based solely on the phone calls that occur between Tom and his brother.

The law enforcement agency, excited about its new unmanned aerial vehicle ("drone") program, begins to covertly follow Tom's every movement while he travels on public thoroughfares.<sup>3</sup> These drones are capable of following Tom's vehicle for lengthy periods of time and cataloging his movements.<sup>4</sup> Over an extended period of time, the drones have accumulated a vast amount of information about Tom's lifestyle by tracking his movements. The frightening part about Tom's situation is that a law enforcement agency does not need to obtain a warrant to monitor Tom's vehicle with drones.<sup>5</sup> In fact, constant monitoring of Tom is perfectly legal so long as the monitoring occurs on public thoroughfares.<sup>6</sup>

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<sup>1</sup> GEORGE ORWELL, 1984, 4 (1949).

<sup>2</sup> This scenario is fictional and solely the work of the author to illustrate the issues presented in this Note.

<sup>3</sup> See *infra* Part II.A (summarizing the abilities of the drone technology that is currently available on the market).

<sup>4</sup> See *infra* Part II.A (discussing the technological capabilities of drones).

<sup>5</sup> See *infra* Part II.C.1 (explaining the reasonable expectation of privacy doctrine).

<sup>6</sup> See *infra* Part II.C.2 (reviewing the lack of privacy protection afforded to vehicles traveling on public thoroughfares).

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Most people would agree that briefly monitoring an individual is not overly intrusive, such as a police officer following an individual's vehicle.<sup>7</sup> This type of monitoring is necessary for a law enforcement agency to perform its duties and has become an understood part of society.<sup>8</sup> However, most people would not believe or expect that a law enforcement agency would follow or track a person's every movement for extended periods of time.<sup>9</sup> Current drone technology allows for continuous monitoring over extended periods of time with little or no chance of discovery by the person being monitored.<sup>10</sup> An agency violates an individual's freedom from unreasonable searches when this warrantless monitoring occurs, and a line must be drawn as to when that violation occurs.<sup>11</sup>

The current Fourth Amendment jurisprudence that confronts unreasonable searches allows for the free, unlimited, and warrantless monitoring of people while they travel on public thoroughfares.<sup>12</sup> Although people have no expectation of privacy while traveling on public thoroughfares, new technology in the form of drones makes this monitoring easier and more cost-effective for law enforcement agencies than ever before.<sup>13</sup> A fleet of drones can monitor, record, and track large groups of citizens' movements on public thoroughfares and intrude into the lives of Americans in a way that has never been possible.<sup>14</sup> This type of intrusive monitoring threatens the constitutional guarantees of the Fourth Amendment.<sup>15</sup>

To resolve this potential threat, this Note embraces a judicially-enforced standard of reasonableness when it comes to warrantless long-term monitoring of individuals while on public thoroughfares.<sup>16</sup> This Note proposes that courts consider a number of different factors in

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<sup>7</sup> See *infra* note 161 and accompanying text (referencing some examples of what the public considers to be a normal monitoring).

<sup>8</sup> See *infra* note 85 and accompanying text (describing the following of vehicles on public roads as a traditional form of surveillance).

<sup>9</sup> See *infra* note 116 and accompanying text (detailing Justice Alito's concurring opinions in *United States v. Jones*).

<sup>10</sup> See *infra* Part II.A (discussing the capabilities of drone technology).

<sup>11</sup> See *infra* Part III.C (analyzing the purpose of the Fourth Amendment and arguing that long-term drone monitoring is a constitutional violation).

<sup>12</sup> See *infra* Part II.C.2 (providing the relevant jurisprudential evolution that has led to this principle).

<sup>13</sup> See *infra* Part III.B-C (analyzing the current reasonable expectation of privacy framework and the failing to provide a remedy in light of current drone capabilities).

<sup>14</sup> See *infra* Part II.A (presenting the current capabilities of drone technology).

<sup>15</sup> See *infra* Part III.C (arguing that drone technology needs to be reined in to provide individuals protection from law enforcement agencies).

<sup>16</sup> See *infra* Part IV (proposing a modern approach to the reasonable expectation of privacy doctrine).

determining first, what is reasonable in terms of length; and second, when an investigation must either end or a law enforcement agency must apply for a warrant.<sup>17</sup> This solution provides guidelines in an attempt to place limits on the currently unfettered discretion of law enforcement agencies regarding the use of drones monitoring public thoroughfares.<sup>18</sup>

Part II of this Note begins by presenting some of the capabilities of current drone technology and provides the relevant Fourth Amendment search jurisprudence.<sup>19</sup> Next, Part III of this Note analyzes why the current Fourth Amendment framework does not require law enforcement agencies to exercise restraint when using drones to monitor individuals traveling on public thoroughfares.<sup>20</sup> Finally, Part IV of this Note endorses a new judicial framework that will limit the amount of time a drone may monitor an individual without a warrant by evaluating the potential amount of information that can be gained from the investigation and the underlying reason the investigation was initiated.<sup>21</sup>

## II. BACKGROUND

The Fourth Amendment provides individuals with the right to be free from unreasonable searches by the government.<sup>22</sup> The Amendment codified the sacred common law right to be secure in one's own person, free from arbitrary and oppressive government intrusion.<sup>23</sup> The Fourth

<sup>17</sup> See *infra* note 190 and accompanying text (discussing the new framework that is proposed by this Note to combat the potential for long-term drone surveillance operations).

<sup>18</sup> See *infra* Part IV (presenting and evaluating the framework of the modern privacy expectation doctrine).

<sup>19</sup> See *infra* Part II (discussing the history of drones and their current capabilities and the two Fourth Amendment doctrines that have developed over the last century).

<sup>20</sup> See *infra* Part III (evaluating the failure of the trespass-based doctrine and the reasonable expectation of privacy doctrine in the context of drone surveillance of individuals traveling on public thoroughfares).

<sup>21</sup> See *infra* Part IV (proposing a new framework and evaluating its benefits in a world of increasing drone usage).

<sup>22</sup> U.S. CONST. amend. IV. The Fourth Amendment states:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

*Id.*

<sup>23</sup> See *District of Columbia v. Heller*, 554 U.S. 570, 592 (2008) (describing the First, Second, and Fourth Amendments as codified versions of a pre-existing common law right); *United States v. Ortiz*, 422 U.S. 891, 895 (1975) (discussing the Fourth Amendment's aim to protect liberty and privacy from arbitrary governmental intrusion); *United States v. Terry*, 392 U.S. 1, 9 (1968) ("No right is held more sacred, or is more carefully guarded, by the common law, than the right of every individual to the possession and control of his own person, free from all restraint or interference of others, unless by clear and unquestionable authority of law.")

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Amendment is interpreted in light of contemporary standards and norms.<sup>24</sup> A Fourth Amendment search occurs when an individual's property rights have been violated or when an individual's reasonable expectation of privacy has been violated.<sup>25</sup> A search that violates either of these principles will be upheld as legal if a warrant is sought prior thereto.<sup>26</sup> These safeguards are in place to prevent abuses by law

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(quoting *Union Pac. Ry. Co. v. Botsford*, 141 U.S. 250, 251 (1891)); *District of Columbia v. Little*, 178 F.2d 13, 17 (D.C. Cir. 1949) (describing the codification of the Fourth Amendment as an existing right "already belonging to the people"). The Fourth Amendment holds the home of individuals to be the area where the most amount of protection is afforded. *Johnson v. United States*, 333 U.S. 10, 13-14 (1948). The Court in *Johnson* stated:

Crime, even in the privacy of one's own quarters, is, of course, of grave concern to society, and the law allows such crime to be reached on proper showing. The right of officers to thrust themselves into a home is also a grave concern, not only to the individual but to a society which chooses to dwell in reasonable security and freedom from surveillance. When the right of privacy must reasonably yield to the right of search is, as a rule, to be decided by a judicial officer, not by a policeman or government enforcement agent.

*Id.* at 14.

<sup>24</sup> See *Payton v. New York*, 445 U.S. 573, 591 n.33 (1980) (describing the evolution of the Fourth Amendment based on changes in societal norms). The Supreme Court "has not simply frozen into constitutional law those law enforcement practices that existed at the time of the Fourth Amendment's passage." *Id.*

<sup>25</sup> See *United States v. Jones*, 132 S. Ct. 945, 952 (2012) (summarizing the existence of two different formulations that lead to a Fourth Amendment violation); *Katz v. United States*, 389 U.S. 347, 359 (1967) (determining a violation of the Fourth Amendment occurs when the reasonable expectation of an individual's privacy was intruded upon during a warrantless surveillance operation); *Olmstead v. United States*, 277 U.S. 438, 466 (1928) (holding the violation of an individual's property rights as the determinative factor in Fourth Amendment issues), *overruled by Katz*, 389 U.S. at 347, and *Berger v. New York*, 388 U.S. 41, 106 (1967); Brittany Boatman, Comment, *United States v. Jones: The Foolish Revival of the "Trespass Doctrine" in Addressing GPS Technology and the Fourth Amendment*, 47 VAL. U. L. REV. 677, 687-88 (2013) (suggesting that the Supreme Court, moving forward, will have difficulty in determining what standard to apply).

<sup>26</sup> U.S. CONST. amend. IV; see *Johnson*, 333 U.S. at 14 (describing judicial oversight and the warrant requirement as critical in protecting individuals from government intrusion). "The purpose of the Fourth Amendment is, wherever practical, to involve a judicial officer (not directly charged with the duty to investigate or prosecute) in the decision to search any constitutionally protected area." *United States v. Luna*, 525 F.2d 4, 8 (6th Cir. 1975). However, "[t]here are exceptional circumstances in which, on balancing the need for effective law enforcement against the right of privacy, it may be contended that a magistrate's warrant for search may be dispensed with." *Johnson*, 333 U.S. at 14-15. See *Coolidge v. New Hampshire*, 403 U.S. 443, 465 (1971) for some examples of these "exceptional circumstances" setting aside the warrant requirement, including the plain view exception; *Camara v. San Francisco*, 387 U.S. 523, 528-29 (1967) (presenting the consent exception); *Carroll v. United States*, 267 U.S. 132, 151 (1925) (creating the automobile exception); *Kansas Law Review Criminal Procedure Survey*, 60 U. KAN. L. REV. 1257, 1266-72 (2004) (outlining an extensive discussion of the exceptions to the warrant requirement at the Supreme Court, federal, and state level).

enforcement agencies.<sup>27</sup> First, Part II.A of this Note discusses the capabilities of drones.<sup>28</sup> Part II.B addresses the traditional Fourth Amendment test, the trespass-based doctrine.<sup>29</sup> Next, Part II.C describes the more modern reasonable expectation of privacy doctrine.<sup>30</sup> Finally, Part II.D highlights the most recent Fourth Amendment Supreme Court case, which revived the defunct trespass-based doctrine.<sup>31</sup> Drones have been around for almost a century now; however, only recently have they developed into sophisticated technological machines that act as an effective law enforcement tool.<sup>32</sup>

#### A. *Drone Capabilities*

A drone is an aircraft that does not have a pilot onboard and is capable of flying by remote control or autonomously.<sup>33</sup> Drones have an extensive

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<sup>27</sup> See *Arizona v. Gant*, 556 U.S. 332, 345 (2009) (describing the central concern of the Fourth Amendment is to protect individuals from having their homes and personal effects from being intruded upon by law enforcement agencies); *Berger*, 388 U.S. at 53 (discussing the purpose as safeguarding the privacy of individuals and keeping citizens free from arbitrary invasions by the government). Some of the original controversies that resulted in the enactment of the Fourth Amendment include English housebreaking laws—searches of homes done without the requisite probable cause or justification. See David E. Steinberg, *The Original Understanding of Unreasonable Searches and Seizures*, 56 FLA. L. REV. 1051, 1063–69 (2004) (summarizing these original controversies in light of the framers’ intent to prevent unreasonable searches).

<sup>28</sup> See *infra* Part II.A (presenting the current capabilities of drone technology and some potential advances on the horizon in the drone industry).

<sup>29</sup> See *infra* Part II.B (discussing early Fourth Amendment cases and the strict reliance which necessitated a physical trespass before finding a constitutional violation).

<sup>30</sup> See *infra* Part II.C (describing the transformation to the reasonable expectation of privacy doctrine and discussing a few specific contexts to which it has been applied).

<sup>31</sup> See *infra* Part II.D (detailing the re-emergence of the trespass-based approach in *United States v. Jones*, which some believed to have been extinct).

<sup>32</sup> See *infra* Part II.A (outlining the technological sophistication of drones and their application for domestic law enforcement operations).

<sup>33</sup> See DEP’T OF DEFENSE, *DICTIONARY OF MILITARY AND ASSOCIATED TERMS* 331 (2012) (providing the definition of an unmanned aerial vehicle and also cross referencing it as a drone or remotely piloted vehicle). Drones can be piloted in a number of different ways. See John Villasenor, *Observations from Above: Unmanned Aircraft Systems and Privacy*, 36 HARV. J.L. & PUB. POL’Y 457, 465–66 (2013) (referencing some drones which are piloted remotely by the pilot, who must remain in visual contact with the drone, while others relay images from onboard cameras to the pilot to allow them to operate at greater ranges). Autonomous and semiautonomous flight can also be obtained through the use of a global positioning system (“GPS”). *Id.* at 466. Drones are also capable of being piloted from applications that can be downloaded to an iPhone, iPad, or Android technology. See *Apps*, PARROT AR.DRONE2.0, <http://ardrone2.parrot.com/apps/> (last visited Jan. 15, 2014), archived at <http://perma.cc/8QLM-PL9L> (demonstrating the emergence of drone technology into the civilian market by simplifying the process to operate these drones). For purposes of this Note, the term “drone” will be used interchangeably to mean an unmanned aerial vehicle,

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history of military use and the United States operates them prominently in many different conflicts abroad, including the War on Terror.<sup>34</sup> Several domestic law enforcement agencies have recently acknowledged the implementation of drones into their investigative repertoire.<sup>35</sup> These acknowledgements have led to a number of different legislative efforts, at both the state and federal level, to curb law enforcement's use of drones.<sup>36</sup>

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unmanned aircraft system, remotely piloted vehicle, remotely operated aircraft, and other potential synonyms for an aircraft that operates without an onboard pilot.

<sup>34</sup> See BART ELIAS, CONG. RESEARCH SERV., R42718, PILOTLESS DRONES: BACKGROUND AND CONSIDERATIONS FOR CONGRESS REGARDING UNMANNED AIRCRAFT OPERATIONS IN THE NATIONAL AIRSPACE SYSTEM 1 (2012) (discussing the beginning of the use of drones for military use which dates back as early as World War I). The report goes on to discuss the growing popularity of drone usage in the 1980s and 1990s for missions in the Balkan Peninsula, Iraq, and Afghanistan. *Id.* United States drone usage has received heavy criticism and publicity from the international community regarding the targeted killings of terrorists in the War on Terror. See Richard Murphy & Afsheen John Radsan, *Due Process and Targeted Killing of Terrorists*, 31 CARDOZO L. REV. 405, 414-22 (2009) (analyzing the legality of these targeted killings under international humanitarian law and chastising the United States' use of drones in such actions).

<sup>35</sup> See Brian Bennett, *FBI Has Been Using Drones Since 2006, Watchdog Agency Says*, L.A. TIMES (Sept. 26, 2013), <http://www.latimes.com/nation/nationnow/la-na-nn-fbi-using-drones-2006-20130926,0,3270950.story#axzz2xlB06oDp>, archived at <http://perma.cc/7CP2-TD6B> (noting that the Federal Bureau of Investigation ("FBI") has been using drones domestically since 2006). Drone usage has been growing steadily with law enforcement agencies. See Jennifer Lynch, *FAA Releases New Drone List-Is Your Town on the Map?* (Feb. 27, 2013), <https://www.eff.org/deeplinks/2013/02/faa-releases-new-list-drone-authorizations-your-local-law-enforcement-agency-map>, archived at <http://perma.cc/BN9F-XKJB> (providing a detailed map of what governmental agencies have applied for drone usage permits and where they have been granted). The growth in domestic drone usage was spurred in part by the passage of the Federal Aviation Administration ("FAA") Modernization and Reform Act. See ELIAS, *supra* note 34, at 5 (outlining the goals of the FAA's Modernization and Reform Act and the potential difficulty that will arise during the task). This Act strives to have unmanned aircrafts effectively integrated into our air airspace by 2015. *Id.* The phrase "law enforcement agency" and "law enforcement agent" will be used in this Note to simplify this matter and not get bogged down in the details of what agency was involved. Several different government agencies and departments will be replaced by the phrase "law enforcement agency" in this Note, including the Federal Bureau of Investigation, Department of Homeland Security, Department of Defense, and most notably state and local law enforcement agencies across the country.

<sup>36</sup> See Preserving American Privacy Act, H.R. 637, 113th Cong. (2013) (proposing a probable cause requirement before the use of drones in law enforcement investigations); Preserving Freedom from Unwarranted Surveillance Act, S. 3287, 112th Cong. (2012) (detailing a similar standard on the drone usage and having a requirement that a warrant be sought before drone usage); RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42701, DRONES IN DOMESTIC SURVEILLANCE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES 18-20 (2013) (summarizing the current congressional efforts to pass drone privacy legislation). For some examples of successfully passed state legislation, see IDAHO CODE ANN. § 21-213 (LexisNexis Supp. 2013) (prohibiting the use of drones for surveillance and evidence gathering absent a warrant). The Commonwealth of Virginia passed a moratorium on the usage of unmanned aircrafts until July of 2015. 2013 Va. Acts

The traditional function of drone technology has been to perform reconnaissance and surveillance operations for the military.<sup>37</sup> Advanced technology allows drones to perform a variety of tasks beyond traditional intelligence gathering operations.<sup>38</sup> These advances have made drones appealing to members of the private sector as well as government organizations.<sup>39</sup> However, domestic law enforcement agencies are turning to drone technology to more effectively perform their investigative duties, primarily using them to perform surveillance operations.<sup>40</sup>

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755. For a scholarly view of the legislation that has been proposed, see Chris Schlag, *The New Privacy Battle: How the Expanding Use of Drones Continues to Erode Our Concept of Privacy and Privacy Rights*, 13 U. PITT. J. TECH. L. & POL'Y 1, 17-20 (2013) (discussing both the attempts at the federal level more generally and also mentioning some of the successes that states have had). The author believes the legislation that has been passed or is trying to be passed does not fully address the privacy concerns that are at hand. *Id.* at 20. The author ultimately believes that the protection afforded to consumers would best be served by having Congress enact legislation that pertains to both private citizens and governmental entities that operate drones. *Id.* at 21-22. A website for criminal defense lawyers keeps an up to date detailed map of what legislative actions each state has made regarding drone usage. See *DDIC Bill Map*, NATIONAL ASSOCIATION FOR CRIMINAL DEFENSE LAWYERS, <http://www.nacdl.org/domesticdrones/billmap> (last visited Mar. 28, 2015), archived at <http://perma.cc/ED36-QZ8Z> (presenting an interactive map of drone legislation in the United States); Jonathan Hafetz, *Redefining State Power and Individual Rights in the War on Terrorism*, 46 VAL. U. L. REV. 843, 856 (2012) (insinuating the United States's adoption of the use of drones in deadly attacks is a controversial practice).

<sup>37</sup> See THOMPSON II, *supra* note 36, at 3-4 (outlining some of the surveillance technology that can be equipped on drones to increase their capabilities); JEREMIAH GERTLER, CONG. RESEARCH SERV., R42136, U.S. UNMANNED AERIAL SYSTEMS 4 (2012) (describing the traditional functions of drones as being for "[i]ntelligence, [s]urveillance, and [r]econnaissance"). Although the traditional function has been surveillance and reconnaissance operations, the lethal arming of drones in the War on Terror is what has led to their prominence in the public arena today. THOMPSON II, *supra* note 36, at 2.

<sup>38</sup> See generally MICRODRONES.COM, <http://www.microdrones.com/en/home> (last visited Jan. 6, 2015), archived at <http://perma.cc/QT4N-Z5WG> (summarizing an extensive list of operations that can be performed by the md4-200 and md4-1000 drone). The list has a large number of both traditional and non-traditional surveillance operations, including traffic accident monitoring, wildlife tracking, real estate photography, environmental monitoring, fire scene inspection, and wind turbine inspection, among many others. *Id.*

<sup>39</sup> See Schlag, *supra* note 36, at 11 (discussing efforts made by commercial entities to perform tasks more effectively). Google has begun using drones to obtain and build map data while also developing street-based views. *Id.* Some media agencies have also begun the implication of drones to collect private information. *Id.* Amazon.com, the online retailer, has announced that it is currently planning to introduce a delivery program that will allow lightweight packages to be delivered to the customer's door via a drone. *Amazon Prime Air*, AMAZON, <http://www.amazon.com/b?node=8037720011> (last visited Mar. 3, 2014), archived at <http://perma.cc/4KKT-U5NX>. Amazon optimistically believes that it could be ready to use this system as early as 2015. *Id.*

<sup>40</sup> See THOMPSON II, *supra* note 36, at 3 (describing a number of different governmental entities that are using drones to perform a wide variety of surveillance operations). The Department of Homeland Security uses drones to monitor the borders for unlawful entry.



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The current drones being produced have a great amount of variation among their specifications and capabilities.<sup>41</sup> Size is one of the most drastic variations that exist among drones.<sup>42</sup> Some drones are full-sized aircrafts while others more closely resemble sophisticated model planes.<sup>43</sup>

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*Id.* The report identifies that over 300 local law enforcement agencies have applied to use domestic drones in their operations. *Id.* at 3 n.18. The report identifies the first arrest that was made by a local law enforcement agency with the assistance of a drone, which took place in North Dakota in June of 2011. *Id.* at 3; see Mark Brunswick, *Spies in the Sky Signal New Age of Surveillance*, STARTRIBUNE (July 22, 2012, 6:26 AM), available at <http://www.startribune.com/local/163304886.html?refer=y>, archived at <http://perma.cc/8L5C-A4BL> (providing the facts of the arrest in North Dakota and the concerns that this type of law enforcement activity raises). Drones are more cost effective than manned aircrafts, which is just one reason why law enforcement agencies are turning to drone technology. U.S. DEP'T OF JUST., OFFICE OF THE INSPECTOR GENERAL AUDIT DIV., AUDIT REPORT 13-37, INTERIM REPORT ON THE DEPARTMENT OF JUSTICE'S USE AND SUPPORT OF UNMANNED AIRCRAFT SYSTEMS 7 (Sept. 2013) [hereinafter DOJ DRONE AUDIT], available at <http://www.justice.gov/oig/reports/2013/a1337.pdf>, archived at <http://perma.cc/N59G-BVQK>. But see Joseph J. Vacek, *Big Brother Will Soon Be Watching – Or Will He? Constitutional, Regulatory, and Operational Issues Surrounding the Use of Unmanned Aerial Vehicles in Law Enforcement*, 85 N.D. L. REV. 673, 684 (2009) (explaining the barriers that law enforcement agencies have in implementing drones into their investigations). Under the current FAA regulations, a law enforcement agency must apply for a certificate of authorization before operating a drone. *Id.* at 686. However, the FAA is currently determining what to do with drone regulations and so this major barrier may hinge on the new policies drafted. *Id.* at 689.

<sup>41</sup> See Paul McBride, *Beyond Orwell: The Application of Unmanned Aircraft Systems in Domestic Surveillance Operations*, 74 J. AIR L. & COM. 627, 629 (2009) (comparing the capabilities of Northrop Grumman's RQ-4 Global Hawk with AeroVironment's RQ-11B Raven); see also JAY STANLEY & CATHERINE CRUMP, PROTECTING PRIVACY FROM AERIAL SURVEILLANCE: RECOMMENDATIONS FOR GOVERNMENT USE OF DRONE AIRCRAFT, ACLU 2-3 (2011), <http://www.aclu.org/files/assets/protectingprivacyfromaerialsurveillance.pdf>, archived at <http://perma.cc/Z5NF-GZS9> (describing the variation among large fixed wing drone aircrafts and the smaller more mobile versions that are in production).

<sup>42</sup> See GERTLER, *supra* note 37, at 31-32 (displaying graphic representations of some of the drones' sizes that the military is currently operating today). The smallest drone represented in this report, the Shadow, has a length of eleven feet and a wingspan of fourteen feet. *Id.* By comparison the two largest drones, the Global Hawk and the BAMS, operate at a length of forty-eight feet and have a wingspan of 131 feet. *Id.* There are also much smaller drones in operations. See Timothy T. Takahashi, *Drones and Privacy*, 14 COLUM. SCI. & TECH. L. REV. 72, 85 (2013) (describing advances in technology and the miniaturization of electronics that have led to these new drones); *infra* notes 43-46 and accompanying text (presenting details regarding the variation that exists among some of the drones currently in production).

<sup>43</sup> See U.S. Air Force, Factsheet: MQ-1B Predator, <http://www.af.mil/AboutUS/FactSheets/Display/tabid/224/article/104469/mq-1b-predator.aspx> (last visited Jan. 15, 2014), archived at <http://perma.cc/VPR9-RCAD> (providing the specifications of the MQ-1B Predator which has a wingspan of fifty-five feet and a length of twenty-seven feet). The Predator is truly an amazing machine that is capable of operating in the air for a period of twenty-four hours while being operated remotely by a two-man crew. *Id.* In August of 2011, the Predator surpassed one million hours in use by the United States Air Force. *Id.* There are several much smaller drones currently on the market, including the md4-200, Parrot AR.Drone2.0, and Wasp III. See Technical Data, *MD4-200 Specifications*, MICRODRONES, <http://www.microdrones.com/en/products/md4-200/technical-data/> (last visited Oct.

The larger drones take off from a traditional runway, but many of the smaller drones are capable of being launched by a catapult or even from the hands of an operator.<sup>44</sup> Drones are also capable of staying airborne for long periods of time, several in excess of twenty-four hours.<sup>45</sup> Drones can operate at all altitude ranges.<sup>46</sup>

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14, 2014), *archived at* <http://perma.cc/R4PY-JGPJ> (presenting the specifications for the md4-200 which is less than two feet across and one foot tall); *Technical Specifications State of the Art Technology*, PARROT AR.DRONE2.0, <http://ardrone2.parrot.com/ardrone-2/specifications/> (last visited Jan. 15, 2014), *archived at* <http://perma.cc/X8YR-Z3UQ> (outlining the specifications of the AR.Drone2.0, which also is less than two feet in length and width); *Wasp III Technical Specifications*, AEROVIRONMENT, [http://www.avinc.com/downloads/Wasp\\_III.pdf](http://www.avinc.com/downloads/Wasp_III.pdf) (last visited Jan. 15, 2014), *archived at* <http://perma.cc/6V66-Y6UE> (providing the technical specifications of the Wasp III which has a wingspan just over two feet and a length just over one foot). While these drones are some of the smallest available on the market, companies are experimenting with even smaller drone technology. See STANLEY & CRUMP, *supra* note 41, at 3 (discussing the experimental Nano Hummingbird, which has a wingspan of six and a half inches and weighs less than a single AA battery).

<sup>44</sup> See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-511, UNMANNED AIRCRAFT SYSTEMS: FEDERAL ACTIONS NEEDED TO ENSURE SAFETY AND EXPAND THEIR POTENTIAL USES WITHIN THE NATIONAL AIRSPACE SYSTEM 7-8 (2008) [hereinafter GAO SAFETY] (contrasting several different drone launching mechanisms). The Predator B, RQ-4A, and Fire Scout all take off in a traditional fashion from a runway or helipad. *Id.* at 8. The Aerosonde and the ScanEagle are launched using a catapult system. *Id.* Additionally, the Aerosonde is capable of being launched from the roof of a fast moving vehicle. *Id.* The SkySeer weighs in at only four pounds and is capable of being launched by the operator from the ground. *Id.* All of these drones are classified as having both military and civil application, the only exception being the Fire Scout, which is limited to military application at this time. *Id.*; see David J. R. Frakt, *Direct Participation in Hostilities As A War Crime: America's Failed Efforts to Change the Law of War*, 46 VAL. U. L. REV. 729, 751 (2012) (suggesting that the operators of drones could be considered war criminals for the actions of the drones).

<sup>45</sup> See GERTLER, *supra* note 37, at 31 (discussing the capabilities of seven different drones currently in use by the Department of Defense). Some of the drones with shorter endurance spans, the Shadow and Fire Scout, are capable of flying for around six hours. *Id.* However, the Predator, Grey Eagle, Reaper, and Global Hawk offer flight times in excess of twenty-four hours. *Id.* One proposed plan by Boeing Company aims to achieve four days of endurance. *Phantom Eye: Overview*, BOEING, [http://www.boeing.com/boeing/bds/phantom\\_works/phantom\\_eye.page](http://www.boeing.com/boeing/bds/phantom_works/phantom_eye.page) (last visited Jan. 15, 2014), *archived at* <http://perma.cc/85GD-RU7T>. Many of the smaller drones have substantially shorter endurance in the air. See, e.g., AEROVIRONMENT, *supra* note 43 (discussing the Wasp III's ability to remain airborne for approximately forty-five minutes); MICRODRONES, *supra* note 43 (presenting the flight time of the md4-200, which only operates for thirty-five minutes).

<sup>46</sup> See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-981, UNMANNED AIRCRAFT SYSTEMS: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM 4-6 (2012) [hereinafter GAO PRIVACY CONCERNS] (discussing the different ranges of altitudes as categorized by the FAA and applying some of the current drone technology to these classifications). Many small drones operate at several hundred feet above ground level, which this report classifies as effective for crime scene surveillance, wildfire tracking, and search and rescue operations. *Id.* at 6. The Department of Homeland Security and the Department of Defense operate drones at a higher altitude for military training and border surveillance. *Id.* NASA flies the highest altitude drone operations occurring above 60,000 feet. *Id.*; see also McBride, *supra* note 41, at

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Drones are also equipped with a number of different technologies to further their abilities.<sup>47</sup> Some of these technologies include motion sensing technology, advanced cameras, thermal cameras, x-ray technology, and night-vision.<sup>48</sup> Distributed video technology—the use of several drones equipped with cameras operating in a coordinated effort—potentially allows for a dragnet of surveillance covering an area as large as an entire city.<sup>49</sup> The capabilities of drones and the technology they are equipped with make them effective law enforcement tools.<sup>50</sup> The increased interest

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629 (contrasting the altitudes of the RQ-4 Global Hawk and the RQ-11B Raven, which respectively operate below 65,000 feet and 500 feet); AEROVIRONMENT, *supra* note 43 (presenting the operational altitude of the Wasp III, which flies between fifty feet and 1000 feet).

<sup>47</sup> See THOMPSON II, *supra* note 36, at 3–4 (presenting some of the technology that can be equipped on drones). Some of the technology includes features like advanced cameras, license plate readers, and laser radar. *Id.* at 3. The report also goes on to mention the possibility that other advanced technologies may be equipped on drones such as facial recognition software or soft biometric recognition technology. *Id.* at 4.

<sup>48</sup> See Schlag, *supra* note 36, at 7–8 (discussing motion sensing technology, advanced cameras, infrared sensors, and other technology); Phillip J. Hiltner, Comment, *The Drones are Coming: Use of Unmanned Aerial Vehicles for Police Surveillance and Its Fourth Amendment Implications*, 3 WAKE FORREST L. REV. 397, 399–400 (2013) (arguing drones' potential ability to create an Orwellian society because of the technology they are equipped with, including possibilities such as "[h]igh powered zoom lenses; facial recognition, infrared, and night vision cameras; WiFi sniffers; see-through imaging; and automatic license plate readers"). One particular camera that is already equipped on some drones is capable of monitoring a target sixty-five square miles away from 20,000 feet in the air. See *US Army Unveils 1.8 Gigapixel Camera Helicopter Drone*, BBC NEWS (Dec. 29, 2011, 6:11 PM), <http://www.bbc.com/news/technology-16358851>, archived at <http://perma.cc/ZQ5V-8MD6>. This camera is capable of simultaneously tracking sixty-five different independently moving targets. *Id.*

<sup>49</sup> See STANLEY & CRUMP, *supra* note 41, at 6 (discussing a new program, Gorgon Stare, being developed by the Air Force and considered for domestic applications). The Gorgon Stare program allows a fleet of drones over a city to monitor and track the movements of large groups of individuals simultaneously. *Id.* This technology is also referred to as swarm technology because it is inspired by the concerted efforts of insects. See Darren Quick, *Boeing Demonstrates Swarm Technology*, GIZMAG.COM (Aug. 21, 2011), <http://www.gizmag.com/uav-swarm-technology/19581/>, archived at <http://perma.cc/KFM8-N8AY> (referring to a successful test of this technology as a "milestone in UAV flight").

<sup>50</sup> See DOJ DRONE AUDIT, *supra* note 40, at 3 (discussing the preferential treatment drones are getting based on their low operation costs compared to traditional aerial surveillance operations). This report identifies the cost differential of drones, at \$25 per hour, to manned aircraft surveillance, at \$650 per hour. *Id.* The report continues, "[c]onsidering the low operational cost of [drones] compared to manned aircraft, privacy advocates have expressed concern that non-emergency [drone] use could quickly transform into routine or broader evidence-gathering activities." *Id.* at 7. This report identifies the FBI, Bureau of Alcohol, Tobacco, Firearms and Explosives, Drug Enforcement Agency, and the United States Marshals Service as having drones. *Id.* at 5–6. A recent freedom of information request, filed by the Citizens for Ethics and Responsibility in Washington, revealed the FBI's PowerPoint presentation covering the internal guidelines for warrantless drone surveillance operations. Shawn Musgrave, *Revealed: The FBI's Internal Guidelines for Warrantless Drone Surveillance*,

in drones will continue to stimulate drone manufacturers to streamline their capabilities.<sup>51</sup> Drone technology presents an entirely new investigative technique for domestic law enforcement agencies across the country, and the Fourth Amendment implications are endless.<sup>52</sup>

### B. *The Trespass-based Approach*

Early Fourth Amendment decisions determined whether a violation occurred by using a trespass-based approach.<sup>53</sup> In *Olmstead v. United*

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MOTHERBOARD, <http://motherboard.vice.com/blog/revealed-the-fbis-internal-guidelines-for-warrantless-drone-surveillance> (last visited Jan. 15, 2014), *archived at* <http://perma.cc/M3YT-HJJA>. This internal presentation provides the precedential reasons as to why law enforcement agencies should be able to continue using drones in their investigations. *Id.*

<sup>51</sup> See GLENNON J. HARRISON, CONG. RESEARCH SERV., R42938, UNMANNED AIRCRAFT SYSTEMS (UAS): MANUFACTURING TRENDS 1-2 (2013) (exemplifying the growing drone production that is forecasted in the coming years which is currently largely stimulated by the Department of Defense); GAO SAFETY, *supra* note 44, at 3 (discussing the forecasted increase in drone production and usage over the next decade). Several drone manufacturers, including Boeing, Lockheed Martin, and Northrup Grumman, are already in the process of streamlining their drones. See GERTLER, *supra* note 37, at 47-48 (detailing the efforts of these companies to create effective new drones). Some of the goals are to create easily portable drones and longer endurance systems. *Id.* at 46, 49.

<sup>52</sup> See THOMPSON II, *supra* note 36, at 1-2 (discussing the Fourth Amendment implications of advancing technology). “Courts have long grappled with how to apply the text [of the Fourth Amendment] to 20th century technologies.” *Id.* at 2. The report argues that the constitutional implications of drone surveillance will ultimately be determined by whether the surveillance takes place “at home, in [the] backyard, in the public square, or near a national border.” *Id.* at 12. The American Civil Liberties Union (“ACLU”) has argued that governmental drone surveillance needs to be regulated based on the amount of information that can be gained from long-term monitoring. STANLEY & CRUMP, *supra* note 41, at 1; CHRISTOPHER CALABRESE, LEGISLATIVE COUNSEL, ACLU, ORAL STATEMENT AT THE FIELD FORUM ON DRONE TECHNOLOGY AND THE FOURTH AMENDMENT (Oct. 25, 2012). The ACLU urges strict regulation by placing a probable cause requirement on drone usage by law enforcement. STANLEY & CRUMP, *supra* note 41, at 15. Further regulation is also suggested in the form of public notice of drone usage and auditing of the drones’ effectiveness. *Id.* at 16. In 2012, the University of Monmouth performed a survey of the public inquiring their potential concerns about domestic drone usage by law enforcement agencies. See *U.S. Supports Some Domestic Drone Use: But Public Registers Concern About Own Privacy*, MONMOUTH UNIV. POLLING INST. 1, 4 (June 12, 2012) [hereinafter MONMOUTH POLLING INSTITUTE], *available at* <http://www.monmouth.edu>, *archived at* <http://perma.cc/XY3P-TSEX> (explaining the survey that was performed and the results that were returned from the more than 1700 people polled). This survey inquired about the amount of knowledge the public generally had regarding drones. *Id.* The survey further inquired whether the individuals supported or opposed the use of drones for several different types of domestic law enforcement operations. *Id.* at 1-2. The survey elicited whether domestic drones should be used to: issue speeding tickets, control illegal immigration, perform search and rescue operations, and track down runaway criminals. *Id.* at 2-3.

<sup>53</sup> See *Goldman v. United States*, 316 U.S. 129, 135 (1942), *overruled by* *Katz v. United States*, 389 U.S. 347 (1967) (holding that the use of the detectaphone was not a Fourth Amendment

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*States*, a law enforcement agency used a wire-tapping device to listen in on conversations discussing illegal bootlegging of liquor during the prohibition-era.<sup>54</sup> The wire-tapping device was inserted on the telephone wires outside of several conspirators' residences and a central office.<sup>55</sup> The Court held the Fourth Amendment was not violated because no physical intrusion of the home or curtilage occurred during the wire-tapping.<sup>56</sup> In

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violation); *Olmstead v. United States*, 277 U.S. 438, 456-57 (1928), *overruled by Katz*, 389 U.S. at 353 and *Berger v. New York*, 388 U.S. 41, 106 (1967) (holding that the use of wire-tapping was not a Fourth Amendment violation because no physical intrusion of the home or curtilage occurred). The trespass-based approach is based on a literal interpretation of the Fourth Amendment. See Thomas K. Clancy, *What Does the Fourth Amendment Protect: Property, Privacy, or Security?*, 33 WAKE FOREST L. REV. 307, 316 (1998) (arguing the Fourth Amendment interpretation under the trespass-based doctrine only applied to physical intrusions of constitutionally protected areas). This article goes on to discuss the evisceration of the trespass doctrine by *Katz* and the cases following it. *Id.* at 328-30. But see Orin S. Kerr, *The Curious History of Fourth Amendment Searches*, 2012 SUP. CT. REV. 67, 68 (arguing the characterization of the trespass-based approach is a mistake). Orin S. Kerr, a leading Fourth Amendment scholar, argues that the cases actually focused on physical penetration into a protected area, but that the Court did not emphasize the trespass. *Id.* at 68-69.

<sup>54</sup> 277 U.S. at 456-57. The conspiracy to import and sell liquor manufactured in Canada was of some magnitude and involved the employment of more than fifty people, two sea-going vessels, and several properties with large storage caches. *Id.* at 455-56. The aggregate sales amounted to more than two million dollars per year. *Id.* at 456. The law enforcement agency's only evidence of guilt was acquired by these surreptitiously overheard conversations. *Id.* at 482 (Brandeis, J., dissenting).

<sup>55</sup> *Id.* at 457. Discussing the application of the wire-tapping to the telephone wires, the Court stated, "[t]he language of the [A]mendment cannot be extended and expanded to include telephone wires, reaching to the whole world from the defendant's house or office. The intervening wires are not part of his house or office, any more than are the highways along which they are stretched." *Id.* at 465. The law enforcement agency used these listening devices to overhear conversations, both incoming and outgoing, relating to this criminal enterprise for several months. *Olmstead*, 277 U.S. at 457. The wire-tapping of the main headquarters took place in the basement of the business complex and not outside on the streets, as occurred at the residences. *Id.* However, the Court refused to differentiate on these grounds because the headquarters was a communal property and the conspirators did not have any property interest in the basement. *Id.*

<sup>56</sup> *Id.* at 466. The Court in *Olmstead* relied heavily on *Weeks v. United States* in coming to the conclusion that a search did not occur here. *Id.* at 460. The Court described *Weeks* as "perhaps the most important" in a line of precedential cases that it considered. *Id.* *Weeks* involved an arrest of an individual who was involved in a lottery scam. *Weeks v. United States*, 232 U.S. 383, 386 (1914). The arrest was made after law enforcement agents went to *Weeks*'s home while he was at work and without a warrant entered, searched, and took possession of documents. *Id.* The Court ultimately held that the taking of these documents by a law enforcement agent without a warrant was a violation of *Weeks*'s constitutional rights. *Id.* at 398. The outcome of *Weeks* was restated as, "the sweeping declaration that the Fourth Amendment, although not referring to or limiting the use of evidence in court, really forbade its introduction if obtained by the government officers through a violation of the Amendment." *Olmstead*, 277 U.S. at 462. The Court in *Olmstead* also discussed several other early Fourth Amendment cases to reach their conclusion. *Id.* at 458-465; see, e.g., *Agnello v. United States*, 269 U.S. 20, 30-31 (1925) (rejecting the argument made by the government that

dissent, Justice Brandeis argued the physical location of the wiretapping device was irrelevant because the individual's privacy was invaded; thus, a Fourth Amendment violation occurred.<sup>57</sup>

The trespass-based approach was reaffirmed almost fifteen years later in *Goldman v. United States*.<sup>58</sup> *Goldman* involved law enforcement's use of a detectaphone, a device that amplified noises on the other side of a partitioned wall by grounding the apparatus to the wall.<sup>59</sup> Law enforcement agents gained access to an adjoining office of the conspirators and used this device to listen in on a meeting that discussed an illegal bankruptcy scheme.<sup>60</sup> The Court held no violation of the Fourth

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a warrantless search was after arrest and permissible when Agnello's residence was several blocks away from where the arrest took place); *Amos v. United States*, 255 U.S. 313, 315–16 (1921) (finding the warrantless search of an individual's home and storage area within his curtilage, which turned up illegal liquor, as impermissible and in violation of the Fourth Amendment); *Boyd v. United States*, 116 U.S. 616, 638 (1886) (striking down a statute that required the production of documents because the statute's language amounted to a Fourth Amendment search and seizure).

<sup>57</sup> *Olmstead*, 277 U.S. at 475–76 (Brandeis, J., dissenting) (arguing that the wire-tapping done here violated the privacy of the individuals' whose conversations were overheard and similarly violated the Fourth Amendment). The dissenting opinion of Justice Brandeis noted that the location of the physical contact is immaterial to the Fourth Amendment discussion. *Id.* at 479. Justice Brandeis believed that the majority placed far too much emphasis on the literal constriction of the Fourth Amendment and not enough on the rights of the individuals' whose privacy was intruded upon. *Id.* at 476. Justice Brandeis's crusade for the protection of individual's privacy continued:

The makers of our Constitution undertook to secure conditions favorable to the pursuit of happiness. They recognized the significance of man's spiritual nature, of his feelings and of his intellect. They knew that only a part of the pain, pleasure and satisfactions of life are to be found in material things. They sought to protect Americans in their beliefs, their thoughts, their emotions and their sensations. They conferred, as against the government, the right to be let alone – the most comprehensive of rights and the right most valued by civilized men. To protect, that right, every unjustifiable intrusion by the government upon the privacy of the individual, whatever the means employed, must be deemed a violation of the Fourth Amendment.

*Id.* at 478. Scholar Thomas Clancy has argued that the type of intrusion that occurs here is merely a modern version of what the framers of the Constitution intended to protect against in the enactment of the Fourth Amendment. See Thomas K. Clancy, *What is a "Search" Within the Meaning of the Fourth Amendment?*, 70 ALB. L. REV. 1, 50–51 (2006) (detailing Justice Brandeis's dissenting argument).

<sup>58</sup> 316 U.S. at 135.

<sup>59</sup> *Id.* at 131–32. The detectaphone is described by the Court as "having a receiver so delicate as, when placed against the partition wall, to pick up sound waves originating in [the adjoining room]." *Id.* at 131.

<sup>60</sup> *Id.* at 131–32. Law enforcement agents trespassed into the conspirator's office the night before this meeting took place and installed a listening device; however, this device failed the following day and only then was the detectaphone used. *Id.* at 131. Petitioners asserted the use of the detectaphone was a continuance of the trespass and, as such, should still be

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Amendment occurred by using the detectaphone, which did not cause a trespass or unlawful entry to occur, when the device heard the conversations going on through the wall.<sup>61</sup> The dissenting opinion urged the Court to apply a less stringent Fourth Amendment test because the use of the detectaphone violated the individuals' privacy.<sup>62</sup> The dissenting opinions in *Olmstead* and *Goldman* forecasted the inevitable departure from the rigid trespass-based approach.<sup>63</sup>

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considered an unreasonable search. *Id.* at 134–35. The Court agreed with both lower courts that determined the original trespass did not materially aid the use of the detectaphone and, as such, treated the events as though they were completely unrelated. *Goldman*, 316 U.S. at 135.

<sup>61</sup> *Id.* The Court made apparent that no meaningful distinction could be drawn between using a phone in one's office and having a conversation with individuals and, as such, refused to differentiate this case from *Olmstead*. *Id.* at 135. The law enforcement agency's next logical argument, that *Olmstead* needs to be overruled, was similarly refused by the Court, which further supported the endorsement of the trespass-based approach. *Id.* However, two justices would have embraced this opportunity to overturn *Olmstead*, which was used as the underlying justification for this case. *Id.* at 136 (Stone, C.J., concurring).

<sup>62</sup> *See id.* at 136–37 (Murphy, J., dissenting) (referring to Justice Brandeis's dissenting opinion as memorable). Justice Murphy's dissenting opinion, which echoes Justice Brandeis's dissent in *Olmstead*, argued that the circumstances surrounding this search constituted an invasion of personal privacy guaranteed by the Fourth Amendment. *Goldman*, 316 U.S. at 136–37. Justice Murphy concedes that no coverage would be afforded to these individuals under a literal construction of the Fourth Amendment because no physical search occurred, no entry occurred, and no files were ransacked. *Id.* at 138. Murphy's dissent urges a departure from the literal construction of the Fourth Amendment by stating:

The conditions of modern life have greatly expanded the range and character of those activities which require protection from intrusive action by Government officials if men and women are to enjoy the full benefit of that privacy which the Fourth Amendment was intended to provide. It is our duty to see that this historic provision receives a construction sufficiently liberal and elastic to make it serve the needs and manners of each succeeding generation.

*Id.* at 138. Justice Murphy continued his argument by determining that the framers of the Constitution would detest these new technologies that allow for invasion of privacy without physical intrusion. *Id.* at 139. "Surely the spirit motivating the framers of that Amendment would abhor these new devices no less. Physical entry may be wholly immaterial." *Id.*

<sup>63</sup> *See supra* notes 57, 62 and accompanying text (providing the dissenting opinions of Justice Brandeis in *Olmstead* and Justice Murphy in *Goldman*). This departure was also forecasted in the *Silverman v. United States* decision. 365 U.S. 505, 506 (1961). *Silverman* involved the use of a "spike mike" by law enforcement agents, which was inserted through an adjoining wall and contacted a heating duct of Silverman's residence. *Id.* The Court determined the touching that occurred here violated the protections afforded by the Fourth Amendment. *Id.* at 512. However, Justice Douglas's interpretation of this case in light of the precedent is as follows:

My trouble with *stare decisis* in this field is that it leads us to a matching of cases on irrelevant facts. An electronic device on the outside wall of a house is a permissible invasion of privacy according to *Goldman v. United States*, while an electronic device that penetrates the wall, as here, is not. Yet the invasion of privacy is as great in one case as in the

C. *The Reasonable Expectation of Privacy Doctrine*

Advances in technology made it possible for law enforcement agencies to monitor people's actions, without trespassing, in places where one would normally expect privacy.<sup>64</sup> The trespass-based framework failed to provide protection against these new technologies.<sup>65</sup> First, Part II.C.1 discusses the landmark decision *Katz v. United States*, which created the reasonable expectation of privacy doctrine.<sup>66</sup> Next, Part II.C.2 addresses the application of the reasonable expectation of privacy

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other. The concept of 'an unauthorized physical penetration into the premises,' on which the present decision rests seems to me to be beside the point. Was not the wrong in both cases done when the intimacies of the home were tapped, recorded, or revealed? The depth of the penetration of the electronic device—even the degree of its remoteness from the inside of the house—is not the measure of the injury.

*Id.* at 512-13 (emphasis in original) (Douglas, J., concurring) (citation omitted). Justice Douglas desired to emphasize the protection of privacy and not the physical trespass. *Id.* at 513.

<sup>64</sup> See *Katz v. United States*, 389 U.S. 347, 348 (1967) (holding that the use of the detectaphone was not a Fourth Amendment violation); *Olmstead*, 277 U.S. at 473 (Brandeis, J., dissenting) (holding that the use of wire-tapping was not a Fourth Amendment violation because no physical intrusion of the home or curtilage occurred). Justice Brandeis addressed this concept by stating:

'[T]ime works changes, brings into existence new conditions and purposes.' Subtler and more far-reaching means of invading privacy have become available to the government. Discovery and invention have made it possible for the government, by means far more effective than stretching upon the rack, to obtain disclosure in court of what is whispered in the closet.

*Olmstead*, 277 U.S. at 473 (Brandeis, J., dissenting). See *Goldman*, 316 U.S. at 139 (Murphy, J., dissenting), for a similar discussion of the dangers presented by the advent of new non-intrusive technology such as the detectaphone, technology that was available for use in the 1940s and capable of searching an individual's home or office without causing a physical intrusion to occur. Justice Murphy stated, "science has brought forth far more effective devices for the invasion of a person's privacy" and furthers his argument for the illegality of this search by stating, "[i]t is not the breaking of his . . . doors, and the rummaging of his drawers, that constitutes the essence of the offence—those are but 'circumstances of aggravation.'" *Id.* at 139 n.6 (quoting *Boyd v. United States*, 116 U.S. 616, 630 (1886)).

<sup>65</sup> See Russell L. Weaver, *The Fourth Amendment, Privacy, and Advancing Technology*, 80 *MIS. L.J.* 1131, 1138 (2011) (discussing the departure from the trespass-based approach because its application was during a time period when surveillance technology was relatively crude and simplistic). The advancing technology available to law enforcement agencies created a debate between the Justices of the Supreme Court. *Id.* at 1139. The concern was whether the Court should adhere to a historical approach that governed the Fourth Amendment for nearly a century and a half or if new technology required a different approach. *Id.*

<sup>66</sup> See *infra* Part II.C.1 (detailing the momentous decision which changed the landscape of Fourth Amendment jurisprudence forever, placing special emphasis on the two-pronged analysis adopted by Justice Harlan in his concurring opinion).



doctrine to the context of vehicles traveling on public thoroughfares.<sup>67</sup> Finally, Part II.C.3 focuses on the application of the reasonable expectation of privacy doctrine to aerial surveillance operations.<sup>68</sup>

1. *Katz v. United States*: Justice Harlan Champions a New Approach to the Fourth Amendment

In *Katz v. United States*, the Supreme Court addressed a non-intrusive eavesdropping technology and dramatically altered the landscape of Fourth Amendment jurisprudence.<sup>69</sup> *Katz* involved a listening device attached to the exterior of a phone booth, which was capable of hearing conversations within the booth.<sup>70</sup> This listening device overheard conversations by Katz transmitting wagering information in violation of a federal statute.<sup>71</sup> The Court stated the issue as whether or not the attachment of this listening device violated Katz's Fourth Amendment rights when the device was placed on the exterior and never penetrated the phone booth.<sup>72</sup> The majority opinion held the warrantless search that

<sup>67</sup> See *infra* Part II.C.2 (summarizing the reasonable expectation of privacy jurisprudence as applied to vehicles traveling on public thoroughfares).

<sup>68</sup> See *infra* Part II.C.3 (describing the application of Justice Harlan's two-pronged analysis to aerial surveillance techniques that law enforcement agencies have used).

<sup>69</sup> 389 U.S. 347, 348 (1967). The importance of *Katz* was described by famous Fourth Amendment scholar, Anthony Amsterdam, as a "watershed in [F]ourth [A]mendment jurisprudence." Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 382 (1974). The real value of *Katz* was the articulation of the reasonable expectation of privacy formulation, which succinctly stated the legal standard the Court had been applying. See Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 820 (2004) (evaluating the statements made by Justice Harlan in *Katz* and the formulation of the reasonable expectation of privacy doctrine). See Peter Winn, *Katz and the Origins of the "Reasonable Expectation of Privacy" Test*, 40 MCGEORGE L. REV. 1, 1 (2009), for some discussion on the dramatic effect of *Katz*, including the historical context around the decision and lasting effect of the case. The reasonable expectation of privacy test "extends beyond the confines of the Constitution; it has found its way into common law and statutes, and even the laws of other countries." *Id.*

<sup>70</sup> *Katz*, 389 U.S. at 348. The Ninth Circuit Appellate decision sheds more light on the actual procedure that the law enforcement agents used with the listening device. *Katz v. United States*, 369 F.2d 130, 131 (9th Cir. 1966). The agents taped a microphone wired to a recorder on top of two different phone booths and listened to Katz's conversations for a period of seven days. *Id.* The Appellate Court, relying on *Goldman* and *Olmstead*, ultimately held that no Fourth Amendment violation occurred here because no physical penetration occurred when these microphones were placed on the exterior of the phone booth. *Id.* at 134.

<sup>71</sup> *Katz*, 389 U.S. at 348. The federal statute, still in use today, makes it a crime for a person to place bets or wagers on a sporting event or contest using a wire communication across state lines. 18 U.S.C. § 1084 (2006). Records obtained from the phone company showed that Katz was relaying information from Los Angeles to Boston and Miami. *Katz*, 369 F.2d at 132.

<sup>72</sup> *Katz*, 389 U.S. at 350. The Court discarded the formulation of the issue presented by the Petitioner because it placed far too much emphasis on the "constitutionally protected area," which the Court did not deem relevant to the discussion. *Id.* at 350-51. The Court believed

took place did not comply with constitutional standards and overturned Katz's conviction even though no physical trespass occurred.<sup>73</sup> The Court held the "Fourth Amendment protects people, not places" and wholly discarded the requirement that a physical trespass occur for a search to take place.<sup>74</sup>

The truly lasting effect of *Katz* is seen in Justice Harlan's concurrence, which articulated a two-pronged test that gave rise to a flexible Fourth Amendment analysis capable of adapting to changing technology.<sup>75</sup> The

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this formulation created too heavy of an emphasis on the characterization of the telephone booth, from which the calls were placed. *Id.* at 351.

<sup>73</sup> *Id.* at 359. The Court rejected the law enforcement agency's claim that it acted in an entirely defensible manner by waiting until it had a strong possibility that Katz was involved in illegal gambling, and limiting the listening device to only overhear the conversation in which Katz was involved. *Id.* at 354. The Court was of the opinion that the law enforcement agency conducted a search and should have applied for a warrant before doing so. *Id.* at 354-55. The law enforcement agency also argued that since they relied on previous Supreme Court decisions *Goldman* and *Olmstead* that their actions should be seen as valid, which the Court quickly rejected. *Katz*, 389 U.S. at 356-57.

<sup>74</sup> *Id.* at 351. The Court showed its concern for the protection of people by stating that the law enforcement agency's actions "violated the privacy upon which [Katz] justifiably relied." *Id.* at 353. The majority similarly concluded the "underpinnings of *Olmstead* and *Goldman* have been so eroded by our subsequent decisions that the 'trespass' doctrine there enunciated can no longer be regarded as controlling." *Id.* Justice Harlan's concurring opinion described the physical trespass requirement in *Goldman* as "in the present day, bad physics as well as bad law." *Id.* at 362 (Harlan, J., concurring).

<sup>75</sup> *Id.* at 361. Justice Harlan opened by succinctly summarizing the holding of the majority as:

[H]old[ing] only (a) that an enclosed telephone booth is an area where, like a home, and unlike a field, a person has a constitutionally protected reasonable expectation of privacy; (b) that electronic as well as physical intrusion into a place that is in this sense private may constitute a violation of the Fourth Amendment; and (c) that the invasion of a constitutionally protected area by federal authorities is, as the Court has long held, presumptively unreasonable in the absence of a search warrant.

*Katz*, 389 U.S. at 360-61 (internal citations omitted). Justice Harlan reasserted the Court's ideological view of the Fourth Amendment's protection of people rather than places before asserting the new two-pronged reasonable expectation of privacy doctrine. *Id.* at 361. Justice Harlan's new formulation is described as:

[P]rovid[ing] something more; something that trespass, restricted to traditional rights of property, could not do by itself. By explicitly basing the protections of the Fourth Amendment on a right of privacy, the test gave courts more flexibility to protect a broader concept of human dignity at a time when information technology had outstripped what property rights alone could protect.

Winn, *supra* note 69, at 9. For some time there appeared to be confusion as to where this two-pronged reasonable expectation of privacy test came from because the lower courts and trial briefs had no record of it. *Id.* Winn goes on to credit a young attorney, Harvey Schneider, with formulating this test during his opening arguments and Justice Harlan with being receptive to the new formulation. *Id.* at 12. Since *Katz*, Justice Harlan's concurrence has

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first prong of the test requires a person have a subjective expectation of privacy.<sup>76</sup> The second prong mandates society be willing to find the expectation reasonable.<sup>77</sup> Justice Harlan applied this two-pronged test and determined that, when Katz entered the phone booth, shut the door behind him, and paid the fee to use the phone, he maintained an expectation of privacy, and society would find his expectation reasonable.<sup>78</sup> Justice Harlan's expectation of privacy formulation has a wide reaching effect and has been used in many different contexts to

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received enormous support and is a rare case where a concurrence effectively replaced a majority opinion. *Id.* at 7; *see, e.g.*, *United States v. Jones*, 132 S. Ct. 945, 950 (2012) (discussing the deviation from the property-based approach and the application of Harlan's concurrence in the latter half of the twentieth century); *Kyllo v. United States*, 533 U.S. 27, 33 (2001) (defining Justice Harlan's concurrence as "oft-quoted"); *Minnesota v. Carter*, 525 U.S. 83, 97 (1998) (stating that the *Katz* test has come to mean the test enunciated by Justice Harlan); *Smith v. Maryland*, 442 U.S. 735, 750 (1979) (Marshall, J., dissenting) (referring to the formula the Court was applying was created by Justice Harlan's concurrence). *But see* Jim Harper, *Reforming Fourth Amendment Privacy Doctrine*, 57 AM. U. L. REV. 1381, 1386 (2008) (describing Justice Harlan's concurrence as "[a]mend[ing] the Katz [r]ule, [b]adly"). Harper argues that Justice Harlan's concurrence scrambled the words of the majority and created a "murky two-part analysis." *Id.*

<sup>76</sup> *Katz*, 389 U.S. at 361 (Harlan, J., concurring). Justice Harlan described objects, activities, or statements that an individual exposes to plain view will not be protected under this subjective element. *Id.* However, some have argued that this element has little value because criminals are often found to subjectively believe they have privacy. *See California v. Greenwood*, 486 U.S. 35, 39-40 (1988) (finding that the parties did not subjectively expect their trash bags to be searched once placed on the curb for pick up); *California v. Ciraolo*, 476 U.S. 207, 211 (1986) (arguing the clear intent and manifestation of the respondent using a ten-foot-high fence surrounding his property to maintain his privacy in his back yard while he was involved in "unlawful agricultural pursuits"); *Oliver v. United States*, 466 U.S. 170, 189 n.9 (1984) (stating the Court would not challenge the subjective expectation of one's privacy on their own property). Unfortunately, this prong has been contorted in many cases and courts have failed to focus on the actual subjective expectation of the individual. *See Aya Gruber, Garbage Pails and Puppy Dog Tails: Is That What Katz is Made of?*, 41 U.C. DAVIS L. REV. 781, 792 (2008) (detailing situations where courts have focused on precautionary measures individuals took).

<sup>77</sup> *Katz*, 389 U.S. at 361 (Harlan, J., concurring). Justice Harlan opined, "conversations in the open would not be protected against being overheard, for the expectation of privacy under the circumstances would be unreasonable." *Id.* The judiciary has often emphasized the second prong of the inquiry much more than the first prong. *See Renee McDonald Hutchins, Tied Up in Knots? GPS Technology and the Fourth Amendment*, 55 UCLA L. REV. 409, 429 (2007) (critiquing the Court's focus on the objective prong rather than the subjective).

<sup>78</sup> *Katz*, 389 U.S. at 361 (Harlan, J., concurring). Harlan was not persuaded by the notion that the phone booth is open to the public and instead found that each occupant may have a reasonable expectation of privacy while using a phone booth. *Id.* His concurrence actually likens an enclosed telephone booth as an area "like a home." *Id.* at 360. Justice Harlan noted interception of a conversation that was reasonably intended to be private could constitute a search. *Id.* at 361-62 (citing *Silverman v. United States*, 365 U.S. 505, 511 (1961)).

determine when a Fourth Amendment violation has occurred.<sup>79</sup> Several cases applied Justice Harlan's reasonable expectation of privacy doctrine to the context of vehicles traveling on public thoroughfares.<sup>80</sup>

## 2. The Reasonable Expectation of Privacy Doctrine Does Not Provide Protection for Vehicles Traveling on Public Thoroughfares

The Supreme Court has a long history of treating vehicles differently than homes and offices because of the purpose and very nature of a vehicle.<sup>81</sup> This line of logic has evolved into the principle that society does not accept a person maintains an expectation of privacy while traveling in a vehicle on a public thoroughfare.<sup>82</sup> *United States v. Knotts* involved the

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<sup>79</sup> See *Greenwood*, 486 U.S. at 40 (holding that an individual does not have an expectation of privacy in garbage bags placed on the curb of their home); *Bond v. United States*, 529 U.S. 334, 341 (2000) (discussing a reasonable expectation of privacy in baggage a bus passenger carried on, which was violated when a law enforcement officer squeezed the bag to determine the contents); *Smith*, 442 U.S. at 744–45 (determining that no reasonable expectation of privacy exists when using a phone because the information is being voluntarily turned over to a third party); *United States v. Miller*, 425 U.S. 435, 440–41 (1976) (finding no reasonable expectation of privacy in an individual's bank records); *Hoffa v. United States*, 385 U.S. 293, 302 (1966) (discussing the lack of a reasonable expectation of privacy in a hotel room when the individual who was renting the room voluntarily invited an undercover law enforcement officer inside); *United States v. Gooch*, 6 F.3d 673, 677 (9th Cir. 1993) (holding that a tent is more akin to a house than a vehicle and as such a person can have a reasonable expectation of privacy in one); *United States v. McGrane*, 746 F.2d 632, 634 (8th Cir. 1984) (finding no violation of privacy when a law enforcement officer visually observed a storage unit from an area accessible to all tenants in the communal building); *United States v. Hensel*, 509 F. Supp. 1376, 1385–86 (D. Me. 1981) (equating a beach to an open field where no reasonable expectation of privacy will be granted).

<sup>80</sup> See *infra* Part II.C.2 (discussing the beeper cases involving the tracking of vehicles on public thoroughfares).

<sup>81</sup> See, e.g., *United States v. Martinez-Fuerte*, 428 U.S. 543, 561 (1976) (stating one's privacy expectations are different when traveling in a vehicle as compared to the privacy expected in a home); *Chambers v. Maroney*, 399 U.S. 42, 48 (1975) (arguing the circumstances that are surrounding the search of a vehicle and the search of a home are one primary justification for disparate treatment); *Cardwell v. Lewis*, 417 U.S. 583, 590 (1974) (stating this differential treatment exists because of the "exigent circumstances that exist in connection with movable vehicles"); *Almeida-Sanchez v. United States*, 413 U.S. 266, 279 (1973) (Powell J., concurring) (describing one reason for the disparate treatment is the difference in the intrusiveness between a search of a home and a vehicle); *Carroll v. United States*, 267 U.S. 132, 146 (1925) (discussing the need to treat vehicles differently than homes because of their mobile nature and the ability of drivers to leave the jurisdiction or remove potential evidence from a vehicle).

<sup>82</sup> *United States v. Karo*, 468 U.S. 705, 713–14 (1984); *United States v. Knotts*, 460 U.S. 276, 281–82 (1983). A similar line of logic is followed in cases involving open fields because society does not find an expectation of privacy reasonable when the area is openly visible. See *Dow Chemical Co. v. United States*, 476 U.S. 227, 235–36 (1986) (holding aerial photographs taken of a 2000 acre chemical company are considered more akin to an open field and thus no warrant was required); *Oliver v. United States*, 466 U.S. 170, 181 (1984)

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use of a beeper, which was placed in a five-gallon container of chloroform and then tracked to a location where methamphetamine was produced.<sup>83</sup> Using information obtained from the beeper, as well as three days of visual surveillance, law enforcement tracked the location of the container to a cabin and eventually obtained a warrant to search the premises.<sup>84</sup> In justifying the use of the beeper to track the vehicle, the Court stated “[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”<sup>85</sup> The Court reasoned the beeper was simply a more effective way of tracking what was already made available to public observation.<sup>86</sup>

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(finding an individual has no legitimate expectation of privacy from intrusion of warrantless inspection of open fields).

<sup>83</sup> 460 U.S. at 277. *Knotts* involved a trio of individuals, Knotts, Petschen, and Armstrong. *Id.* at 277-78. Law enforcement agents were originally tipped off when Armstrong was fired from 3M Company for stealing chemicals that could be used to produce illegal narcotics. *Id.* at 278. Law enforcement received permission from Hawkins Chemical Company to install the beeper before the sale of the chemicals. *Id.* Surprisingly, the installation of the beeper by the chemical company was not challenged in the case based on Knotts’ belief that he did not have standing to challenge such an installation. *Id.* at 279 n.\*\*. Justice Brennan was not persuaded by the lower court’s decision, which disposed of the installation issue on the grounds that Hawkins Chemical Company consented. *Id.* at 286 (Brennan, J., concurring).

<sup>84</sup> *Knotts*, 460 U.S. at 279. Law enforcement agents were able to track the container from Minneapolis, Minnesota to Shell Lake, Wisconsin. *Id.* at 277. At one point during the investigation law enforcement refrained from visual surveillance because the driver of the vehicle began to make evasive maneuvers. *Id.* at 278. With the assistance of a helicopter and the beeper tracking device law enforcement officers picked up the signal again approximately one hour later. *Id.* The Court noted that the beeper was not used after the location of the cabin was determined. *Id.* at 278-79. Upon executing the search warrant the law enforcement agents found a fully operable drug lab, formulas for methamphetamine and amphetamine, large quantities of chemicals, and the five-gallon container of chloroform. *Id.* at 279.

<sup>85</sup> *Knotts*, 460 U.S. at 281. The Court argued that “[t]he governmental surveillance conducted by means of the beeper in this case amounted principally to the following of an automobile on public streets and highways.” *Id.* Elaborating on the lack of an expectation of privacy while traveling on public roads, the Court said:

When Petschen travelled over the public streets he voluntarily conveyed to anyone who wanted to look the fact that he was traveling over particular roads in a particular direction, the fact of whatever stops he made, and the fact of his final destination when he exited from public roads onto private property.

*Id.* at 281-82. Knotts had a normal and respectable expectation of privacy at his cabin; however, no such expectation is extended to the vehicle that has been followed by law enforcement to the premises. *Id.* at 282.

<sup>86</sup> *Id.* at 284. The Court argued that visual surveillance from public places along the public thoroughfare could have accomplished the same function as the beeper did. *Id.* at 282. Citing *United States v. Lee*, the Court stated that nothing prevents the police from “augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them.” *Knotts*, 460 U.S. at 282. Knotts argued that this holding presents grave danger in authorizing twenty-four hour warrantless surveillance of individuals. *Id.* at

Relying on this language, the Supreme Court held no search occurred because the individual did not have a legitimate expectation of privacy when the vehicle carrying chloroform was tracked along public thoroughfares.<sup>87</sup>

The following year the Supreme Court discussed a similar beeper tracking case in *United States v. Karo*.<sup>88</sup> *Karo* involved a law enforcement agency that obtained permission to place a tracker inside a fifty-gallon container of ether, which was later sold to a defendant.<sup>89</sup> Law enforcement agents followed the container in a truck to a defendant's residence and then determined the container was still inside the home by turning the beeper on once the truck departed.<sup>90</sup> The Court determined the activation and monitoring of the beeper while inside the residence violated justifiable privacy rights of the individuals in the residence.<sup>91</sup> However,

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283. The Court retorted, "the reality hardly suggests [the] abuse, if such a 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." *Id.* at 283–84 (citation omitted). See Hutchins, *supra* note 77, at 435–36 (discussing the treatment that the Court gives in *Knotts* equating this technology to other sense augmenting technology cases). "With regard to this class of technology, the Court finds its warrantless use constitutionally unremarkable provided law enforcement's unaided observation under the same circumstances would be unobjectionable." *Id.* at 436.

<sup>87</sup> *Knotts*, 460 U.S. at 285.

<sup>88</sup> 468 U.S. 705, 707 (1984). The opinion begins by stating the intent of the Court is to clarify two issues left unresolved by *Knotts*. *Id.*

<sup>89</sup> *Id.* at 708. The ether was to be used to extract cocaine from clothing that had been imported into the United States. *Id.* The Appellate Court held that Karo's Fourth Amendment rights were violated during the acquisition of the container of ether from the government informant. *United States v. Karo*, 710 F.2d 1433, 1439 (10th Cir. 1983), *rev'd* 468 U.S. 705 (1984). The Appellate Court stated:

All individuals have a legitimate expectation of privacy that objects coming into their rightful ownership do not have electronic devices attached to them, devices that would give law enforcement agents the opportunity to monitor the location of the objects at all times and in every place that the objects are taken, including inside private residences and other areas where the right to be free from warrantless governmental intrusion is unquestioned.

*Id.* at 1438. The Court concluded that a Fourth Amendment violation did not occur when law enforcement installed the beeper because Karo's privacy was not infringed simply by receiving a container with a beeper in it. *Karo*, 468 U.S. at 712.

<sup>90</sup> *Id.* at 709–10. A warrant was applied for, which resulted in several defendants' arrests for conspiring to possess cocaine with intent to distribute. *Id.* at 710. The agents also relied on a visual observation of the residence on a cold and windy day when all of the windows were left wide open, which led agents to believe the ether was being used inside. *Id.*

<sup>91</sup> *Id.* at 714. The Court noted the beeper was the equivalent of a law enforcement agent sneaking into the residence and verifying that the container was inside, and thus determined that a warrant was necessary because this qualifies as a search under the Fourth Amendment. *Id.* at 715. In an unfortunate turn for Karo and his co-defendants, the Court was of the opinion that even without the information illegally obtained by the beeper in the warrant

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the Court echoed the *Knotts* holding and stated the monitoring of the vehicle while it traveled on public roads did not violate the Fourth Amendment.<sup>92</sup> Justice Stevens' dissenting opinion discussed the distinction between what is kept out of plain view and those things in plain view, such as cars on public roads, which do not receive Fourth Amendment protection.<sup>93</sup> Only a few years later the Supreme Court again had the opportunity to apply Justice Harlan's reasonable expectation of privacy analysis to aerial surveillance.<sup>94</sup>

### 3. The Reasonable Expectation of Privacy Doctrine Does Not Provide Protection from Aerial Surveillance that Takes Place from the Public Airspace

In *California v. Ciraolo*, a law enforcement agent acting on suspicion that Ciraolo was growing marijuana used a private plane to fly over his residence.<sup>95</sup> While flying at an altitude of 1000 feet, the law enforcement agent was able to photograph and identify, with his naked eye, marijuana plants growing in Ciraolo's backyard.<sup>96</sup> The Ninth Circuit Appellate

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affidavit, there was still probable cause and thus the Court upheld the conviction of Karo. *Karo*, 468 U.S. at 721.

<sup>92</sup> *Id.* at 721; *id.* at 722 (O'Connor, J., concurring); *id.* at 732 (Stevens, J., dissenting). The Court correlated these facts to *Knotts* and determined, "the ether was seen being loaded into [petitioner's] truck, which then traveled the public highways – it is evident that under *Knotts* there was no violation of the Fourth Amendment as to anyone with or without standing to complain about monitoring the beeper while it was located in [petitioner's] truck." *Id.* at 721.

<sup>93</sup> *Id.* at 732–33 (Stevens J., dissenting). In support of his argument, Justice Stevens reverberates the *Knotts* opinions by stating, "[a] person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another." *Karo*, 468 U.S. at 732. However, Justice Stevens noted "concealment of personal property from public view gives rise to Fourth Amendment protection." *Id.* at 733. Once the container went into Karo's house it visually was not spotted again, and only the use of the beeper allowed for law enforcement agents to track it leaving the residence in a vehicle. *Id.* at 734. Justice Stevens continued, "[b]ecause the beeper enabled them to learn the location of personal property not exposed to public view, it invaded an interest embraced in the Fourth Amendment's conception of a 'search.'" *Id.* at 734–35.

<sup>94</sup> See *infra* Part II.C.3 (summarizing and evaluating two cases involving aircrafts in warrantless law enforcement investigations).

<sup>95</sup> 476 U.S. 207, 209 (1986). After receiving an anonymous tip, police attempted to investigate but Ciraolo had two separate fences on his property, an outer fence that was six feet high and an inner fence that was ten feet high. *Id.* The FBI relies on *Ciraolo* as authority and precedent in justifying their current use of drones for domestic investigations. See Musgrave, *supra* note 50 (finding *Ciraolo* endorses aerial surveillance and arguing that drones are also permissible under the same standard).

<sup>96</sup> *Ciraolo*, 476 U.S. at 209. Subsequently, the law enforcement agency was able to obtain a warrant based on the anonymous tip, visual observations from the plane, and the photographs. *Id.* at 213. Seventy-three marijuana plants were seized the following day when the law enforcement agency executed the search warrant. *Id.* at 209–10.

Court held Ciralo had a reasonable expectation of privacy that was violated by this aerial surveillance.<sup>97</sup> The Supreme Court reversed this holding, concluding society is not willing to recognize Ciralo's expectation of privacy as reasonable.<sup>98</sup> The Court determined the fences Ciralo employed only protected against street level views and his backyard was constantly observable by anyone flying overhead.<sup>99</sup>

The application of the expectation of privacy analysis to aerial surveillance was soon buttressed by another Supreme Court decision.<sup>100</sup> Three years later, in *Florida v. Riley*, the Supreme Court addressed law enforcement's use of a helicopter to observe a similar marijuana growing

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<sup>97</sup> *California v. Ciralo*, 208 Cal. Rptr. 93, 97 (Cal. Ct. App. 1984), *rev'd* 476 U.S. 207 (1986). The Appellate Court relied on the two fences that he had surrounding his property as evidence that Ciralo intended to maintain his backyard as private. *Id.* At the appellate level, a significant part of the discussion revolved around the fact that this aerial surveillance was not routine or general and was aimed at observing the residence of Ciralo. *Id.* at 97-98. The opinion stated:

From the perspective of defendant's reasonable expectation of privacy we deem it significant that the aerial surveillance of his back yard was not the result of a routine patrol conducted for any other legitimate law enforcement or public safety objective, but was undertaken for the specific purpose of observing this particular enclosure within defendant's curtilage.

*Id.* at 97. In justifying this level of protection granted to an individual's residence, the Court relied on *United States v. Allen*, and stated, "a person need not construct an opaque bubble over his or her land in order to have a reasonable expectation of privacy regarding the activities occurring there in all circumstances." *Id.* at 98.

<sup>98</sup> *Ciralo*, 476 U.S. at 214. No legal challenge was made regarding Ciralo's subjective expectation of privacy. *Id.* at 211. With regards to the objective prong of Justice Harlan's expectation of privacy, Ciralo believed that his efforts to block the street views from his backyard is all that he "can reasonably be expected to tell the world he wishes to maintain the privacy of his garden." *Id.* However, the Supreme Court believed that Ciralo knowingly exposed his backyard to observation by all aircrafts flying overhead. *Id.* at 214. The Court stated, "[i]n an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect that his marijuana plants were constitutionally protected from being observed with the naked eye from an altitude of [1000] feet." *Id.* at 215. The FBI's internal PowerPoint presentation strongly suggests that the holding presented in *Ciralo* is an endorsement for the use of domestic drone surveillance. See Musgrave, *supra* note 50 (equating the *Ciralo* opinion as an endorsement for domestic drone usage and refusing to differentiate drones from traditional manned aircrafts).

<sup>99</sup> *Ciralo*, 476 U.S. at 213-14. The Court was also not persuaded by the argument that the flyover was intended to identify marijuana plants inside Ciralo's backyard and not just a per chance sighting of the illegal marijuana growing operation. *Id.* at 213. In discussing this concept of observations aimed at one specific individual, the Court stated, "[s]uch observation is precisely what a judicial officer needs to provide a basis for a warrant." *Id.*

<sup>100</sup> See *Florida v. Riley*, 488 U.S. 445, 447-48 (1989) (detailing the application of the reasonable expectation of privacy analysis to a similar aerial investigation, but involving a helicopter rather than a plane).



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operation.<sup>101</sup> Riley was growing marijuana in a greenhouse on his property.<sup>102</sup> After receiving an anonymous tip, a law enforcement officer used a helicopter to fly overhead and observe marijuana plants through a hole in the roof of the greenhouse.<sup>103</sup> The officer flew over the greenhouse at an altitude of 400 feet and was able to identify marijuana growing inside.<sup>104</sup> Echoing the *Ciraolo* analysis, the Court held that Riley did not have a reasonable expectation of privacy when his greenhouse was readily observable by anyone operating an aircraft in public airspace.<sup>105</sup>

<sup>101</sup> *Id.* The Supreme Court of Florida held that Riley's constitutional rights were violated by law enforcement's use of a helicopter under these circumstances. *Florida v. Riley*, 511 So. 2d 282, 289 (Fla. 1987), *rev'd* 488 U.S. 445 (1989). In doing so, the court held that the area being observed was within the curtilage of Riley's home. *Id.* at 286. The court determined that Riley's reasonable expectation of privacy was violated based on the intrusive nature of helicopters and the location of the search that occurred. *Id.* at 289.

<sup>102</sup> *Riley*, 488 U.S. at 447-48. Riley lived in a mobile home on five acres with a greenhouse located on the premises. *Id.* at 448. Two sides of the greenhouse were not enclosed; however, the view into these open sides was obstructed by foliage. *Id.* A wire fence with a "DO NOT ENTER" sign surrounded the property. *Id.*

<sup>103</sup> *Id.* The greenhouse roof was covered with several different types of panels and at the time of the flyover approximately ten percent of the roof was uncovered. *Id.*

<sup>104</sup> *Riley*, 488 U.S. 447-48. A warrant was obtained after these observations and Riley was charged with possession of marijuana. *Id.* at 449. The Court refused to distinguish a plane flying at 1000 feet, and the helicopter that was used in this case which flew at 400 feet. *Id.* at 451. The Court noted that helicopters and planes have different regulations for permissible altitudes of operation. *Id.* at 451. One of the reasons behind this failure to differentiate was that a helicopter operating at 400 feet is permissible by law and regulation. *Id.* Justice O'Connor's concurring opinion does not want to place such a heavy emphasis on the altitude or legality of the aircraft operates. *Id.* at 453 (O'Connor, J., concurring). Justice O'Connor believed that compliance with law and FAA regulations does not alone mean that an individual's expectation of privacy has not been violated. *Riley*, 488 U.S. 453. "The fact that a helicopter could conceivably observe the curtilage at virtually any altitude or angle, without violating FAA regulations, does not in itself mean that an individual has no reasonable expectation of privacy from such observation." *Id.* at 454.

<sup>105</sup> *Id.* at 450-51. The Court admitted that Riley did hurdle the *Katz* first prong of subjective expectation of privacy by stating, "Riley no doubt intended and expected that his greenhouse would not be open to public inspection." *Id.* at 450. Addressing society's finding of Riley's expectation of privacy, the Court stated, "the inspection was made from a helicopter, but as is the case with fixed-wing planes, 'private and commercial flight [by helicopter] in the public airways is routine' in this country, and there is no indication that such flights are unheard of in Pasco County, Florida." *Id.* (citation omitted). The Court infers that a Fourth Amendment violation may have occurred had the helicopter's flyover disturbed Riley's use of his property. *Id.* at 452. "As far as this record reveals, no intimate details connected with the use of the home or curtilage were observed, and there was no undue noise, and no wind, dust, or threat of injury. In these circumstances, there was no violation of the Fourth Amendment." *Riley*, 488 U.S. at 452. The dissent believed that the plurality's holding defeats the underlying Fourth Amendment principle, the protection of people. *Id.* at 456 (Blackmun, J., dissenting). Justice Blackmun opined that the plurality focused on the legality of the altitude the plane flew at, when instead they needed to consider whether low-level helicopter surveillance over an enclosed backyard was consistent with the "aims of free and open society." *Id.* at 456-57. Succinctly summarizing his argument, Justice Blackmun continued,

D. *The Reemergence of the Trespass-based Approach*

Very recently, in *United States v. Jones*, the Supreme Court once again addressed when the Fourth Amendment is triggered in the context of a warrantless search.<sup>106</sup> *Jones* dealt with a law enforcement agency's warrantless attachment of a global positioning system ("GPS") tracking device to a vehicle operated by a cocaine dealer.<sup>107</sup> The GPS device

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"I agree of course, that '[w]hat a person knowingly exposes to the public . . . is not a subject of Fourth Amendment protection[.] But I cannot agree that one 'knowingly exposes [an area] to the public' solely because a helicopter may legally fly above it." *Id.* at 457 (citation omitted). See Hiltner, *supra* note 48, at 404–09, for an extensive discussion on the intertwining of *Ciraolo* and *Riley*, as well as *Dow Chemical Co. v. United States*, 476 U.S. 227, 234–35 (1986), which focuses on the application of aerial surveillance to the open fields doctrine.

<sup>106</sup> 132 S. Ct. 945, 947–48 (2012). In 2001, the Supreme Court had the opportunity to address advanced surveillance technology in *Kyllo v. United States*, 533 U.S. 27, 29 (2001). This case involved a law enforcement agent who used a thermal scanner from a public avenue to determine whether a home had an excessive amount of heat emanating from one wall, signifying the growing of illegal marijuana. *Id.* The Supreme Court crafted a narrow exception and said that *Kyllo's* Fourth Amendment rights were violated when the government used this advanced technology. *Id.* at 34. The Court stated, "'intrusion into a constitutionally protected area,' [c]onstitutes a search—at least where (as here) the technology in question is not in general public use." *Id.* at 34 (citation omitted). It has been suggested that drones fit under this exception if they are equipped with advanced surveillance payloads. See THOMPSON II, *supra* note 36, at 14–15 (arguing that the type of technology used on drones may ultimately decide the permissibility of the information obtained); Schlag, *supra* note 36, at 16 (defining some of the technologies that are available as not in general public use and thus finding these drones to be impermissible under the standard set forth in *Kyllo*). However, many consider the general public use standard as tricky to pin down, because under the Court's holding the determination appears to be whether or not it is available to the public. See Vacek, *supra* note 40, at 683 (critiquing the inquiry as being whether or not the technology is available for purchase at Walmart). This potentially complicates matters even more because technology that was once not in general public use may eventually become popular and thus the standard is hard to apply. *Id.* Many standard cameras that are available on drones are already considered to be in general public use. *Id.* at 679–84. For purposes of this Note, the discussion is limited to drones that are equipped with traditional surveillance cameras and the drones are operating similarly to that of traditional aircrafts. See *infra* note 152 and accompany text (arguing that drones need to operate in a similar fashion to the manned crafts in *Riley* and *Ciraolo* to be seen as permissible).

<sup>107</sup> *Jones*, 132 S. Ct. at 948. The law enforcement agency received a warrant to install a GPS tracking device on this vehicle; however, it was limited to installation within the next ten days and also must have been done in the District of Columbia. *Id.* When the device was ultimately attached to the undercarriage of the vehicle the ten-day deadline had passed and the attachment took place outside of the District of Columbia. *Id.* One scholar has suggested that law enforcements' advanced use of new technology has changed the perception of what privacy can be expected. See Saby Ghoshray, *Domestic Surveillance Via Drones: Through the Lens of the Fourth Amendment*, 33 N. ILL. U. L. REV. 579, 587–88 (2013) (critiquing the amount of latitude that law enforcement agencies get regarding the technology they are capable of using).

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monitored all movements of the vehicle for a period of twenty-eight days and relayed over 2000 pages of data.<sup>108</sup> The district court denied Jones's motion to suppress the evidence based on the principle that while the car traveled on public roads Jones had no reasonable expectation of privacy.<sup>109</sup> The Court of Appeals applied the reasonable expectation of privacy doctrine, but held contrary to the lower court and stated the Fourth Amendment was violated during the ongoing warrantless GPS monitoring.<sup>110</sup>

The Supreme Court granted certiorari but took a surprise detour by applying the trespass-based approach to determine the attachment of the device to the vehicle created a search and thus violated the Fourth

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<sup>108</sup> *Jones*, 132 S. Ct. at 948. The GPS was able to establish the location of the vehicle at all times within fifty to one hundred feet of its actual position. *Id.*

<sup>109</sup> *United States v. Jones*, 451 F. Supp. 2d 71, 88 (2006). According to the lower court the law enforcement agency does not need to obtain a warrant to place a tracking device on a vehicle; however, any evidence that is obtained while the vehicle is not on public roads will be suppressed. *Id.* (citing *United States v. Karo*, 468 U.S. 705, 712 (1984) and *United States v. Knotts*, 460 U.S. 276, 277 (1983)). See *United States v. Moran*, 349 F. Supp. 2d 425, 467 (N.D.N.Y. 2005), for some discussion on the parallels between GPS devices and traditional surveillance while addressing the use of GPS devices on public roads and the fact that law enforcement could obtain all of the information by similarly conducting visual surveillance on the vehicle. *Moran's* vehicle was tracked over a two-day period by a GPS device. *Id.* The New York District Court held that no violation occurred because all of the information could have been obtained by visual observations and *Moran* had no reasonable expectation of privacy while he travelled on public thoroughfares. *Id.* at 467–68.

<sup>110</sup> *United States v. Maynard*, 615 F.3d 544, 558 (D.C. Cir. 2010). The opinion differentiated the one time monitoring that took place in *Knotts* with the monitoring that happened on Jones's vehicle based on the amount of information relayed from the GPS device. *Id.* at 556. The Court of Appeals believed that the amount of information transmitted by the GPS device over a month was not exposed to the public for two reasons:

First, unlike one's movements during a single journey, the whole of one's movements over the course of a month is not *actually* exposed to the public because the likelihood anyone will observe all those movements is effectively nil. Second, the whole of one's movements is not exposed *constructively* even though each individual movement is exposed, because that whole reveals more—sometimes a great deal more—than does the sum of its parts.

*Id.* at 558. Regarding long-term warrantless monitoring, the court stated, “if 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.” *Id.* at 556 (quoting *Knotts*, 460 U.S. at 283–84). See *infra* note 119 and accompanying text (discussing Justice Sotomayor's concurring opinion that appears to have been persuaded by this theory). GPS technology has received some different treatment across the country. See *Hutchins*, *supra* note 77, at 445 (providing some of the treatment that GPS technology had gotten in state and federal courts). The author also points out that the academic community is not at a consensus on how to treat this technology under existing Fourth Amendment constraints. *Id.* at 452.

Amendment.<sup>111</sup> In justifying this holding, the opinion embraced the idea that the reasonable expectation of privacy test was added as additional Fourth Amendment protection, but never replaced the trespass-based approach.<sup>112</sup> While all Justices agreed the Fourth Amendment was violated, they did not all agree on the application of the trespass-based approach.<sup>113</sup>

Justice Alito's concurring opinion criticized the return of the trespass-based approach and accused the majority of applying "18th century tort law" to resolve the issue of a modern surveillance technique in the Fourth Amendment context.<sup>114</sup> Applying the reasonable expectation of privacy doctrine, Justice Alito held the long-term GPS monitoring on public thoroughfares was unreasonable.<sup>115</sup> Justice Alito believed short-term

<sup>111</sup> *United States v. Jones*, 132 S. Ct. 945, 954 (2012). Quoting *Kyllo v. United States*, the Court stated "we must 'assur[e] preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted.'" *Id.* at 950. The Court also relied on cases involving seizures to help further the point that the trespass-based approach is still alive and well. See *Soldal v. Cook Cnty.*, 506 U.S. 56, 64 (1992) (stating *Katz* established that "property rights are not the sole measure of Fourth Amendment violations," but did not "snuff[] out the previously recognized protection for property."); *Alderman v. United States*, 394 U.S. 165, 176 (1969) (rejecting the contention that only the privacy of the individual is considered under the Fourth Amendment and finding a violation occurred when a listening device was placed in a home). *But see Jones*, 132 S. Ct. at 960-61 (Alito, J., concurring) (discussing Justice Alito's critique of the plurality's use of these seizure cases to reinvigorate the trespass-based approach). Justice Alito believed *Soldal* and *Alderman* do not support the propositions that the plurality contends. *Id.*

<sup>112</sup> *Id.* at 952; see *Knotts*, 460 U.S. at 286 (Brennan, J., concurring) ("When the [G]overnment does engage in physical intrusion of a constitutionally protected area in order to obtain information, that intrusion may constitute a violation of the Fourth Amendment."). *But see supra* note 111 and accompanying text (discussing Justice Alito's concurrence and his disapproval of the return to the trespass-based approach). Justice Alito reiterates the post-*Katz* phrase, "an actual trespass is neither necessary nor sufficient to establish a constitutional violation." *Jones*, 132 S. Ct. at 960 (Alito, J., concurring).

<sup>113</sup> *Id.* at 959. Justice Alito, joined by Justices Ginsburg, Breyer, and Kagan, chastised the pluralities application of the trespass-based approach. *Id.* at 957-58. For an in depth discussion of the holding in *United States v. Jones* see Jace C. Gatewood, *It's Raining Katz and Jones: The Implications of United States v. Jones—A Case of Sound and Fury*, 33 PACE L. REV. 683, 700-01 (2013), describing the *Jones* case of little practical value because of the Justices' refusal to come to a more sound agreement on why a Fourth Amendment violation occurred.

<sup>114</sup> *Jones*, 132 S. Ct. at 957 (Alito, J., concurring). Justice Alito presents some "particularly vexing problems" that are associated with the return to this trespass-based approach. *Id.* at 962. Namely this new approach would provide no recovery for making electronic contact with a vehicle and not physical contact. *Id.* Activation of a vehicle theft detection device on a vehicle is one example of this electronic contact and tracking a cell-phone through the installed GPS device is another. *Id.* Justice Alito argued that under the pluralities approach this electronic touching would not likely be found to constitute a trespass. *Id.*

<sup>115</sup> *Id.* at 964. A South Dakota Supreme Court case found a GPS tracking invalid under the trespass-based approach soon after the *Jones* decision. *South Dakota v. Zahn*, 812 N.W.2d 490, 496 (S.D. 2012). However, the South Dakota opinion went on to discuss the reasonable expectation of privacy doctrine that Justice Alito urges. *Id.* at 497. The court held that the

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monitoring was reasonable, but argued tracking every movement of an individual in a vehicle for a four-week span certainly passed beyond a threshold, and as such, a Fourth Amendment violation occurred.<sup>116</sup>

Justice Sotomayor's concurrence similarly contended that long-term monitoring of an individual traveling on public thoroughfares was unconstitutional.<sup>117</sup> Justice Sotomayor believed society has a reasonable expectation of privacy when the sum of one's movements are recorded over a long period of time.<sup>118</sup> In Justice Sotomayor's opinion, the government's ability to ascertain vast amounts of information about the individual creates grave Fourth Amendment concerns.<sup>119</sup> The majority opinion and the concurring opinions all seem to agree a violation of the Fourth Amendment occurred; however, little was accomplished by the decision because the opinions each take a different approach in reaching

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GPS device that was used is capable of gaining such large amounts of information even if only restricted to public roads that a warrant is required before it can be installed on a vehicle. *Id.* at 498. One scholar believes that the emphasis should not be so rigidly based on how the search occurred but the inquiry should instead focus on the outcome. See Ric Simmons, *From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies*, 53 HASTINGS L.J. 1303, 1321-22 (2002) (presenting an outcome determinative approach rather than unnecessarily analyzing the method of search).

<sup>116</sup> *Jones*, 132 S. Ct. at 964 (Alito, J., concurring). As support for the argument the concurrence noted that society's expectation is based in part on the fact that law enforcement agencies cannot and would not be able to secretly monitor and track every movement one makes for an extensive period of time. *Id.* The opinion does not attempt to determine at what point during the four-week surveillance operation the expectation of privacy was violated but merely assert that the line was surely crossed. *Id.*

<sup>117</sup> *Id.* at 955 (Sotomayor, J., concurring). Although Justice Sotomayor believed that the government's physical intrusion on Jones's Jeep, as noted by the majority, provides for a narrower grounds for the decision. *Id.*

<sup>118</sup> *Id.* at 956. Some have described Justice Sotomayor's concurring opinion as the broadest reading of the Fourth Amendment. See RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42511, UNITED STATES V. JONES: GPS MONITORING, PROPERTY, AND PRIVACY 9 (2012) [hereinafter THOMPSON II GPS MONITORING] (evaluating Justice Sotomayor's opinion which acknowledges the existence of both existing Fourth Amendment doctrines). This report goes on to discuss Justice Sotomayor's concern about the viability of the third-party doctrine – the principle that information voluntarily conveyed to third parties automatically surrenders an objective expectation of privacy. *Id.* at 10.

<sup>119</sup> *Jones*, 132 S. Ct. at 956 (Sotomayor, J., concurring). Through this type of monitoring the government is able to ascertain political and religious beliefs as well as sexual habits. *Id.* at 956. A 2009 case out of New York similarly addressed these concerns. See *New York v. Weaver*, 909 N.E.2d 1195, 1201 (N.Y. App. Div. 2009) (discussing a GPS tracking that took place over an extended period of time). The GPS surveillance that took place in *Weaver* involved sixty-five days of constant warrantless monitoring. *Id.* at 1195. Even worse is the law enforcement agency did not even make it known as to why the monitoring took place in the first place. *Id.* at 1196. Ultimately this New York court held this "massive invasion of privacy" created a violation of New York State law and left the federal constitutional question open for debate with regards to long-term GPS tracking of vehicles. *Id.* at 1201.

such a conclusion.<sup>120</sup> *United States v. Jones* leaves the Fourth Amendment standing on uneasy ground and drone technology may be the catalyst for a jurisprudential evolution.<sup>121</sup>

### III. ANALYSIS

This Part of the Note analyzes and assesses the current state of Fourth Amendment jurisprudence regarding domestic drone surveillance operations of individuals traveling on public thoroughfares.<sup>122</sup> In recent years, law enforcement agencies have turned to drones as a cost-effective way to carry out their policing duties.<sup>123</sup> The Fourth Amendment's purpose is to protect individuals from an overly intrusive government.<sup>124</sup> Drone technology threatens the protections afforded by the Fourth Amendment by intruding into an individual's life and tracking every movement while on a public thoroughfare.<sup>125</sup> The covert nature of drone

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<sup>120</sup> See Gatewood, *supra* note 113, at 701 (describing the post-*Jones* Fourth Amendment doctrine as an area that is in flux). The article goes on to discuss emerging technologies that push the border of individuals' privacy rights in today's technological world, including an in depth analysis of license plate readers. *Id.* at 702-04.

<sup>121</sup> See Michael L. Snyder, Student Article, *Katz-ing Up and (Not) Losing Place: Tracking the Fourth Amendment Implications of United States v. Jones and Prolonged GPS Monitoring*, 58 S.D. L. REV. 158, 180 (2013) (arguing the *Jones* decision was unwise and the Supreme Court avoided the real issue which was long-term warrantless surveillance); *infra* Part III (discussing the lack of constitutional protection when drone surveillance is utilized in investigations of vehicles traveling on public roads).

<sup>122</sup> See *infra* Part III.A-C (analyzing the two different methods for determining when a Fourth Amendment search violation has occurred and arguing the underlying principles of the Amendment demonstrates why protection needs to be provided against drone surveillance operations).

<sup>123</sup> See HARRISON, *supra* note 51, at 4-5 (discussing the increased manufacturing of drones that are capable of performing these surveillance missions); Musgrave, *supra* note 50 (presenting the FBI's acknowledgement of drone usage as well as the internal PowerPoint presentation that is given regarding domestic drone surveillance operations). This presentation goes on to highlight the Bureau's belief that the Supreme Court acknowledges and allows the use of domestic drone usage for aerial surveillance. *Id.* This report makes almost no attempt to differentiate between drones and other forms of aerial surveillance. *Id.* "Domestically, state and local law enforcement entities represent the greatest potential users of small UAS in the near term because they can offer a simple and cost effective solution for airborne law enforcement activities." GAO PRIVACY CONCERNS, *supra* note 46, at 11.

<sup>124</sup> See *supra* notes 22-23 and accompanying text (providing the text of the Fourth Amendment and describing some of the original reasons for the codification of the Amendment).

<sup>125</sup> See THOMPSON II, *supra* note 36, at 6-10 (arguing the legality of drone usage for domestic surveillance operations potentially turning on where the drone is performing its operation). The report states, "[w]hether 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 is entitled to privacy." *Id.* at 12. The concurring Justices in *United States v. Jones* all argued that long term tracking of an individual on a public thoroughfare was impermissible under the Fourth Amendment. See *supra* notes 115, 118 and accompanying text (arguing the reasonable

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surveillance creates an entirely new and dangerous method for the government to ascertain information about the public.<sup>126</sup> Traditional methods of surveillance have been exceedingly more expensive and far less effective at gathering the same amount of information.<sup>127</sup> First, Part III.A discusses the lack of application of the trespass-based approach to drones.<sup>128</sup> Next, Part III.B analyzes the reasonable expectation of privacy doctrine concerning drones monitoring vehicles travelling on public thoroughfares.<sup>129</sup> Finally, Part III.C discusses the underlying goal of the Fourth Amendment and how drone technology creates the potential for incredibly intrusive and covert surveillance operations.<sup>130</sup>

A. *The Trespass-based Approach Does Not Provide Protection from Long-Term Drone Monitoring While on Public Thoroughfares*

The recent *United States v. Jones* opinion muddied the Fourth Amendment waters by reintroducing the trespass-based approach.<sup>131</sup> The

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expectation of Jones was violated when his movements were tracked for a period of twenty-eight days while traveling on a public thoroughfare).

<sup>126</sup> See STANLEY & CRUMP, *supra* note 41, at 1 (evaluating the dangerous ability of drones to perform tasks that were once much more difficult). This report drafted by the ACLU provides some suggestions to attempt to alleviate concerns regarding drone usage by domestic law enforcement agencies. *Id.* at 15-16. Drone technology is capable of covertly performing surveillance operations largely because of the abilities and equipment they can be rigged with. See *supra* notes 44-47 and accompanying text (referencing the size differences, altitude capabilities, and some of the equipment that can be equipped). These drones are capable of being equipped with a variety of different sensory equipment that allow for surveillance operations at all times of the day and in all weather conditions. See Schlag, *supra* note 36, at 7-8 (presenting the different visual equipment that can be used to relay surveillance material from the drone to a person operating it on the ground).

<sup>127</sup> See DOJ DRONE AUDIT, *supra* note 40, at 3 (presenting the staggering difference in cost of drone surveillance as compared to traditional methods of aerial surveillance). The audit represents drones as operating for \$25 per hour compared to \$650 per hour for traditional surveillance. *Id.* See Vacek, *supra* note 40, at 676, for another example of the comparisons that have been done proving the effectiveness of drones compared to traditional forms of surveillance, such as the cost effectiveness of purchasing one specific drone as compared to a manned helicopter. The staggering comparison shows that a law enforcement agency could purchase more than three-dozen BAT-4 drones and it would still be cheaper than one helicopter. *Id.* The operational costs of these drones are much lower than the helicopter as well. *Id.*

<sup>128</sup> See *infra* Part III.A (evaluating the lack of physical contact or a trespass that occurs by a drone when monitoring an individual).

<sup>129</sup> See *infra* Part III.B (analyzing the reasonable expectation of privacy doctrine and applying it to the drone context through corollary situations).

<sup>130</sup> See *infra* Part III.C (evaluating the Fourth Amendment's goal and arguing that drones violate the Fourth Amendment when used for long-term surveillance operations of public thoroughfares).

<sup>131</sup> 132 S. Ct. at 945, 959-60 (Alito, J., concurring) (describing the majority opinion as unwise and discussing the lack of recent precedential support for such a decision). The *Jones* decision

reintroduction of the approach convoluted the issue by placing an emphasis on the relatively minor trespass, disregarding the important issue—the protection of people rather than places.<sup>132</sup> The purpose of the trespass-based approach was to prevent government intrusion from private places, such as the home or office.<sup>133</sup> This approach was once very relevant; however, its day has come and gone.<sup>134</sup> The original departure from the trespass-based approach was in the mid-1960s when technology made it possible to intrude without trespassing.<sup>135</sup> The touchstone

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has certainly received its fair share of criticism. See THOMPSON II GPS MONITORING, *supra* note 118, at 12–13 (arguing the outcome of the *Jones* decision creates trouble for future cases involving searches and technology). *But see* Gatewood, *supra* note 113, at 700–01 (discussing the practical value of *Jones* or in a much more honest sense the lack thereof). Complications arise when the principles set forth in *Jones* are applied to new technologies that are capable of long-term monitoring without ever making physical contact with a vehicle. See Gatewood, *supra* note 113, at 703–11 (presenting a number of new technologies that make electronic contact with vehicles, but never actually come in physical contact with the vehicle).

<sup>132</sup> See *Jones*, 132 S. Ct. at 958 (Alito, J., concurring) (discussing the Court’s application of a traditional trespass doctrine as an outdated method for the technological age we live in); *Katz v. United States*, 389 U.S. 347, 351 (1967) (discussing the underlying principle of the Fourth Amendment is the protection of people and not places); Gatewood, *supra* note 113, at 701 (describing the application of the *Jones* decision as “in flux” and stating the difficulties that are now presented in future cases involving electronic surveillance and tracking).

<sup>133</sup> See *Goldman v. United States*, 316 U.S. 129, 137 (1942), *overruled by Katz v. United States*, 389 U.S. 347, 353 (1967) (holding that the use of the detectaphone was not a Fourth Amendment violation); *Olmstead v. United States*, 277 U.S. 438, 473 (1928) (Brandeis, J., dissenting), *overruled by Katz*, 389 U.S. at 353 and *Berger v. New York*, 388 U.S. 41, 106 (1967) (holding that the use of wire-tapping was not a Fourth Amendment violation because no physical intrusion of the home or curtilage occurred); *United States v. Knotts*, 460 U.S. 276, 282 (1983) (detailing the importance of having a proper showing before an officer can enter into one’s home and invade the privacy of the resident); *Katz*, 389 U.S. at 361 (Harlan J., concurring) (describing the home as a place where one can expect privacy however, distinguishing the fact that things made plain and visible to the public do not deserve the same protection); see also *Arizona v. Gant*, 556 U.S. 332, 345 (2009) (stating that one of the central Fourth Amendment concerns is a police officer’s discretionary ability to rummage through an individual’s belongings); *Berger*, 388 U.S. at 53 (evaluating the purpose of the Fourth Amendment and safeguarding the privacy of individuals against arbitrary invasions by the government).

<sup>134</sup> See *Jones*, 132 S. Ct. at 958 (Alito, J., concurring) (discussing the impracticality of applying the traditional trespass-based approach to modern examples). Justice Alito tried to imagine an eighteenth-century equivalent to the GPS tracking that took place in *Jones* by inquiring whether it is “possible to imagine a case in which a constable secreted himself somewhere in a coach and remained there for a period of time in order to monitor the movements of the coach’s owner?” *Id.* The academic community has similarly found difficulties in this approach. See Weaver, *supra* note 65, at 1138–49 (analyzing thoroughly the once very relevant application of the trespass-based approach and its evolution prior to the more modern formulation); Snyder, *supra* note 121, at 180 (arguing return to the trespass-based approach was unwarranted).

<sup>135</sup> See *Katz*, 389 U.S. at 352 (requiring a different analysis to be done because “the surveillance technique the[] [law enforcement agents] employed involved no physical penetration of the telephone booth from which the petitioner placed his calls”).



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requirement necessitating physical contact occurring before a Fourth Amendment violation arises is outdated because drone technology can monitor individuals without ever making physical contact.<sup>136</sup>

The drone technology available today is fully capable of tracking and following a vehicle for an extended period of time without ever making physical contact.<sup>137</sup> The amount of information obtainable through this monitoring is staggering and incredibly intrusive.<sup>138</sup> Given that no physical touching occurs during drone surveillance operations, there is no remedy provided through the revitalized trespass-based approach.<sup>139</sup> Since *United States v. Jones*, consideration must be given to both the trespass-based approach, which provides no protection in the drone context, and the reasonable expectation of privacy doctrine.<sup>140</sup>

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<sup>136</sup> See *supra* notes 57, 61 and accompanying text (discussing the *Olmstead* and *Goldman* opinions and relying on a physical intrusion to determine when a search has occurred during a law enforcement investigation). One argument that the trespass-based approach is outdated is relayed in *Jones* when Justice Alito argued that the application of the approach was without valid justification because large amounts of technology that do not necessitate a physical touching to track individuals. 132 S. Ct. at 962 (Alito, J., concurring) (referring to this non-physical touching as electronic contact). Justice Alito correlated a hypothetical incident where a law enforcement agency activates a stolen car detection system that a vehicle came manufactured with and argues that this electronic touching would not give rise to a trespass-based Fourth Amendment claim. *Id.* Justice Alito went on to describe the application of the trespass-based approach to GPS tracking as the equivalent of using “18th-century tort law” to solve a “21st-centur[y] surveillance technique.” *Id.* at 957.

<sup>137</sup> See Schlag, *supra* note 36, at 16 (discussing the ability and particularly unique nature of drones and their ability to monitor an individual without ever making physical contact); Takahashi, *supra* note 42, at 108 (providing drones are capable of performing the type of surveillance activities that formerly required a trespass to occur). Several technological features that are used on drones that allow for these surveillance operations include “automated object detection, GPS surveillance, gigapixel cameras, and enhanced image resolution.” Schlag, *supra* note 36, at 7.

<sup>138</sup> See *Jones*, 132 S. Ct. at 956 (Sotomayor, J., concurrence) for an illustrative example of how much information can be learned by tracking someone’s every movement over an extended period of time and how in the aggregate a long term GPS monitoring operation’s ability of the “Government to ascertain, more or less at will, their political and religious beliefs, sexual habits, and so on.” The tracking that took place over four weeks relayed over 2000 pages of data. *Id.* at 948. Drone technology allows for extensive periods of covert surveillance that should be seen as impermissible. See Takahashi, *supra* note 42, at 110 (arguing that the amount of information obtainable unreasonably exceeds the amount of government intrusion allowed by the Fourth Amendment).

<sup>139</sup> See *supra* note 111 and accompanying text (discussing the requirement that a physical touching takes place before the trespass-based approach can provide a remedy).

<sup>140</sup> *Jones*, 132 S. Ct. at 952. The Court stated that the reasonable expectation of privacy doctrine has been added to the original trespass-based approach. *Id.*; see Gatewood, *supra* note 113, at 699 (describing the residual effect of *Jones* as creating “two doctrinal bases upon which a defendant may challenge investigative techniques employed by law enforcement[,] the *Katz* reasonable expectation of privacy test and the *Jones* newly formulated trespassory test”).

*B. The Reasonable Expectation of Privacy Doctrine Does Not Provide Protection from Long-Term Drone Monitoring*

The objective prong of the reasonable expectation of privacy analysis has been used to make broad proclamations regarding areas where society is unwilling to accept an individual's expectation of privacy as reasonable.<sup>141</sup> The sum of two well established Fourth Amendment principles, that have developed through the reasonable expectation of privacy doctrine, create a gap that allows for long-term drone surveillance operations on public thoroughfares.<sup>142</sup> An underlying concept that helps explain these two Fourth Amendment principles is that knowingly exposing something to the public destroys an objective reasonable expectation of privacy.<sup>143</sup> First, Part III.B.1 addresses the first Fourth Amendment principle, an objective lack of a reasonable expectation to be free from aerial surveillance.<sup>144</sup> Next, Part III.B.2 addresses the objective

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<sup>141</sup> See *supra* notes 74–77 and accompanying text (discussing Justice Harlan's concurrence in *Katz* and the two pronged reasonable expectation of privacy doctrine). The first prong of the reasonable expectation of privacy analysis includes a subjective element as to whether the individual exhibited an expectation of privacy. *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring). The second prong of the analysis involves the determination as to whether or not the individual's expectation is viewed in light of societal norms as something that would be considered reasonable. *Id.*; see *infra* note 143 and accompanying text (presenting some examples of areas that have been considered objectively reasonable because the individuals made the information readily available to the public).

<sup>142</sup> See *infra* Part III.B.1 (evaluating the lack of a reasonable expectation of privacy relating to aerial surveillance operations); *infra* Part III.B.2 (analyzing the lack of a reasonable expectation of privacy while traveling on public thoroughfares).

<sup>143</sup> See *United States v. Knotts*, 460 U.S. 276, 284 (1983) (stating the principle rationale for allowing warrantless beeper tracking in automobiles is that the beeper is merely a more effective way to observe what is already being conveyed to the public); *Katz*, 389 U.S. at 351 (“What a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection”); *Cardwell v. Lewis*, 417 U.S. 583, 590 (1974) (evaluating the lesser expectation of privacy in a vehicle because of the vehicle and its contents are in plain view while traveling on a public thoroughfare). This knowing exposure to third parties of information has been used in other contexts to determine that parties do not have a legitimate expectation of privacy. See *Smith v. Maryland*, 442 U.S. 735, 744–45 (1979) (holding no legitimate expectation of privacy when using a phone because the information was voluntarily turned over to a third party); *United States v. Miller*, 425 U.S. 435, 443 (1976) (holding that deposit information turned over to the banks does not implicate the Fourth Amendment because of the bank's third party status); *Hoffa v. United States*, 385 U.S. 293, 302 (1966) (discussing the lack of Fourth Amendment protection inside a hotel room when the person whom was an undercover law enforcement agent was voluntarily invited into the room). *But see* *Bond v. United States*, 529 U.S. 334, 338–39 (2000) (holding that a person has a reasonable expectation that their luggage in public view on a bus will not be physically manipulated in an exploratory manner to determine the contents inside).

<sup>144</sup> See *supra* notes 99, 105 and accompanying text (discussing *Ciraolo* and *Riley* and the holdings that lead to our current Fourth Amendment viewpoints with regard to this topic).

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lack of a reasonable expectation to be free from surveillance while traveling on public thoroughfares.<sup>145</sup>

1. No Objective Expectation of Privacy Exists with Regards to Investigations Involving Aerial Surveillance

The Court in *California v. Ciraolo* identified that society will not respect an individual's expectation to be free from aerial surveillance.<sup>146</sup> Aircrafts travel through public airspace and, as such, courts consider this a vantage point to visually inspect an individual's property.<sup>147</sup> Courts construe viewing an individual's property from public airspace as the equivalent of an unobstructed view into the backyard from a street.<sup>148</sup> Courts also are not concerned with distinguishing between different types of aircrafts involved in the law enforcement's investigation.<sup>149</sup> Arguably a drone will receive the same latitude as other aerial surveillance methods.<sup>150</sup> It seems

<sup>145</sup> See *supra* notes 87, 92 and accompanying text (discussing *Knotts* and *Karo* regarding the current state of Fourth Amendment with regards to vehicles traveling on public thoroughfares).

<sup>146</sup> 476 U.S. 207, 214 (1986). The Court similarly found the same in *Florida v. Riley*. 488 U.S. 445, 451-52 (1989); see *Dow Chemical Co. v. United States*, 476 U.S. 227, 234-35 (1986) (discussing the application of this principle to a large industrial complex inspected by the Environmental Protection Agency). See McBride, *supra* note 41, at 646-51, for a discussion of some limitations presented by *Ciraolo*, *Riley*, and *Dow Chemical Co.*, while also summarizing some distinctions that lower state courts have drawn since these opinions with regards to aerial surveillance operations that became overly intrusive for differing reasons.

<sup>147</sup> See *Ciraolo*, 476 U.S. at 215 (analyzing the fact that all of the observations happened while traveling within the public airway). In *Riley*, this became a spotlight of the discussion as the court addressed the flight of a helicopter at 400 feet. 488 U.S. at 451. The Court ultimately determined that a helicopter flying at 400 feet is consistent with the FAA standards and with the law regarding flying in navigable airways. *Id.* at 451-52. But see *Riley*, 488 U.S. at 453 (O'Connor, J., concurring) (arguing compliance with FAA standards does not in itself determine that societal expectations have not been breached). Justice O'Connor's argument stems from the idea that the FAA has determined that there truly is no lower limit for an altitude that a helicopter may fly. *Id.*

<sup>148</sup> *Riley*, 488 U.S. at 449-50 (White, J., plurality). Justice White stated:

[T]he police, like the public, would have been free to inspect the backyard garden from the street if their view had been unobstructed. They were likewise free to inspect the yard from the vantage point of an aircraft flying in the navigable airspace as this plane was. In an age where private and commercial flight in the public airways is routine, it is unreasonable for respondent to expect that his marijuana plants were constitutionally protected from being observed with the naked eye from an altitude of 1,000 feet.

*Id.* at 449-50 (quotations omitted).

<sup>149</sup> See *id.* at 451 (discussing the refusal of the Court to differentiate based on the fact that a helicopter was used rather than a fixed-wing aircraft as was the case in *Ciraolo*).

<sup>150</sup> See *supra* note 104 and accompanying text (discussing the courts allowance of different types of surveillance aircrafts). See *supra* note 87 and accompanying text for an argument as

that the one distinguishing feature of drones—the lack of an on-board pilot—will not provide a strong enough basis to distinguish drones from other more traditional methods of aerial surveillance.<sup>151</sup>

A caveat to the court finding drones as permissible forms of aerial surveillance is that it would procedurally need to follow methods observed in *California v. Ciraolo* and its progeny.<sup>152</sup> The court could potentially differentiate a hypothetical drone case involving drone use at high altitudes and equipped with advanced surveillance technologies.<sup>153</sup> However, if the drone surveillance was to operate similar to a traditional aircraft it is unlikely the courts would draw a distinction.<sup>154</sup> The Supreme Court has applied a similar principle in the context of vehicles traveling on public thoroughfares.<sup>155</sup>

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to why law enforcement agents will be able to use drone capabilities to aid in their investigations. *Knotts* held “[n]othing in the Fourth Amendment prohibited the police from augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them.” *Knotts*, 460 U.S. at 276, 282.

<sup>151</sup> See McBride, *supra* note 41, at 651-52 (discussing five distinguishing factors that not having an on-board pilot presents). The five factors are: “(1) location of the observer, (2) use of cameras to conduct surveillance, (3) ability to conduct continuous operations, (4) covert rather than disruptive surveillance, and (5) restrictions on access to the national airspace system.” *Id.*

<sup>152</sup> See Schlag, *supra* note 36, at 16 (arguing drones would likely be permissible under current law enforcement constraints so long as they operate in a similar manner to the previous aerial surveillance cases); *supra* notes 97, 102 and accompanying text (discussing the holding in *Ciraolo* and *Riley*). The Court continually notes the observations made by the agent as done with his “naked eye” as a way of equating this vantage point is the same as the viewing from a public road. See *Riley*, 488 U.S. at 448 (noting the importance of the visual observation by the officer); *Ciraolo*, 476 U.S. at 210 (stating the “naked eye” surveillance as an important reason to find such an observation valid). The type of technology the drone is equipped with will ultimately play a big role in how the Court treats drones. See THOMPSON, *supra* note 36, at 14 (arguing the type of technology the drones are equipped with as an important factor in determining the legality of aerial surveillance); McBride, *supra* note 41, at 651-54 (evaluating several factors that can potentially create a distinction from traditional surveillance techniques).

<sup>153</sup> See Hiltner, *supra* note 48, at 412 (discussing the surveillance being performed in *Ciraolo* as being traditional in nature and emphasizing the need to be able to ascertain the information with the “naked-eye”); Villasenor, *supra* note 33, at 492 (arguing that the “naked eye” aspect of the observation was determinative); *supra* note 96 and accompanying text (equating the surveillance that takes place from an aircraft as the equivalent of an unobstructed view from public road). *But see* Villasenor, *supra* note 33, at 493 (discussing the usage of advanced cameras in *Dow Chemical Co.*). The usage of advanced cameras, capable of seeing much more than the “naked eye,” were still permissible in *Dow Chemical Co.*; however, this case was factually different in that it involved the surveillance beyond just the curtilage of the premises. *Id.*

<sup>154</sup> See *supra* note 104 and accompanying text (discussing the Supreme Court’s consideration of aerial surveillance methods and the approval of techniques that are similar to that of other traditional surveillance techniques).

<sup>155</sup> See *infra* Part III.B.2 (discussing the availability of long-term monitoring on public thoroughfares).

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2. No Objective Expectation of Privacy Exists Regarding Vehicles Traveling on Public Thoroughfares

The Fourth Amendment has given vehicles unique treatment based on their transient nature and openness to the public.<sup>156</sup> This treatment led to several important decisions in the 1980s establishing the lack of an expectation of privacy while traveling in a vehicle on public roads.<sup>157</sup> This principle has given free rein to law enforcement personnel to monitor vehicles traveling on public thoroughfares for extensive periods of time without a search occurring.<sup>158</sup>

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<sup>156</sup> See *supra* notes 81–82 and accompanying text (evaluating the disparate treatment given to vehicles as compared to homes and offices). The oft-quoted language explaining this distinction:

One has a lesser expectation of privacy in a motor vehicle because its function is transportation and it seldom serves as one's residence or as the repository of personal effects. A car has little capacity for escaping public scrutiny. It travels public thoroughfares where both its occupants and its contents are in plain view.

*Cardwell v. Lewis*, 417 U.S. 583, 590 (1974). The Court in *United States v. Knotts* went on to argue the protection of crime in and individual's home as compared to a vehicle as:

Crime, even in the privacy of one's own quarters, is, of course, of grave concern to society, and the law allows such crime to be reached on proper showing. The right of officers to thrust themselves into a home is also of grave concern, not only to the individual, but to a society which chooses to dwell in reasonable security and freedom from surveillance. When the right of privacy must reasonably yield to the right of search is, as a rule, to be decided by a judicial officer, not by a policeman or government enforcement agent.

460 U.S. 276, 282 (1983) (citations omitted) (quoting *Johnson v. United States*, 333 U.S. 10, 13–14 (1948)). See *United States v. Karo*, 468 U.S. 705, 714–15 (1984), for a comparison of the distinct treatment given to vehicles as opposed to homes. In *Karo*, a case nearly identical to the tracking involved in *Knotts*, the Supreme Court found the information the law enforcement agents gained from a beeper monitor was impermissible. *Id.* at 716. The Court determined that the activation of the beeper inside the home to determine the location of a stash of chloroform constituted a search. *Id.* at 715. However, the Court found the tracking and activation of the beeper while traveling in a vehicle on public thoroughfares as permissible. *Id.* at 721.

<sup>157</sup> See *id.* (holding the beeper tracking that took place valid only with regards to the activation on public thoroughfares and not while it was used inside the residence of one of the defendants); *Knotts*, 460 U.S. at 281–82 (determining no reasonable expectation of privacy in a vehicle while traveling on public thoroughfares).

<sup>158</sup> See *supra* note 86 and accompanying text (discussing the ability of law enforcement agents to monitor an individual's every movement while traveling on a public road because the same information could potentially be gained from a traditional form of surveillance). *But see United States v. Pineda-Moreno*, 617 F.3d 1120, 1125–26 (9th Cir. 2012) (refuting the argument that the *Knotts* case in fact granted unlimited surveillance on public thoroughfares). *Pineda-Moreno* argues that *Knotts*' actual holding was "that you have no expectation of privacy as against police who are conducting visual surveillance, albeit 'augmenting the sensory faculties bestowed upon them at birth with such enhancements as

The GPS tracking in *United States v. Jones* was a great opportunity to address some of the potential concerns of overly intrusive police investigations; however, the Court avoided that issue by deciding the case using the trespass-based approach.<sup>159</sup> Although the concurring opinions sought to address long-term tracking, the ultimate holding was of little value.<sup>160</sup> Surveillance of individuals traveling on public thoroughfares, as envisioned by *Knotts* and *Karo*, should be seen as permissible to an extent.<sup>161</sup> However, the unrestricted long-term monitoring of individuals traveling on public thoroughfares reveals a large amount of information that, in the aggregate, should be considered private.<sup>162</sup> Drone technology

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science and technology afford[s] them.” *Id.* at 1126. *See also supra* note 115 and accompanying text (discussing a recent opinion that aims to curb GPS use by requiring a warrant when these devices are used for extensive periods of time). This opinion held “[w]hen the use of a GPS device enables police to gather a wealth of highly-detailed information about an individual’s life over an extended period of time, its use violates an expectation of privacy that society is prepared to recognize as reasonable.” *South Dakota v. Zahn*, 812 N.W.2d 490, 498 (S.D. 2012).

<sup>159</sup> *See THOMPSON II GPS MONITORING, supra* note 118, at 9–10 (critiquing *Jones* because its ability to apply to many advanced technology cases is nil); *supra* note 115 and accompanying text (discussing the long-term monitoring and GPS use by the law enforcement agency to track *Jones* over a period of twenty-eight days).

<sup>160</sup> *See supra* notes 115, 118 and accompanying text (discussing the willingness of Justice Sotomayor and Justice Alito to address the long-term tracking of an individual with GPS technology). Justice Sotomayor broadly discusses this concept by stating, “it may be necessary to reconsider the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties.” *United States v. Jones*, 132 S. Ct. 945, 957 (2012) (Sotomayor, J., concurring). For a discussion concerning the lack of practical value of *Jones*, see *Gatewood, supra* note 113, at 700–01. The author likens the Supreme Court’s decision in *Jones* as the equivalent to waking up as a child on Christmas morning only to find out that Santa forgot to bring you all of the things you wanted. *Id.* at 683.

<sup>161</sup> *See Jones*, 132 S. Ct. at 964 (Alito, J., concurring) (discussing the willingness to find relatively short-term monitoring as reasonable under the principles set forth in *Knotts*). Shorter term monitoring should be seen as acceptable; however, the amount of information obtainable through long-term monitoring violates the Fourth Amendment. *See THOMPSON II GPS MONITORING, supra* note 118, at 7 (explaining the lack of information that is learned by following an individual to a liquor store on one occasion compared to what the government learns about that same individual if they follow him every day to the liquor store for an extended period of time).

<sup>162</sup> *See supra* notes 115–19 and accompanying text (discussing the concurrence of Justice Alito and Justice Sotomayor). Justice Alito argued that the monitoring that took place, constant GPS tracking for twenty-eight days, did not comport with reasonable expectations of privacy. *Jones*, 132 S. Ct. at 964 (Alito, J., concurring). Justice Alito states, “[w]e need not identify with precision the point at which the tracking of this vehicle became a search, for the line was surely crossed before the [four]-week mark. Other cases may present more difficult questions.” *Id.* Justice Sotomayor discussed the law enforcement agencies ability to ascertain important personal details about an individual’s lifestyle by long-term monitoring, for example “their political and religious beliefs, sexual habits, and so on.” *Id.* at 956 (Sotomayor, J., concurring). Justice Sotomayor broadly discussed this concept by stating, “it

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allows these long-term surveillance operations to take place for an extended period of time without violating the Fourth Amendment constraints currently in place.<sup>163</sup> Part III.C will discuss how drone surveillance technology defeats the underlying principle of the Fourth Amendment.<sup>164</sup>

C. *Drone Technology is the Catalyst for Fourth Amendment Change*

Drones can obliterate the constitutional protections afforded by the Fourth Amendment.<sup>165</sup> Law enforcement agencies have rarely been restricted from using technological advances to aid in their duties.<sup>166</sup> Although the judiciary has rarely handicapped law enforcement agencies by placing blanket restrictions on the use of technology, since the introduction of drones, legislatures have attempted to alleviate the public's concern of domestic drone usage through various pieces of

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may be necessary to reconsider the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties." *Id.* at 957. See *New York v. Weaver*, 909 N.E.2d 1195, 1199 (N.Y. App. Div. 2009), for another example of the massive amount of information obtained through GPS monitoring while also discussing some potentially private places that may be disclosed by GPS monitoring, such as, "trips to the psychiatrist, the plastic surgeon, the abortion clinic, the AIDS treatment center, the strip club, the criminal defense attorney, the by-the-hour motel, the union meeting, the mosque, synagogue or church, [and] the gay bar."

<sup>163</sup> See *supra* Part II.A (discussing the capabilities of drones that are being used in today's law enforcement operations); *supra* Part III.A (discussing the failure of the trespass-based approach to drone investigations); *supra* Part III.B (discussing the failure of protection from drone surveillance under the reasonable expectation of privacy doctrine).

<sup>164</sup> See *infra* Part III.C (discussing the flexibility and underlying principles supporting the Fourth Amendment).

<sup>165</sup> See DOJ DRONE AUDIT, *supra* note 40, at 3-4 (presenting the Department of Justice's concerns about invasive and dangerous nature of the up and coming drone technology). Privacy advocates such as the ACLU have similarly expressed harsh resistance to the introduction of drones into regular police investigations. See STANLEY & CRUMP, *supra* note 41, at 11 (arguing the widespread use of drones creates a chilling effect on societal expectations of privacy when individuals are outside of their homes).

<sup>166</sup> See Simmons, *supra* note 115, at 1331-32 (arguing that technology that is well established in society may create a change in expectations simply by understanding and knowing of the technology's existence); Weaver, *supra* note 65, at 1183 (discussing the erosion of societal expectations based on innovative new technologies). At least one scholar argues that these technological advances and the societal awareness of such technology have eroded the public's expectation of privacy. See Ghoshray, *supra* note 107, at 595 (arguing that privacy is a fundamental right that has been weakened over time). Courts have never attempted to prevent the use of new technologies by law enforcement agencies. See *supra* note 87 and accompanying text ("Nothing in the Fourth Amendment prohibited the police from augmenting the sensory faculties bestowed upon them at birth with such enhancement as science and technology afforded them"); *supra* note 35 and accompanying text (discussing the growing use of technology in law enforcement agencies to effectively perform their duties).

legislation.<sup>167</sup> Unfortunately, these efforts have only been successfully passed at the state level.<sup>168</sup> Thus, currently law enforcement agencies are able to arm themselves with drones because the increased production has led to a wide variety of faster, cheaper, and more versatile drones than ever before.<sup>169</sup> Some contend drones are the next greatest tool to be used in domestic surveillance.<sup>170</sup> On the other hand, drone technology presents a dangerous new era for surveillance operations, with implications that can change the landscape of individuals' privacy forever.<sup>171</sup>

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<sup>167</sup> See Schlag, *supra* note 36, at 19–20 (discussing a few of the state legislative efforts that have been made and passed). This Article also addresses the wide range of legislation that has been proposed at the state level with some states focusing on banning the arming of drones and still other states are imposing a probable cause requirement in drone investigations. *Id.* The flexible nature of the Fourth Amendment has often allowed for issues of what constitutes a search to be determined by the judiciary rather than the legislature. See *infra* note 178 and accompanying text (explaining the benefits of using a judicial solution rather than a legislative solution to curb domestic drone use and other advanced technologies). But see THOMPSON II, *supra* note 36, at 18–21 (exemplifying congressional efforts that have been made during the 113th session attempting to regulate law enforcement's use of drones). This report mentions some legislative congressional successes, which regulated Fourth Amendment privacy concerns pertaining to wiretapping, email storage, bank records, and health records. *Id.* at 18.

<sup>168</sup> See NATIONAL ASSOCIATION FOR CRIMINAL DEFENSE LAWYERS, *supra* note 36 (presenting an interactive map which links to an exhaustive list of the states that have already passed drone legislation and the ones that are attempting to pass drone legislation). By examining the list of states and the different legislative efforts that exist, the true disparity can be seen among how drone legislation should be handled. See, e.g., IDAHO CODE ANN. § 21-213 (LexisNexis Supp. 2013) (prohibiting the use of drones for surveillance and evidence gathering absent a warrant). The state of Virginia has placed a moratorium on drone usage for a period of two years to determine the correct protocol to put in place for law enforcement's use of drones. See 2013 Va. Acts 755 (forbidding governmental agencies involved in law enforcement activities from using drones before July 2015, at which point, the discussion will be recommenced).

<sup>169</sup> See Schlag, *supra* note 36, at 12 (analyzing the Fourth Amendment issues and describing the increased effectiveness of drones as the reason for the exponential growth in the arena of law enforcement usage). The increased effectiveness of drones has similarly been addressed by several governmental reports. See DOJ DRONE AUDIT, *supra* note 40, at 3 (“[Drone] technology improvements and their reduced costs have resulted in questions being raised regarding the potential for routine law enforcement use of UAS and the implications of such use on privacy rights.”); ELIAS, *supra* note 34, at 17–19 (arguing one of the biggest concerns to the burgeoning drone market is the advanced equipment that can be loaded onto these machines).

<sup>170</sup> See THOMPSON II, *supra* note 36, at 1 (evaluating the potential benefits of drone usage and arguing that many governmental organizations are very excited about the potential this new technology has). It is important to note the potential balancing that needs to be done between effective law enforcement practices and potential privacy concerns that exist. *Id.*; see ELIAS, *supra* note 34, at 19 (countering the potential arguments against domestic drone use by arguing the potential benefits that can be ascertained by domestically operating them).

<sup>171</sup> See Ghoshray, *supra* note 107, at 590 (arguing drone surveillance operations are inimical to the framer's intentions and dangerous to civil liberties). One of the primary focuses of this Article is how cultural events can create changes in societal expectations of privacy;



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The use of drone technology still must comport with the constitutional protections guaranteed by the Fourth Amendment.<sup>172</sup> However, as analyzed above, the two Fourth Amendment frameworks fail to provide protection from drone surveillance operations on public thoroughfares.<sup>173</sup> The monitoring made capable through drones is of particular concern because it provides the government with the ability to abuse drone capabilities and directly infringe on a person's Fourth Amendment right to privacy.<sup>174</sup> Essentially, the lack of protection afforded by Fourth

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primarily focusing on the effects of the 9/11 terrorist attacks. *Id.* at 584. Dr. Ghoshray, referring to drone surveillance, describes the United States as "sit[ting] at the precipice of an impending governmental intrusion." *Id.* at 590. This Article concludes with a chilling warning that "[u]nless lawmakers and policy analysts are careful in developing the appropriate framework, drones could end privacy for all." *Id.* at 599.

<sup>172</sup> See *supra* note 74 and accompanying text (discussing *Katz* and stating the underlying principle that "the Fourth Amendment protects people, not places"). Justice Alito addressed the issue of compliance with Fourth Amendment reasonableness principles in *Jones* when he applied the expectation of privacy doctrine to the GPS monitoring that took place. 132 S. Ct. at 958 (Alito, J., concurring). Scholar Thomas Clancy, discussing Justice Brandeis's dissenting opinion in *Olmstead*, argued that the "Fourth Amendment must be construed to afford protections against the dramatic increase in the ability of the government to intrude based on advances in technology." See Clancy II, *supra* note 57, at 51. In furthering this argument, Clancy believes:

American colonists at the time of the framing focused on the techniques used, those physical intrusions were offensive because they impinged upon things held dear by those subjected to the searches, that is, their persons, homes, and private papers. That normative-based view should be applied to any intrusion with the purpose of obtaining physical evidence or information, either by a technological device or the use of the senses, into a protected interest.

*Id.* at 53-54. The ACLU similarly believes that drone technology needs to be reined in because the potential for governmental abuse is too high. See STANLEY & CRUMP, *supra* note 41, at 1 (describing the potential for domestic law enforcement's use of drone technology as far too high and proposing different forms of regulation that attempt to inhibit drone usage).

<sup>173</sup> See *infra* Part III.A-B (analyzing the trespass-based approach and the reasonable expectation of privacy doctrine as it relates to drone surveillance on public thoroughfares and concluding that both fail to provide Fourth Amendment protection).

<sup>174</sup> See THOMPSON II, *supra* note 36, at 13 (arguing that drone surveillance may ultimately be curtailed based on the location that the drone is performing its surveillance). This report similarly discussed *Jones* and the potential for long term tracking to be found impermissible under some form of new standard that the Supreme Court may craft in the future. *Id.* at 9-10. A similar governmental report presented concerns over the introduction to drones and a need for cognizable standards to be applied to domestic law enforcement's use of drone technology. See DOJ DRONE AUDIT, *supra* note 40, at ii (arguing the FBI's current standard, which does not significantly differentiate drones from manned aircrafts, may lead to difficulties based on drones' ability to invade into the privacy of individuals). This audit argued that substantial concerns still exist regarding surveillance operations and the permissibility of drones to be used domestically for intelligence gathering operations. *Id.* at 3-4.

Amendment precedent could quickly develop into a slippery slope.<sup>175</sup> Scholars and advocates of privacy have been reluctant to introduce drones into domestic surveillance operations because the use of drones is dangerous and intrusive to civil liberties.<sup>176</sup> Arguably, the long-term drone monitoring operations place the United States one step closer to an Orwellian society, where the privacy of individuals is no longer seen as a fundamental right.<sup>177</sup>

The Fourth Amendment's inherently flexible nature has been used since its enactment to provide protection from an overly intrusive government.<sup>178</sup> A drone monitoring an individual's every movement

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<sup>175</sup> See Takahashi, *supra* note 42, at 113 (“[T]he greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”) (quoting *Olmstead v. United States*, 277 U.S. 438, 479 (1928) (Brandeis, J., dissenting)). Takahashi continued concerning this slippery slope:

The darkest hour is just before the dawn. Overzealous use of intrusive technology by law enforcement will eventually force the Supreme Court to reevaluate key cases such as *Katz* . . . in light of technological advances. Until the Supreme Court weighs in definitively, advances in miniaturized remote sensing technology will blur the boundaries between reasonable observation and unreasonable eavesdropping.

*Id.* The ACLU is similarly concerned about the potential dangers that are on the horizon concerning drone technology. See STANLEY & CRUMP, *supra* note 41, at 12 (describing the potential for institutional abuses by law enforcement agencies across the country). This report augments this theory by discussing the abuses by the FBI and other security agencies during the 1970s revolving around the civil-rights and anti-Vietnam era. *Id.* During this time period, bad policies were put in place by these agencies, which led to systematic, abusive, and illegal practices by entire governmental agencies. *Id.*

<sup>176</sup> See GAO PRIVACY CONCERNS, *supra* note 46, at 32 (describing the concerns of several different organizations including civil liberties groups and congress about the potential privacy issues related to increased domestic drone surveillance); see also Ghoshray, *supra* note 107, at 599 (analyzing the potential for drones to change the societal privacy expectations of individuals forever); Schlag *supra* note 36, at 12 (arguing that the small size and relative ability to remain quiet creates a dangerous Fourth Amendment issue); Vacek, *supra* note 40, at 675 (implying a new standard needs to be set for drone technology based on the amount of information that can be obtained by a drone). Monmouth University's poll of the public on domestic drone surveillance similarly showed that individuals are concerned about the potential for abuses by law enforcement agencies. MONMOUTH POLLING INSTITUTE, *supra* note 52, at 1-3. However, the types of activities that the drones were used played a big role in the level of support it received from the public. *Id.* For example, 42% generally were concerned about their privacy if drones were to be used regularly by law enforcement agencies; but 80% of people endorsed the usage of drones for search and rescue operations. *Id.* Similarly, 67% of people regarded the usage of drones to issue speeding tickets as improper. *Id.*

<sup>177</sup> See ORWELL, *supra* note 1, 1-5 (presenting a frightening fictional dystopian society, where no privacies remain for the citizens, and governmental intrusion into all aspects of life are commonplace and accepted). The quintessential example of an overly intrusive government was outlined in George Orwell's classic work of fiction, 1984.

<sup>178</sup> See *supra* notes 64-65 and accompanying text (describing the transition from the trespass-based approach to the reasonable expectation of privacy doctrine to adjust for

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while traveling on public thoroughfares for an extended period of time should undoubtedly violate the Fourth Amendment, although current tests utilized by courts do not restrict such an excessive intrusion of one's privacy.<sup>179</sup> Thus, this Note proposes modifying the reasonable expectation of privacy doctrine, which will afford individuals protection when the government uses drones to monitor public thoroughfares.<sup>180</sup>

## IV. CONTRIBUTION

A problem arises when applying the two Fourth Amendment doctrines to drone surveillance operations on public thoroughfares.<sup>181</sup> First, drone surveillance technology provides the opportunity to monitor without ever physically coming in contact with an individual's vehicle.<sup>182</sup> Second, the Fourth Amendment's aim to protect individuals' privacy from an overly intrusive government is thwarted when massive amounts of information can be learned through long-term monitoring of one's movements on public thoroughfares.<sup>183</sup> This Part supplements the reasonable expectation of privacy doctrine with an additional prong during long-term drone surveillance operations on public thoroughfares.<sup>184</sup> This additional prong will allow courts to apply time-oriented guidelines to restrain long-term drone surveillance operations.

The trespass-based approach is wholly irrelevant to drone surveillance because no physical contact takes place when a drone

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advanced surveillance techniques); *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring) (discussing the use of the two pronged test that provides for a case by case analysis); *id.* at 362-63 (White, J., concurring) (discussing the "official surveillance of petitioner's telephone conversations in a public booth must be subjected to the test of reasonableness"). Some scholars have suggested that the holding in *Jones* showed the willingness of the Court to potentially abandon or modify the reasonable expectation of privacy doctrine in the future. See Takahashi, *supra* note 42, at 110 (arguing that the underlying principle of *Katz* would remain regardless).

<sup>179</sup> See *supra* note 115 and accompanying text (discussing Justice Alito's concurrence and his finding that a constant monitoring for a period of twenty-eight days violated the reasonable expectation of privacy of the individual operating the car); *supra* note 119 and accompanying text (discussing the amount of information that can be learned about an individual when monitored for an extended period of time).

<sup>180</sup> See *infra* Part IV (proposing the modern reasonable expectation of privacy analysis).

<sup>181</sup> See *supra* Part III.A-B (analyzing the failure of the trespass-based approach and the reasonable expectation of privacy doctrine as it applies to drone technology).

<sup>182</sup> See *supra* Part II.A (presenting the technological capabilities of the drone technology that is on the market today and also hypothesizing some of the potential future technologies that will be available as the drone industry continues to expand).

<sup>183</sup> See *supra* Part III.C (arguing the Fourth Amendment's intention to protect individuals from an overly intrusive government needs to be the fundamental concern when addressing domestic drone surveillance operations).

<sup>184</sup> See *supra* Part IV (proposing the modern privacy expectation doctrine).

monitors an individual.<sup>185</sup> This outdated method is not applicable to many forms of advanced surveillance techniques that law enforcement agencies now employ. Similarly, the reasonable expectation of privacy doctrine does not provide a remedy against drone surveillance operations on public thoroughfares.<sup>186</sup> To succeed under the reasonable expectation of privacy doctrine, an individual must be able to show “society is prepared to recognize [their expectation] as reasonable.”<sup>187</sup> The Supreme Court has continuously stated society does not recognize an individual’s expectation of privacy while traveling on public thoroughfares as reasonable.<sup>188</sup> However, in adopting this principle, the Supreme Court was not considering dragnet covert surveillance methods, such as drones.<sup>189</sup> Law enforcement agencies’ current unfettered use of drones on public thoroughfares needs to be reined in by a new standard.

This Note proposes a modern privacy expectation doctrine, which would apply to drones, and will consider length as the primary element.<sup>190</sup> The proposed doctrine will evaluate the span of days that a warrantless drone surveillance investigation took place considered in light of two factors to justify the longevity. The two factors are: (1) the potential amount of information that can be gained; and (2) the underlying reason that the surveillance operation began. The burden will rest on the law enforcement agency to justify the length of the investigation in light of the two factors. The doctrine will help to develop a body of case law that allows for law enforcement agencies to understand the limitations of drone surveillance before using drones as a means of investigation. The modern privacy expectation doctrine attempts to protect the privacy of individuals while still embracing flexibility.

The first factor of the modern privacy expectation doctrine will allow courts to determine the amount of information potentially gained during

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<sup>185</sup> See *supra* Part III.A (presenting the capabilities of new drone technology and its ability to perform long-term surveillance operations without ever physically touching the targeted vehicle).

<sup>186</sup> See *supra* Part III.B (determining that the current precedent as enumerated by the Supreme Court still allows for long term warrantless monitoring of individuals so long as it occurs while travelling on public thoroughfares).

<sup>187</sup> *Katz v. United States*, 389 U.S. 347, 361 (1967).

<sup>188</sup> See *supra* Part III.B.2 (evaluating two important automobile search cases that ultimately led to this principle).

<sup>189</sup> *United States v. Knotts*, 460 U.S. 276, 283–84 (1983). *Knotts* contended that the Supreme Court’s holding allowed for unlimited twenty-four hour surveillance of individuals on public roads. *Id.* at 283. Justice Rehnquist retorted, “the reality hardly suggests abuse, [and] if such dragnet type law enforcement practices . . . should eventually occur, there will be time enough then to determine whether different constitutional principles may be applicable.” *Id.* at 283–84 (citation omitted).

<sup>190</sup> The author created the modern privacy expectation doctrine solely for the purposes of this Note.

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the monitoring. This factor will ask how much information the law enforcement agency *may* learn during the surveillance, rather than inquiring into what the agency *did* learn. The potential information acquired is the determinative factor. When a law enforcement agency does not learn anything about an individual's private life during a constant four-week surveillance operation, a Fourth Amendment violation is still likely to have occurred based on the potential to learn intimate details of the monitored individual. This distinction is drawn to prevent law enforcement agencies from engaging in dragnet-style surveillance and instead force the agencies to tailor their operations to potential crime-related activities.

The second factor of the modern privacy expectation doctrine will allow courts to weigh the underlying alleged crime or reason why the investigation began. Deference is given to crimes of a more serious nature. Murder, rape, and drug trafficking are examples of the crimes that would permissibly allow for longer surveillance operations. On the opposite end of the spectrum, theft, driving under the influence, and public intoxication would not justify long surveillance operations. This factor will place an outer limit on the length of time for conducting an investigation, even in cases involving the most heinous crimes, when the operation is not tailored to protect the individual's privacy. Justice Alito's concurrence in *Jones* determined twenty-eight days was certainly beyond the threshold of permissible surveillance.<sup>191</sup> Fourteen days seems like an appropriate outer limit regarding the amount of time.<sup>192</sup> This limit still allows for gathering information without becoming exceedingly lengthy. The establishment of precedent in this type of drone surveillance will be critical in the outcome. Additionally, the second prong can create defined rules based on the type of alleged crime being committed. For example, a complete ban of drone surveillance could be placed on investigations surrounding misdemeanors. Similarly, an exception to the fourteen-day period could be created in the event of a national security emergency or domestic terrorism threat.

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<sup>191</sup> See *supra* note 113 and accompanying text (discussing Justice Alito's opinion about the excessive nature of twenty-eight days of warrantless GPS tracking).

<sup>192</sup> See *United States v. Jones*, 132 S. Ct. 945, 964 (2010) (Alito, J., concurring). Justice Alito made no effort to determine when the threshold was passed between short-term surveillance and the period when it became an impermissible monitoring. *Id.* The fourteen-day period selected for the modern privacy expectation doctrine was determined to be a middle ground between short-term monitoring and the impermissibly excessive, as determined by Alito. *Id.*

Some authorities have suggested that legislation is the solution to domestic drone surveillance issues, rather than a judicial solution.<sup>193</sup> While legislation has sometimes been the solution to Fourth Amendment issues, more often than not, judicial restraint has been the answer.<sup>194</sup> The nuances involved in these Fourth Amendment cases require adaptability that only the judiciary can provide.<sup>195</sup> By avoiding rigid statutory guidelines, this doctrine is capable of adapting and progressing with drone technology, similar to the way the reasonable expectation of privacy doctrine has adapted to changing technology over the last fifty years.<sup>196</sup> By capping the amount of days that warrantless drone surveillance operations may happen, law enforcement advocates may argue this doctrine potentially handicaps these agencies and allows criminals to potentially go free.<sup>197</sup> However, the emphasis of the modern privacy expectation doctrine allows for longer surveillance operations when the alleged crime is potentially serious. Ultimately, this doctrine is capable of balancing the serious concerns of law enforcement agencies with the privacy concerns of the public.<sup>198</sup>

The modern privacy expectation doctrine is capable of protecting an individual's Fourth Amendment rights. Its scope is aimed at restraining long-term unrestricted monitoring with advanced drone technology of individuals who are traveling on public thoroughfares. The amount of information that a law enforcement agency can obtain from these long-term drone surveillance operations is intrusive and burdensome. The protection of people's privacy is paramount. The modern privacy expectation doctrine refocuses the Fourth Amendment and alleviates the concerns created by potential long-term drone surveillance.

The current Fourth Amendment doctrines do not provide a remedy from long-term drone surveillance on public thoroughfares.<sup>199</sup> While

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<sup>193</sup> See THOMPSON II, *supra* note 36, at 18 (arguing that congressional legislation may be the solution to domestic drone legislation); Ghoshray, *supra* note 107, at 599 (describing lawmakers as the potential solution to protecting individuals privacy).

<sup>194</sup> See THOMPSON II, *supra* note 36, at 18 (presenting a few of the areas where Congress has invoked legislative power to control Fourth Amendment issues). A few of these successful legislative efforts include wiretapping, bank records, email storage, and health records. *Id.*

<sup>195</sup> See *supra* note 178 and accompanying text (describing the inherent flexibility of the Fourth Amendment and its ability to adapt to different cases).

<sup>196</sup> See *id.* (describing the Fourth Amendment's ability to change and adapt to technological advances).

<sup>197</sup> See *supra* note 167 and accompanying text (outlining the judiciary's reliance to handicap law enforcement agencies because of the important function they are serving).

<sup>198</sup> See THOMPSON II, *supra* note 36, at 1 (summarizing the importance of the delicate balance between law enforcement's need to perform their duties and the public's right to privacy).

<sup>199</sup> See *supra* Part III (emphasizing the failure of the two current Fourth Amendment tests in the context of domestic drone surveillance operations).

some level of privacy is lost when traveling on public thoroughfares, individuals do not expect to have all of their movements catalogued for extensive periods of time.<sup>200</sup> The modern privacy expectation doctrine still allows for drone usage to investigate potential criminal activity but limits the amount of time that such an operation can take place. This doctrine merely respects an individual's privacy and creates a reliable framework for drone technology. A law enforcement agency will always be able to seek a warrant at any point during their investigation and at such a time a member of the judiciary will determine if the requisite probable cause has been found to continue the drone surveillance operation. Advancing technology should not diminish an individuals' Fourth Amendment rights.<sup>201</sup> The modern privacy expectation doctrine respects law enforcement's use of advanced drone technology, but at the same time restrains its use in an effort to guarantee the protections afforded to individuals under the Fourth Amendment of the Constitution.

#### V. CONCLUSION

The Fourth Amendment needs to adapt to current surveillance technologies law enforcement agencies are currently employing. Drone technology is growing at a rapid pace and the Fourth Amendment needs to evolve to prevent governmental intrusion into an individual's privacy. The modern privacy expectation doctrine restrains law enforcement agencies from abusing this new and powerful drone technology.<sup>202</sup> With this new modern privacy expectation doctrine, an individual's privacy is given the utmost weight and the Fourth Amendment will continue to protect an individual's privacy.

The modern privacy expectation doctrine curbs the dragnet-style law enforcement practices that drones are currently capable of performing. By following this doctrine, law enforcement agencies and the judiciary will have a set of standards to base their decisions on. The most important aspect of the doctrine is to protect against long-term constant surveillance by placing time constraints on the amount of time warrantless drone operations take place. A law enforcement agency's actions in tailoring the investigation so as to not overly intrude into the individual's privacy can help to protect Fourth Amendment rights. Law enforcement will similarly

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<sup>200</sup> See THOMPSON II GPS MONITORING, *supra* note 118, at 7 (analyzing the public's awareness of potential short term monitoring by law enforcement agencies but instead showing concerns about longer-term operations).

<sup>201</sup> See *supra* Part III.C (arguing the Fourth Amendment's intent does not get pushed aside simply because new technologies allow for searches to occur in a different manner than before).

<sup>202</sup> See *supra* Part IV (presenting the modern privacy expectation doctrine and the ability of it to curb law enforcement's long-term domestic drone operations).

be allowed to investigate potential crimes of some magnitude for longer periods of time. This doctrine will be able to develop into a wealth of case law that provides even more insight into when a warrantless drone surveillance operation must terminate. Most importantly, this doctrine only attempts to hinder warrantless drone usage – at any point during an investigation a law enforcement agency may apply for a warrant and receive judicial authorization in full compliance with the Fourth Amendment.

Now back to the drone surveillance investigation involving Tom.<sup>203</sup> The law enforcement agency began the operation because of contact that Tom had with his brother, who is involved in manufacturing illegal drugs. After extensively monitoring Tom for thirty-five days, the law enforcement agency applies for an arrest warrant. The law enforcement agency charges Tom with conspiracy to manufacture and sell illegal drugs, even though it does not believe it has much of a case. It justifies the arrest warrant on the grounds Tom constantly travels to his brother's residence at all hours of the day.

Under the modern privacy expectation doctrine, Tom's attorney could argue the monitoring was completely impermissible and that the evidence to justify the arrest warrant was illegally obtained in violation of the Fourth Amendment. The investigation was in no way tailored to protect Tom's privacy. The drone surveillance was performed for too long a period of time and allowed the government to ascertain an enormous amount of personal information without receiving or even applying for a warrant. In the end, the modern privacy expectation doctrine protects Tom's right to privacy.

**Shane Crotty\***

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<sup>203</sup> See *supra* Part I (introducing Tom and the warrantless surveillance operation that was used to gather evidence and place him under arrest based on evidence obtained from a long-term drone monitoring on public thoroughfares).

\* I would like to thank my family for the endless amount of support throughout law school. Without their support none of this would have been possible. I would also like to thank my faculty advisor, Bruce Berner, who consistently challenged and pushed me during the course of the Note writing process. Equally important in the process was Janelle Thompson, Editor-in-Chief of Volume 48, who helped me during the editing and final stages of this long and difficult process. Finally, I would like to thank my amazing wife, Jenna Crotty, who supported me every step of the way.



