

THE RISE OF THE DRONES – THE NEED FOR COMPREHENSIVE FEDERAL REGULATION OF ROBOT AIRCRAFT

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I. WIDESPREAD USE OF ROBOTIC AIRCRAFT WILL TRIGGER A
COLLISION OF DISPARATE LEGAL PRINCIPLES AND MAXIMS

During the Second Gulf War and the subsequent occupation of Iraq and Afghanistan, robotic “Drone” flying machines proved their military mettle. On a daily basis, the United States military uses these unmanned aerial systems (UAS) to perform intelligence, surveillance and reconnaissance missions so as not to place brave soldiers in the direct line of fire.² On an irregular, but frequent basis, the United States military uses this technology to destroy enemy persons and property.³ Although concerned citizens debate the ethical use of such technology,⁴ the ability of an unmanned system to search, seek, and if necessary, destroy, are clear.

With the drawdown of troops in Iraq and Afghanistan, business visionaries plan to repatriate this technology for commercial profit.⁵ The Association for Unmanned Vehicle Systems International (AUVSI) advocates for business expansion, sponsors design contests, and lobbies lawmakers.⁶ In 2012, the *L.A. Times* reported on business plans to have Drones home-deliver take-out burritos.⁷ In 2013, Amazon and UPS announced their respective intent to offer package delivery via Drones.⁸ In 2014, the press reported that “[g]uests who stay in the \$10,000-per-night posh Alexandrite Suite at the Mansion at Casa Madrona hotel in Sausalito, Calif., have a new luxury amenity at their fingertips: A drone that brings them champagne.”⁹

² See Lev Grossman, *Drone Home*, TIME (Feb. 11, 2013), <http://content.time.com/time/magazine/article/0,9171,2135132,00.html>.

³ See *id.*

⁴ See *id.*

⁵ See *id.*

⁶ See generally *About Us*, AUVSI, <http://www.auvsi.org/home/aboutus/> (last visited Sept. 16, 2014) (AUVSI’s mission statement: “Advancing the unmanned systems and robotics community through education, advocacy[,] and leadership.”).

⁷ Salvador Rodriguez, *Tacocopter the Latest in a Rich Tradition of Internet hoaxes*, L.A. TIMES (Mar. 28, 2012), <http://articles.latimes.com/2012/mar/28/business/la-fi-tn-tacocopter-internet-hoax-20120328>.

⁸ Joanna Stern, *Like Amazon, UPS Also Considering Using Unmanned Flying Vehicles*, ABC NEWS (Dec. 3, 2013), <http://abcnews.go.com/Technology/amazon-ups-drone-delivery-options/story?id=21086160>.

⁹ Cheryl K. Chumley, *Drone Champagne Delivery Service Comes to California Hotel*, WASH. TIMES (May 16, 2014), <http://www.washingtontimes.com/news/2014/may/16/drone-champagne-delivery->

According to the *Washington Times*, this hotel uses “a custom-made, octo-copter drone” for its special delivery service.¹⁰ Are the courts really ready to handle charges of Droning While Intoxicated?

In February 2012, President Barack Obama signed the *FAA Modernization and Reform Act of 2012* (“*Reform Act*” or “*Act*”) into law.¹¹ Senate Majority Leader Harry Reid (D-Nevada) and House Speaker John Boehner (R-Ohio) brokered this compromise bill to end many years of gridlock.¹² In general, the *Act* is a beneficial force; it funds the Federal Aviation Administration (FAA) through 2015.¹³ Buried among its many provisions is some unusual language directing the FAA on how it should allow robotic Drone aircraft to operate within the national airspace.¹⁴

Drone acolytes welcome this law because they believe the future includes robotic aircraft that deliver tacos, “sell houses, shoot movies and assist local police in chasing suspects.”¹⁵ The AUVSI claims that Drones promise an eighty-two billion dollar business opportunity over a ten-year period.¹⁶ In 2013, Drones delivered cold beer to outdoor concertgoers.¹⁷ An editorial claims that police drones could have been used to quickly apprehend the Boston Marathon bombers.¹⁸ The press reports how Drone entrepreneurs are frustrated with FAA inaction despite domestic

service-comes-california-#ixzz3256MHPX1.

¹⁰ *Id.*

¹¹ FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11 (2012); *see also* Keith Laing, *Obama Signs \$63B FAA Funding Bill into Law*, THE HILL (Feb. 14, 2012, 8:59 PM), <http://thehill.com/blogs/transportation-report/aviation/210649-obama-signs-63b-faa-funding-bill-into-law>.

¹² Laing, *supra* note 11.

¹³ *Id.*

¹⁴ FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 332, 126 Stat. 73–74 (2012).

¹⁵ Brian Bennett, *FAA Moves Toward Allowing Unmanned Drones in U.S. Airspace*, L.A. TIMES (Mar. 8, 2012), <http://articles.latimes.com/2012/mar/08/news/la-pn-faa-drones-us-airspace-20120308>; Rodriguez, *supra* note 7.

¹⁶ *Economic Report*, AUVSI, <http://www.auvsi.org/econreport> (last visited Sept. 16, 2014).

¹⁷ Chenda Ngak, *Beer Drone? Festival Goers May See Booze Fall from the Sky*, CBS NEWS (May 8, 2013, 12:41 PM), http://www.cbsnews.com/8301-205_162-57583471/beer-drone-festival-goers-may-see-booze-fall-from-the-sky/.

¹⁸ Maggie Clark, *Boston Bombings Show Future Use for Police Drones*, HUFFINGTON POST (May 1, 2013, 9:50 AM), http://www.huffingtonpost.com/2013/05/01/boston-bombing-drones_n_3192694.html.

sales of more than 300,000 off-the-shelf multi-rotor drones.¹⁹

In 2012, the *New Yorker* magazine published an article expressing ethical concerns regarding the development rationale of both military and domestic drones.²⁰ In 2013, *Time Magazine* ran a cover story on the “Rise of the Drones.”²¹ This year, NPR’s Laura Sydell aired a radio magazine program raising concerns about privacy, safety, and nuisance attributes of Drone operation.²² Drones have the capability to harass the famous, the infamous, and the “ordinary prudent person.”²³ California Senator Dianne Feinstein (D) claims she once found a drone peeking into the window of her home.²⁴

Dianne Feinstein’s surprise turned to delight when the drone spying on her “wheeled around and crashed.”²⁵ Both inexpensive, consumer grade Drones and expensive, military Drones suffer a high loss rate from accident and malfunction.²⁶ In November 2013, the U.S. Navy suspended operations of their Northrop Grumman BQM-74E and BQM-34S Drones after one unintentionally crashed into a guided missile cruiser wounding

¹⁹ Matthew Gryczan, *Drone Industry Set to Soar When FAA Gives Nod*, CRAIN’S DETROIT BUS. (July 7, 2013, 8:00 AM), <http://www.crainsdetroit.com/print/article/20130707/news/307079980/drone-industry-set-to-soar-when-faa-gives-nod>.

²⁰ Nick Paumgarten, *Here’s Looking at You: Should We Worry About the Rise of the Drone?*, THE NEW YORKER (May 14, 2012), <http://www.newyorker.com/magazine/2012/05/14/heres-looking-at-you>.

²¹ Lev Grossman, *Rise of the Drones*, TIME (Feb. 11, 2013), <http://content.time.com/covers/0,16641,20130211,00.html>.

²² See Laura Sydell, *As Drones Fly In Cities And Yards, So Do The Complaints*, NPR (May 12, 2014, 4:35 PM), <http://www.npr.org/blogs/alltechconsidered/2014/05/12/311154242/as-drones-fly-in-cities-and-yards-so-do-the-complaints>.

²³ See Liz Klimas, *Revealed: Drones Equipped With Spy Tech Detailed Enough to See If You’re Armed*, THE BLAZE (Mar. 6, 2013, 9:28 AM), <http://www.theblaze.com/stories/2013/03/06/revealed-drones-equipped-with-spy-tech-detailed-enough-to-see-if-youre-armed/> (discussing the capabilities of drones to spy on private citizens); see also Grossman, *supra* note 2 (identifying the drone as a device to spy); see also Kathryn A. Wolfe, *Dianne Feinstein Spots Drone Inches From Face*, POLITICO (Jan. 15, 2014, 4:15 PM), <http://dyn.politico.com/printstory.cfm?uuid=6FABB194-5704-4087-8F07-93BC7AF58789>

(discussing the capabilities of drones to harass famous people).

²⁴ Wolfe, *supra* note 23.

²⁵ *Id.*

²⁶ See, e.g., Danielle Accovelli, *Navy Puts Drone Program On Hold After Accident*, MALIBU TIMES (Nov. 22, 2013, 3:00 PM), http://www.malibutimes.com/news/article_ab07cc3c-5307-11e3-af22-0019bb2963f4.html (drone malfunctions); Wolfe, *supra* note 23 (drone used by private citizen has accident and crashes).

two sailors.²⁷ In April 2014, a triathlete in Australia was injured when a commercial Drone operator filming the sporting event “lost control” of his vehicle.²⁸ In May 2014, the press reported that “[p]olice [were] looking for the owner of a drone aircraft that crashed into the highest office building in St. Louis”²⁹ *Time* correctly states that one problem “slowing the integration of drones into everyday American life is that they crash a lot” and “they’re surprisingly fragile.”³⁰ Despite this track record, acolytes believe that there should be nothing slowing the immediate commercial deployment of drone technology.³¹

Before better Drones are built, government and commercial operators clamor to acquire them so they can “spy for anyone[.]”³² “As [Drones] get cheaper and more powerful and easier to use, access to military-grade surveillance technology will get easier too.”³³ While existing Supreme Court holdings define the limits of what information law-enforcement agents can directly garner without a search warrant, the Court has yet to rule on the admissibility of commercially attained surveillance information.³⁴

Robotic aircraft pose new problems.³⁵ Because Drones do not

²⁷ Accovelli, *supra* note 26.

²⁸ Neal Ungerleider, *What Happens When a Drone Crashes?*, FAST COMPANY (Apr. 9, 2014, 11:20 AM), <http://www.fastcompany.com/3028781/what-happens-when-a-drone-crashes>.

²⁹ *Drone’s Owner Lies Low After it Crashes into Office Tower*, THE COLUMBUS DISPATCH (May 9, 2014, 6:32 AM), http://www.dispatch.com/content/stories/national_world/2014/05/09/drones-owner-lies-low-after-it-crashes-into-office-tower.html.

³⁰ Grossman, *supra* note 2.

³¹ See Alan Levin, *Lagging Drone Safety Called No Reason to Slow Rollout*, BLOOMBERG (Jan. 15, 2014, 4:57 PM), <http://www.bloomberg.com/news/2014-01-15/lagging-drone-safety-called-no-reason-to-slow-rollout.html> (statement of Mary Cummings, Professor at Duke University: “As a former fighter pilot and a private pilot, I understand the importance of what I am saying -- which is that a drone is, on average, a better pilot than I am[.]”).

³² Grossman, *supra* note 2.

³³ *Id.*

³⁴ Jennifer O’Brien, *Warrantless Government Drone Surveillance: A Challenge to the Fourth Amendment*, 30 J. MARSHALL J. INFO. TECH. & PRIVACY L. 155, 224–25 (2013); see David Ingram, *FBI Says It Uses Surveillance Drones on U.S. Soil*, REUTERS (June 19, 2013, 6:19 PM), <http://www.reuters.com/article/2013/06/19/us-usa-security-drones-idUSBRE95I1NW20130619> (FBI director Robert Muller stated that the agency uses drones in “a very, very minimal way and very seldom.” Mueller did not clarify whether the drones were used with or without a valid search warrant. To date, no court cases have challenged a conviction based upon such surveillance.)

³⁵ See O’Brien, *supra* note 34, at 155 (noting problems caused by drones regarding privacy expectations).

fleet across “the sky like vagrant clouds[,]”³⁶ they leave behind a permanent, digital contrail of position, and telemetry.³⁷ In the network world that we live in, this data will be stored somewhere in cyberspace. Today, *YouTube* archives thousands of videos filmed by robotic aircraft.³⁸ Once archived, its mere existence opens the door to the intended or unintended use of such stored information.³⁹ Can video imagery be used to further a political movement,⁴⁰ a personal dispute, a civil lawsuit,⁴¹ or a criminal prosecution?⁴²

Robotic aircraft can effortlessly acquire and log information that breaches what society would deem a “reasonable expectation of privacy.”⁴³ It is probable that private (commercial or non-

³⁶ *Nw. Airlines v. Minnesota*, 322 U.S. 292, 303 (1944) (Jackson, J., concurring) (“Planes do not wander about in the sky like vagrant clouds. They move only by federal permission, subject to federal inspection, in the hands of federally certified personnel and under an intricate system of federal commands.”).

³⁷ See OFFICE OF THE PRIVACY COMM’R OF CAN., *DRONES IN CANADA: WILL THE PROLIFERATION OF DOMESTIC DRONE USE IN CANADA RAISE NEW CONCERNS FOR PRIVACY?* 3 (2013), available at https://www.priv.gc.ca/information/research-recherche/2013/drones_201303_e.pdf (illustrating technologies necessary to operate drones).

³⁸ YOUTUBE, https://www.youtube.com/results?search_query=drone+footage (last visited Sept. 21, 2014) (searching “drone footage”). See also USA Gutter Window & Roof Cleaning, *Roof Cleaning In Portland, Drone Footage, USA Gutter Window & Roof Cleaning*, YOUTUBE (Apr. 14, 2014), <http://www.youtube.com/watch?v=YV2z3gu6YHI> (showing a commercial advertisement filmed by a quadcopter – the high resolution video of the gutter cleaning on a residence); see also Tony T, *Real Estate Heli Drone*, YOUTUBE (Jan. 25, 2013), <https://www.youtube.com/watch?v=VqTVaZvbqNg> (showing a commercial advertisement for drone filmed real estate sales imagery).

³⁹ See LINDA L. NAIMI & RICHARD MARK FRENCH, *THE UNINTENDED CONSEQUENCES OF TECHNOLOGICAL INNOVATION: BLUETOOTH TECHNOLOGY AND CULTURAL CHANGE* 4 (2009) (explaining that technological innovation results in uses not intended by the inventor).

⁴⁰ See RuptlyTV, *Ukraine: Drone’s Eye of the Kiev Battlefield*, YOUTUBE (Feb. 19, 2014), <http://www.youtube.com/watch?v=mgRKpW8jaBw> (showing Drone footage of civil unrest in the Ukraine); see also G. Aksoy, *Footage From Before the RC Drone That Was Shot Down by Police*, YOUTUBE (June 14, 2013), <http://www.youtube.com/watch?v=BGFtaa68NyI> (showing footage from a street protest in Istanbul, Turkey where the drone was shot down by police).

⁴¹ Order of Assessment, 2014 WL 3388631 (N.T.S.B.) (2014).

⁴² Michael Peck, *Predator Drone Sends North Dakota Man to Jail*, FORBES (Jan. 27, 2014, 7:27 PM), <http://www.forbes.com/sites/michaelpeck/2014/01/27/predator-drone-sends-north-dakota-man-to-jail/> (describing the use of a Customs and Border Patrol operated Predator drone in the apprehension of Rodney Brossart on cattle rustling charges).

⁴³ See O’Brien, *supra* note 34, at 155.

commercial) or government parties may obtain and use this information for their own ends. The possibility of misuse of this data, by either law enforcement or private commercial entities, triggers a visceral response among many civil libertarians.⁴⁴

This monograph describes how robotic aircraft technology creates an environment where existing Federalism, commerce authority, Fourth Amendment, and Fifth Amendment doctrines collide in unexpected and consequential manners.⁴⁵ Some of these issues have been discussed in the popular media;⁴⁶ other issues are a novation of the author and this work.

As Drone aircraft become more prevalent, their use by private and government operators will eventually trigger lawsuits.⁴⁷ The resolution of these cases and controversies, when made by the Supreme Court, will broadly impact our nation's legal fabric.

II. THE CONSTITUTIONALITY OF THE DRONE AIRCRAFT PROVISIONS OF THE FAA MODERNIZATION AND REFORM ACT OF 2012 IS SUSPECT ON TENTH AMENDMENT AND COMMERCE CLAUSE GROUNDS

The *FAA Modernization and Reform Act of 2012* amends Title 49 of the United States Code.⁴⁸ The general policy of the FAA (part of the Department of Transportation) has been to

⁴⁴ Grossman, *supra* note 2.

⁴⁵ See Margot E. Kaminski, *Drone Federalism: Civilian Drones and the Things They Carry*, 4 CALIF. L. REV. 57, 58 (2013) (discussing Federalism issues concerning drones); Arthur L. Newman, II, *Aviation Law and the Constitution*, 39 YALE L. J. 1113, 1113–14 (1930) (discussing the commerce clause and aviation legislation); O'Brien, *supra* note 34, at 155 (discussing Fourth Amendment issues concerning drones); Steve Coll, *Kill or Capture*, THE NEW YORKER (Aug. 2, 2012), <http://www.newyorker.com/news/daily-comment/kill-or-capture> (discussing Fifth Amendment issues concerning drones).

⁴⁶ See Coll, *supra* note 45 (discussing Fifth Amendment issues concerning drones); see also John Villasenor, *Will "Drones" Outflank the Fourth Amendment?*, FORBES (Sept. 20, 2012, 3:59 PM), <http://www.forbes.com/sites/johnvillasenor/2012/09/20/will-drones-outflank-the-fourth-amendment/> (discussing Fourth Amendment issues concerning drones).

⁴⁷ See Will Dunham, *Lawsuit Over American Drone Strikes Dismissed by U.S. Judge*, CHICAGO TRIBUNE (Apr. 4, 2014), http://articles.chicagotribune.com/2014-04-04/news/sns-rt-usa-courts-drones-20140404_1_u-s-constitution-american-drone-strikes-awlaki (describing the failed lawsuit filed against the U.S. government over the targeted killing of U.S. Citizens in Yemen with the use of a Drone).

⁴⁸ See FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11 (2012).

“maintain[] safety as the highest priority in air commerce.”⁴⁹ Historically, Congress intended the FAA to move cautiously, “to maintain the safety vigilance that has evolved in air transportation . . . and has come to be expected by the . . . public.”⁵⁰

*A. Federal Regulation of Flying Machines Could Have Been
Contemplated by Our Founding Fathers, but Did Not
Become a Pressing Issue until The 1920’s*

Law and aviation technology have been entangled since the inception of our republic.⁵¹ Although the law of the air is not expressly called out in our Constitution, its omission was not due to ignorance.⁵² On November 21, 1783, Benjamin Franklin wrote his observations of the Montgolfier brother’s first flight:

The sky was cloudy in some areas but clear in others. The wind was blowing from the northwest [T]he Marquis d’Arlandes and M. Pilatre de Rozier were in the nacelle.

. . . .

However, being blown by the wind, the machine did not rise vertically as expected but went straight toward a path in the garden

. . . .

[Their] machine, gliding on the horizon and operating at its best, rose to at least 3,000 feet, where it remained visible. It crossed the *Seine* just beyond the *Conference* toll house. Passing between the military school and the Royal Hospital of the Invalids, it was carried into full view of all Paris.

Satisfied with this experiment and not wishing to extend the journey, the travelers decided to land, but seeing that the wind was carrying them toward the houses . . . they kept a level-head and, injecting more gas into the balloon, rose again. They continued their route in the sky until they were beyond Paris.

⁴⁹ 49 U.S.C. § 40101(a)(1) (2012).

⁵⁰ *Id.* at § 40101(a)(3).

⁵¹ See Newman, *supra* note 45, at 1113–14 (discussing aviation law and Federalism ideals embodied in the Constitution).

⁵² See *id.*

They then landed calmly in the countryside beyond⁵³

What Franklin did not report was the fact that the pilots averted near disaster when their balloon envelope began to smolder and catch fire.⁵⁴ Although the press acclaimed this first manned flight as a success,⁵⁵ it could have ended in tragedy with the balloon either striking houses or catching on fire. Airships, balloons, and aircraft cause considerable personal and property damage wherever they crash.⁵⁶

The need for comprehensive Federal aviation law became evident in the aftermath of the First World War.⁵⁷ During this conflagration, it became abundantly clear that aircraft could be used for offensive as well as defensive use.⁵⁸ Airships and airplanes crossed international boundaries at will.⁵⁹ Airships and airplanes caused considerable personal and property damage wherever they attacked.⁶⁰

Upon the conclusion of hostilities, members of the peace conference authored a draft *International Convention Relating to the Regulation of Aerial Navigation*.⁶¹ Among its provisions was an agreement that every Nation-state “has complete and exclusive sovereignty over the airspace above its territory and territorial waters.”⁶² Although the United States never ratified this treaty, it serves as the foundation of modern American aviation law.⁶³

⁵³ Letter from Benjamin Franklin et al. to the French Academy of Sciences (Nov. 21, 1783) (on file at Yale University), *available at* <http://www.franklinpapers.org/franklin/yale?trans=true&vol=40&page=613>.

⁵⁴ RICHARD P. HALLION, *TAKING FLIGHT* 53–54 (2003).

⁵⁵ *Id.* at 54.

⁵⁶ André Kaftal, *The Problem of Liability for Damages Caused by Aircraft on the Surface*, 5 J. AIR L. 179, 179 (1934).

⁵⁷ See Arthur K. Kuhn, Member of the N.Y. State Bar, Address at the Annual Meeting of the Am. Soc’y of Int’l Law: The International Regulation of Aerial Navigation 77–82 (Apr. 27–30, 1921).

⁵⁸ *Id.* at 77, 79.

⁵⁹ See *id.* at 78–79.

⁶⁰ *Id.* at 79.

⁶¹ Van Vechten Veeder, *The Legal Relation Between Aviation and Admiralty*, 2 AIR L. REV. 29, 29 (1931).

⁶² *Id.*

⁶³ *Id.*

B. Modern Federal Aviation Law Traces Its Roots to the Air Commerce Act of 1926

The United States was founded on a unique federal form of government. Because federal aerial jurisdiction is not expressly enumerated in our Constitution, any national aviation law must consider States' rights.⁶⁴ During the 1920's, a legal consensus determined that a large amount of uncertainty might be eliminated if aviation law were to be trifurcated to comprise: 1) common law (at the federal and state level), 2) statutory law (at the federal and state level) and 3) regulatory law.⁶⁵ At the time experts drafted the *Air Commerce Act of 1926*, United States aviation law lacked any form of federal regulation.⁶⁶ It had developed unevenly in only two directions: common law from state and local court holdings, and statutory law enacted at the state level.⁶⁷ From the start, American federal aviation law broadly incorporated ideas enumerated in the draft *International Convention*.⁶⁸

Our current system forms a practical compromise consistent with American Federalism: the national government promulgates regulatory legislation for design, manufacture and operations, while state and local governments promulgate non-regulatory legislation for enforcement.⁶⁹

Subsequently, Congress passed the *Civil Aeronautics Act of 1938*,⁷⁰ the *Federal Aviation Act of 1958*⁷¹ and the *Department of Transportation Act of 1966*.⁷² These Acts administratively reorganized the Bureau of Air Commerce ultimately into the Federal Aviation Administration.⁷³ Despite the changes in name, the scope of agency regulations has remained remarkably

⁶⁴ Blewett Lee, *The International Flying Convention and the Freedom of the Air*, 33 HARV. L. REV. 23 (1919); George B. Logan, *The Present Status and the Development of Aviation Law*, 2 J. AIR L. 510, 511 (1931).

⁶⁵ Logan, *supra* note 64, at 510.

⁶⁶ *See id.* at 514.

⁶⁷ *See id.* at 515, 518–20.

⁶⁸ *See id.* at 511. *See generally* Lee, *supra* note 64.

⁶⁹ *See* 49 U.S.C. §44701(a) (2006); *Morris v. Cessna Aircraft Co.*, 833 F. Supp. 2d 622, 626–27, 629–30, 633–34 (N.D. Tex. 2011); *see generally* Michael J. Holland, *Federalism in the Twenty First Century: Preemption in the Field of Air*, 28 DEF. COUNS. J. 11, 28 (2011).

⁷⁰ Civil Aeronautics Act of 1938, Pub. L. No. 75-706, 52 Stat. 973, 973.

⁷¹ Federal Aviation Act of 1958, Pub. L. No. 85-726, 72 Stat. 731, 731.

⁷² Department of Transportation Act of 1966, Pub. L. No. 89-670, 80 Stat. 931, 931.

⁷³ *See* 72 Stat. at 731; 52 Stat. at 973; Holland, *supra* note 69, at 12.

consistent and broad.⁷⁴

The Federal Government regulates much of the airspace above the United States as an instrumentality of interstate commerce; only a narrow band of airspace less than 1,200 feet above ground level may be partially exempt from federal law.⁷⁵

United States Code declares “navigable airspace [to be the] airspace above the minimum [flight] altitudes . . . prescribed by regulations”⁷⁶ The Code of Federal Regulations defines “navigable airspace” as the “airspace at and above the minimum flight altitudes prescribed by or under this chapter, including airspace needed for safe takeoff and landing.”⁷⁷

Class A airspace . . . comprises airspace above the United States and its coastal waters from an altitude of 18,000 feet above sea level to a pressure altitude of 60,000 feet. In this region, all pilots and all aircraft are expected to conform to the “rating requirements, operating rules, and equipment requirements” of 14 C.F.R. § 91. Commercial airliners at cruising altitude operate in Class A airspace.⁷⁸

“Class B [airspace] comprises airspace around a primary airport.”⁷⁹ “Class C and Class D [airspace] comprise airspace around secondary airports. In [these] regions, all aircraft operations are ‘subject to operating rules, and aircraft equipment requirements’ of 14 C.F.R. § 91.”⁸⁰

Class E [airspace] comprises all other airspace between 14,500 and 18,000 feet above sea level with limitations so that in very mountainous terrain, it never extends closer than 1,200 feet above the Earth’s surface. Aircraft during climb-out and descent may pass through Class E airspace as they transition from flight in class A to class B, C, or D airspace.⁸¹

“Class G [airspace] comprises all other airspace less than 1,200 feet above the Earth’s surface. Class G airspace is uncontrolled

⁷⁴ See generally 80 Stat. at 931; 72 Stat. at 731; 52 Stat. at 973.

⁷⁵ See 14 C.F.R. § 91.215 (2014); Kuhn, *supra* note 57, at 81; Logan, *supra* note 64, at 514.

⁷⁶ 49 U.S.C. § 40102(a)(32) (2006).

⁷⁷ 14 C.F.R. § 1.1. (2014).

⁷⁸ Timothy T. Takahashi, *Drones in the National Airspace*, 77 J. AIR L. & COM. 489, 507–08 (2012); see 14 C.F.R. §§ 71.31, 71.33 (2014); *Flying IFR*, FSXEUROPE, <http://fsxeu.com/flying-ifr/> (last visited Oct. 14, 2014).

⁷⁹ Takahashi, *supra* note 78, at 508.

⁸⁰ *Id.*

⁸¹ *Id.*

airspace; . . .” it is only indirectly regulated through the Code of Federal Regulations.⁸² Since 1926, “aircraft shall not be flown . . . [o]ver the congested parts of cities, towns, or settlements . . . [at] less than 1,000 feet . . . [and] [e]lsewhere at [a] height less than 500 feet”⁸³ Title 14 C.F.R. § 91.119 expressly states that, “[e]xcept when necessary for takeoff or landing, no person may operate an aircraft [lower than] . . . 500 feet above the surface”⁸⁴ Title 14 C.F.R. § 91.119(d)(1) distinguishes this command by allowing “helicopter[s] [to] . . . be operated at less than . . . [500 feet] provided . . . the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA”⁸⁵

Since 1926, local governments have enforced owners, mechanics, and pilots to be in compliance with the law.⁸⁶ The national government, represented by the Federal Aviation Administration, regulates the design, maintenance, and operation of all manned aircraft.⁸⁷

Under the commerce authority granted by the Constitution, federal regulations impact: 1) “the instrumentalities of aviation (the aircraft), [2)] the airmen involved in the operation of the aircraft (the pilots and the mechanics), and [3)] the rules of the sky.”⁸⁸ When the FAA certifies designs as to their inherent airworthiness,⁸⁹ the burden of proof falls upon the designer and the manufacturer.⁹⁰ When the FAA certifies a repair station, the burden of proof demonstrating skilled workmanship falls upon the individual business.⁹¹ When the FAA certifies pilots, the burden of proof demonstrating safe operation falls upon the individual.⁹²

⁸² *Id.*

⁸³ *Smith v. New England Aircraft Co.*, 170 N.E. 385, 389 (Mass. 1930); *see also* 14 C.F.R. § 91.119 (2014). *See generally* Air Commerce Act of 1926, Pub. L. No. 69-254, ch. 344, 43 Stat. 568.

⁸⁴ 14 C.F.R. § 91.119(c) (2014).

⁸⁵ *Id.* § 91.119(d)(1).

⁸⁶ *See Paulson v. Hall*, 80 N.E.2d 193, 195 (Ohio Ct. App. 1947) (illustrating state enforcement); Takahashi, *supra* note 78, at 500. *See generally* Air Commerce Act of 1926, Pub. L. No. 69-254, ch. 344, 43 Stat. 568, 568.

⁸⁷ Takahashi, *supra* note 78, at 497–99. *See generally* Air Commerce Act of 1926, Pub. L. No. 69-254, ch. 344, 43 Stat. 568, 568.

⁸⁸ Takahashi, *supra* note 78, at 517.

⁸⁹ 14 C.F.R. § 21.15(a), (c) (2014); Takahashi, *supra* note 78, at 498.

⁹⁰ Takahashi, *supra* note 78, at 498, 520–21; *see* 14 C.F.R. § 21.183 (2014).

⁹¹ *See* 14 C.F.R. § 145.151 (2014); Takahashi, *supra* note 78, at 499.

⁹² *See* 14 C.F.R. § 61.98 (2014); Takahashi, *supra* note 78, at 499.

The breadth of the FAA's statutory jurisdiction has been misunderstood by the popular press.⁹³ These articles claim that despite a "recent ruling that appeared to clear the way for low-altitude commercial drones[,]the FAA is irrationally hostile to drone operation."⁹⁴ The NTSB Administrative Law tribunal, meeting *en banc*, has affirmed that the FAA does have jurisdiction over aircraft both manned and unmanned.⁹⁵ The court ruled that the FAA has the authority to impose a fine against a commercial Drone operator who flew at high speeds in close proximity to people and property.⁹⁶ When the FAA grounded commercial operation of drones filming the Washington Nationals MLB spring training, a club spokesman stated that, "we didn't get [the drone] cleared [with the FAA]" ⁹⁷ The club spokesman's reasoning: "we don't get our pop flies cleared either and those go higher than this thing did."⁹⁸ What is important to recognize here is that the Federal Government has inherent jurisdiction over *all* airspace related to interstate commerce.⁹⁹ The 500 foot above ground level rule is merely the result of historical compromise.¹⁰⁰

⁹³ See Lee Matthews, *FAA Grounds Another Drone, This Time at MLB Spring Training*, GEEK (Mar. 18, 2014, 9:32 AM), <http://www.geek.com/news/faa-grounds-another-drone-this-time-at-mlb-spring-training-1588227/>; see also Justin Bachman, *The FAA Stakes Out Its Turf in the Drone Wars*, BLOOMBERG BUS. WEEK (Dec. 26, 2013), <http://www.businessweek.com/articles/2013-12-26/who-regulates-drones-federal-aviation-administration>; Ryan Whitwam, *FAA Proves It Hates Fun By Killing Drone-Powered Beer Delivery Service*, GEEK (Feb. 1, 2014, 12:30 PM), <http://www.geek.com/news/faa-proves-it-hates-fun-by-killing-drone-powered-beer-delivery-service-1583807/>; see also Troy A. Rule, *FAA Should Curb its Regulatory Authority Over Commercial Drone Use*, L.A. TIMES (Nov. 19, 2014, 6:09 PM), <http://www.latimes.com/opinion/op-ed/la-oe-rule-drone-regulation-faa-20141120-story.html>.

⁹⁴ Matthews, *supra* note 93; see Lee Matthews, *Judge Clears Runway for Commercial Drone Take-Off*, GEEK (Mar. 7, 2014, 10:31 AM), <http://www.geek.com/news/judge-clears-runway-for-commercial-drone-take-off-1587125/>.

⁹⁵ Huerta v. Pirker, CP-217, NTSB Order No. EA-5730, at *6–7 (Nov. 18, 2014), available at <http://www.nts.gov/legal/pirker/5730.pdf>.

⁹⁶ *Id.* at *12 ("[t]he prohibition on careless and reckless operation . . . applies with respect to the operation of any 'aircraft' We therefore remand . . . for a full factual hearing to determine whether respondent operated the aircraft 'in a careless or reckless manner'").

⁹⁷ Matthews, *supra* note 93.

⁹⁸ *Id.* (emphasis omitted).

⁹⁹ See U.S. CONST. art. I, § 8, cl. 3 (showing Federal Government's inherent constitutional authority to regulate interstate commerce).

¹⁰⁰ See Takahashi, *supra* note 78, at 509.

This compromise has endured until today.¹⁰¹ Unfortunately, the FAA Modernization and Reform Act of 2012 set in motion a plan to change things.¹⁰²

C. The FAA Modernization and Reform Act of 2012 Commands the FAA to Integrate Drones into the Public Airspace by Exempting These Aircraft from Traditional Certification Requirements

The FAA Modernization and Reform Act of 2012 aggressively commands the FAA to integrate “civil unmanned aircraft systems into the national airspace system” by allowing select users to operate drones in the public airspace without going through the traditional airworthiness certification process.¹⁰³ Congress instructs the FAA to issue “certificates of waiver” or “certificate[s] of authorization” instead of formal airworthiness type certificates to grant flight permission to series produced drones to fly. The Act details how a “certificate of waiver” or “certificate of authorization” (hereinafter “COA”) can replace a formal type certificate or airworthiness certificate.¹⁰⁴ This marks a sharp departure from the 88-year tradition of having government certify designs and products for airworthiness.¹⁰⁵

Historically, certification standards for aircraft have been based on size and capability.¹⁰⁶ 14 C.F.R. § 23 regulates “general aviation” aircraft suitable for personal and commercial flight that weigh less than 19,000 pounds, fully loaded.¹⁰⁷ 14 C.F.R. § 25 regulates aircraft of any size suitable for commercial “transport category” operations.¹⁰⁸ 14 C.F.R. § 27 regulates helicopters that

¹⁰¹ *See id.*

¹⁰² *See id.* at 491. *See generally* FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11.

¹⁰³ FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, §§ 332(a), 333(a), (b), 336(a)(1)–(3), 126 Stat. at 73, 75–77 (The enumerated exemptions include “hobbyist” model aircraft design and operation as well as commercial robotic flying machines. The Act does not change certification requirements of piloted aircraft).

¹⁰⁴ *Id.* §§ 331(2), 333(b)(2).

¹⁰⁵ *See* Takahashi, *supra* note 78, at 495, 521–23, 525, 533. *See generally* Air Commerce Act of 1926, Pub. L. No. 69-254, ch. 344, 43 Stat. 568, 568 (describing governmental requirements in rating airworthiness of aircraft).

¹⁰⁶ *See generally* 14 C.F.R. §§ 23, 23.3 (2014) (describing various classifications, sizes, and capabilities).

¹⁰⁷ *See* 14 C.F.R. §§ 23.1, 23.3 (2014).

¹⁰⁸ *Id.* § 25.1.

weigh less than 7,000 pounds fully loaded.¹⁰⁹ 14 C.F.R. § 29 regulates larger, “transport category” helicopters.¹¹⁰

Traditionally, Congress gave the FAA flexibility to “grant an exemption from a regulation prescribed . . . when the Administrator decides the exemption is in the public interest.”¹¹¹ When faced with certifying a “nonconventional aircraft,” existing regulations encourage the FAA to use its discretion to mix and match regulations from existing standards.¹¹² Where no existing text addresses a proposed technology, further regulations permit the FAA to prescribe, on a case by case basis, “special conditions and amendments.”¹¹³ A recent GAO study reports that “[thirty] percent of [existing] certification regulations would apply to [Drone Aircraft], [sixteen] percent would not apply, and it was unclear whether the remaining [fifty-four] percent would apply.”¹¹⁴

Presently the FAA does not issue any sort of pilot’s license to operate a remotely piloted or autonomous Drone.¹¹⁵ Because

¹⁰⁹ *Id.* § 27.1.

¹¹⁰ *Id.* § 29.1.

¹¹¹ 49 U.S.C. § 40109(b) (2011).

¹¹² 14 C.F.R. § 21.17(b) (2014) (“For special classes of aircraft, including the engines and propellers installed thereon (e.g., gliders, airships, and other nonconventional aircraft), for which airworthiness standards have not been issued under this subchapter, the applicable requirements will be the portions of those other airworthiness requirements contained in Parts 23, 25, 27, 29, 31, 33, and 35 found by the FAA to be appropriate for the aircraft and applicable to a specific type design, or such airworthiness criteria as the FAA may find provide an equivalent level of safety to those parts.”).

¹¹³ 14 C.F.R. § 21.16 (2013). (“If the FAA finds that the airworthiness regulations of this subchapter do not contain adequate or appropriate safety standards for an aircraft, aircraft engine, or propeller because of a novel or unusual design feature of the aircraft, aircraft engine or propeller, he prescribes special conditions and amendments thereto for the product. The special conditions are issued in accordance with Part 11 of this chapter and contain such safety standards for the aircraft, aircraft engine or propeller as the FAA finds necessary to establish a level of safety equivalent to that established in the regulations.”).

¹¹⁴ U.S. GOV’T ACCOUNTABILITY OFF., GAO-12-981. UNMANNED AIRCRAFT SYSTEM: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM 19 (2012).

¹¹⁵ See U.S. DEP’T OF TRANSP., FED. AVIATION ADMIN., N 8900.258, NATIONAL POLICY: LOGGING OF UNMANNED AIRCRAFT SYSTEM PILOT TIME 1–2 (2014), available at http://www.faa.gov/documentlibrary/media/notice/n_8900.258.pdf; Jack Nicas & Andrea Gallo, *There’s No Flying in Drone School*, WALL ST. J. (July 25, 2014, 2:10 PM), <http://online.wsj.com/articles/theres-no-flying-in-drone-school-1406311856>. See generally Kyle Garrett, *UAV Pilot License and Ratings: Which Licenses and Ratings Will You Need?*, AVIATION SCHOOLS ONLINE, <http://www.aviaitonschoolsonline.com/faqs/uav-pilot-license.php> (last visited

there is no special classification, the operator must hold a traditional manned aircraft pilot's license.¹¹⁶

At the present time, the FAA will allow unpiloted aircraft to operate in the national airspace under one of three procedures: (1) a government entity (local, state or federal) may operate a Drone as a "public aircraft" with an FAA issued Certificate of Waiver/ Authorization ("COA"); (2) a private entity (person or corporation) may operate a Drone as a "civil aircraft" with a Special Airworthiness Certificate ("SAC") for the flight hardware and a COA for operations; or (3) an entity (government, person or private corporation) may be allowed to fly in restricted airspace with the express permission of the FAA or Military.¹¹⁷ "Applications for a COA are accepted from entities that intend to conduct public aircraft, civil, or commercial operations."¹¹⁸ Between 2007 and October 2012, the FAA approved more than 1,300 COAs.¹¹⁹ The FAA explains that the reason public and civil aircraft need COAs is that unmanned aircraft are not in compliance with Federal Airworthiness standards and/or approved piloting procedures.¹²⁰ In addition, persons may fly "model aircraft" for private, non-commercial use at low altitudes, within line-of-sight of the operator.¹²¹

There seems to be little reason for the FAA not to certify an airworthy robotic aircraft: the agency "has a process and

Sept. 20, 2014) (acknowledging that some FAA license/certificate is needed but recognizing that there is not a set standard currently from the FAA) (hereinafter AVIATION SCHOOLS ONLINE).

¹¹⁶ See FED. AVIATION ADMIN., *supra* note 115. See generally AVIATION SCHOOLS ONLINE, *supra* note 115.

¹¹⁷ UNMANNED AIRCRAFT PROGRAM OFF., AIR-160, INTERIM OPERATIONAL APPROVAL GUIDANCE 08-01, UNMANNED AIRCRAFT SYS. OPERATIONS IN THE U. S. NATIONAL AIRSPACE SYSTEM 3-7 (2008). [hereinafter UNMANNED AIRCRAFT PROGRAM OFF.]

¹¹⁸ U.S. DEP'T OF TRANSP., UNMANNED AIRCRAFT PROGRAM OFF., N 8900.227, NATIONAL POLICY: UNMANNED AIRCRAFT SYSTEM (UAS) OPERATIONAL APPROVAL 4-7 (2013), *available at* http://www.faa.gov/documentlibrary/media/notice/n_8900.227.pdf.

¹¹⁹ See BRUCE LACOUR & MIKE WILSON, FED. AVIATION ADMIN., NEXTGEN: AN UPDATE 72 (2013), *available at* http://www.faa.gov/about/office_org/field_offices/fsdo/orl/local_more/media/fy13summit/nextgen_mco_safet_summit.pdf.

¹²⁰ UNMANNED AIRCRAFT PROGRAM OFF., *supra* note 117, at 2.

¹²¹ DEP'T OF TRANSP., FEDERAL AVIATION ADMINISTRATION, MODEL, AC 91-57, ADVISORY CIRCULAR: AIRCRAFT OPERATING STANDARDS (1981). BART ELIAS, CONG. RESEARCH SERV., R42718, PILOTLESS DRONES: BACKGROUND AND CONSIDERATIONS FOR CONGRESS REGARDING UNMANNED AIRCRAFT OPERATIONS IN THE NATIONAL AIRSPACE SYSTEM 8 (2012).

regulations in place for certifying any new aircraft type.”¹²² Moreover, existing certification regulations neither differentiate between the commercial or non-commercial utility of a design, nor explicitly require a pilot to be aboard the aircraft.¹²³ Unfortunately, the GAO team discovered that “UAS stakeholders . . . stated that this process is costly and manpower intensive, and does not assure certification.”¹²⁴

It is understandable that the FAA would be reluctant to certify aircraft which clearly do not conform to promulgated regulations. It is also understandable that start-up Drone designers would find certification costly. However, the legislative response to this dilemma found in the Act raises even more questions; it shortcuts the entire certification process for Drone aircraft.¹²⁵ The Act fosters an idea that unmanned systems are exceptional; Drone aircraft do not need to satisfy established requirements for airworthiness, maintenance, and operation that other flying machines are subject to.

D. Provisions Within the FAA Modernization and Reform Act of 2012 are Inconsistent With Prior Law; These Changes Raise Tenth Amendment, Commerce Authority, and Public Safety Concerns

Today, the FAA is an executive branch agency.¹²⁶ It is led by an Administrator, who is “responsible for the safety and efficiency of the largest aerospace system in the world . . . [and] oversees a \$15.9 billion dollar budget, [and] over 47,000 employees.”¹²⁷ The FAA is “one of several modal organizations within [the Department of Transportation].”¹²⁸ The Department of Transportation, (“DOT”), is a cabinet-level department, reporting to the President through the Secretary of Transportation.¹²⁹

¹²² U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 114.

¹²³ Compare 14 C.F.R. § 23 (2011) (Airworthiness Standards: Normal, Utility, Acrobatic and Commuter Category Airplanes) with 14 C.F.R. § 25 (2011) (Airworthiness Standards for Transport Category Airplanes).

¹²⁴ U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 114.

¹²⁵ UNMANNED AIRCRAFT PROGRAM OFF., *supra* note 117, at 2.

¹²⁶ See LIBRARY OF CONGRESS, *Official U.S. Executive Branch Web Sites*, <http://www.loc.gov/rr/news/fedgov.html> (last visited Sept. 8, 2014) (listing the various agencies that are included in the executive branch).

¹²⁷ Michael P. Huerta: Administrator, FED. AVIATION ADMIN., http://www.faa.gov/about/key_officials/huerta/ (last visited Sept. 8, 2014).

¹²⁸ History: A Brief History of the FAA, FED. AVIATION ADMIN., http://www.faa.gov/about/history/brief_history/ (last visited Sept. 8, 2014).

¹²⁹ 49 U.S.C. § 102(a)–(b) (2012).

Congress charges the DOT to develop transportation policy to promote the “general welfare, economic growth and stability, and security of the United States.”¹³⁰

Provisions within the *FAA Modernization and Reform Act of 2012* raise Tenth Amendment, commerce authority, and public safety concerns.¹³¹ Most importantly, the *Reform Act* does not amend the overall policy of the agency.¹³² The FAA is expected to continue to “[assign] and [maintain] safety as the highest priority in air commerce”¹³³ and to “[regulate] air commerce in a way that best promotes safety and fulfills national defense requirements.”¹³⁴ The *Reform Act* commands the agency to insert itself into activities outside of its traditional domain, such as the regulation of flight in Class “G” airspace, which is typically the province of state and local governments.¹³⁵ The *Reform Act* instructs the agency to stand-down from activities within the orbit of its traditional domain; for example, it compels the FAA to allow select users operating rights while bypassing the traditional airworthiness certification process.¹³⁶ In addition, the *Reform Act* ties the FAA’s hands by stating that the FAA “may not promulgate any rule or regulation regarding a model aircraft”¹³⁷

1. The Act Differentiates “Model Aircraft” from Other

¹³⁰ 49 U.S.C. § 101(a) (2006).

¹³¹ Brandon Bellows, Comment, *Floating Toward a Sky Near You: Unmanned Aircraft System and the Implications of the FAA Modernization Reform Act of 2012*, 78 J. AIR L. & COM. 586, 587 (2013) (for a discussion about public safety concerns); see, e.g. *City of Santa Monica v. United States*, CV 13-8046-JFW (VBKx), 2014 U.S. Dist. LEXIS 50622, at *17–18 (C.D. Cal. 2014) (for a case involving FAA-related powers relating to Tenth Amendment and commerce authority).

¹³² See Bellows, *supra* note 131, at 586–90 (for a discussion about some of the changes in the Reform Act that do not include changes to the FAA’s policy). See generally *FAA Modernization and Reform Act of 2012*, Pub. L. No. 112-95, 126 Stat. 11.

¹³³ 49 U.S.C. § 40101 (a)(1) (2006).

¹³⁴ 49 U.S.C. § 40101 (d)(2) (2006).

¹³⁵ *FAA Modernization and Reform Act of 2012*, Pub. L. No. 112-95, § 334(c)(2)(C)(iv), 126 Stat. 77. Class “G” airspace is either locally or privately controlled; navigable airspace outside of the realm of interstate commerce – that is below 1,200 feet above ground level yet more than 500 feet above ground level. Takahashi, *supra* note 78, at 508.

¹³⁶ *FAA Modernization and Reform Act of 2012*, Pub. L. No. 112-95, § 334(a)(4), 126 Stat. 76.

¹³⁷ *Id.* § 336(a). Consequently, the statute implies that “Model Aircraft” can be operated in regulated airspace without any formal airworthiness certification. *Id.* § 334(a)(4).

Aircraft in a Manner Inconsistent with Prior Law

It is difficult to distinguish a model airplane from a drone. In theory, model aircraft are built for non-commercial, recreational use whereas drones are built for military, law enforcement, or commercial purposes.¹³⁸ Realistically, there is “virtually no physical difference, whether it be size or some other factor, between what constitutes a model aircraft and a drone.”¹³⁹ AUVSI President and CEO, Michael Toscano told the *Washington Times* that “size is not the distinction. It’s what’s being collected, the data, that is critical.”¹⁴⁰ The NTSB has held that existing FAA regulations “draw no distinction between whether a device is manned or unmanned.”¹⁴¹ The NTSB court holds that the FAA has jurisdiction over “‘any’ ‘device’ that is ‘used for flight.’”¹⁴² Because the *Reform Act* inserted a broadly defined model aircraft loophole into the FAA’s regulatory authorization, it exempts any FAA oversight concerning aircraft which are “flown strictly for hobby or recreational use”¹⁴³ The *Reform Act* places no size cap or data collection limitation upon unregulated hobbyist aircraft.¹⁴⁴

2. The Act is Internally Inconsistent with Prior Law; this Hamstrings the FAA into Treating Similar Parties in Disparate Manners

The President and his executive branch agencies have only limited power to work wholly outside the oversight of Congress.¹⁴⁵ In *United States v. Curtiss Wright Export Corp.*, the Supreme Court held that only the executive branch’s power to address matters of national security and foreign affairs extend beyond

¹³⁸ Ben Wolfgang, *Model Aircraft Owners Drawn into Privacy Debate on Drones*, WASH. TIMES (Apr. 9, 2013), <http://www.washingtontimes.com/news/2013/apr/9/model-aircraft-owners-drawn-privacy-debate-drones/?page=all>.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Huerta v. Pirker*, CP-217, NTSB Order No. EA-5730, at *5 (Nov. 18, 2014), available at <http://www.nts.gov/legal/pirker/5730.pdf>.

¹⁴² *Id.* at *6.

¹⁴³ FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 336(a)(1), 126 Stat. 77.

¹⁴⁴ *Id.*

¹⁴⁵ See U.S. CONST. art. II.

congressional delegation.¹⁴⁶ Conversely in *Youngstown Sheet & Tube Co. v. Sawyer*, the Supreme Court ruled conclusively that, for all internal affairs including those loosely related to national security, Congress and not the executive must make the laws.¹⁴⁷ The Court held that the Constitution limits the President's powers "to the recommending of laws he thinks wise and the vetoing of laws he thinks bad."¹⁴⁸ Moreover, "the Constitution is neither silent nor equivocal about who shall make laws which the President is to execute."¹⁴⁹ Because the *FAA Modernization and Reform Act of 2012* was approved by both houses of Congress and signed by President Obama,¹⁵⁰ the FAA is obligated to follow the text of the promulgated law to the best of its ability.

When Congress delegates responsibilities to the executive branch, it must do so by giving the agency a guiding "intelligible principle . . ."¹⁵¹ To date, the Supreme Court:

found the requisite "intelligible principle" lacking in only two statutes, one of which provided literally no guidance for the exercise of discretion, and the other of which conferred authority to regulate the entire economy on the basis of no more precise a standard than stimulating the economy by assuring "fair competition."¹⁵²

Yet, the Supreme Court does not authorize an agency to pick and choose among conflicting rules. In *Whitman v. American Trucking Ass'ns*, the majority held that an agency cannot "cure an unlawful delegation of legislative power by adopting in its discretion a limiting construction of the statute."¹⁵³

¹⁴⁶ 299 U.S. 304, 315–16 (1936).

¹⁴⁷ 343 U.S. 579, 587 (1952).

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ Laing, *supra* note 11.

¹⁵¹ *J.W. Hampton, Jr., & Co. v. United States*, 276 U.S. 394, 409 (1928) ("If Congress shall lay down by legislative act an intelligible principle to which the person or body authorized to fix such rates is directed to conform, such legislative action is not a forbidden delegation of legislative power.").

¹⁵² *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 474 (2001) (citing *Panama Refining Co. v. Ryan*, 293 U.S. 388, 429–33 (1935); *A.L.A. Schechter Poultry Corp. v. United States*, 295 U.S. 495, 521–23, 551 (1935)).

¹⁵³ *Id.* at 472 ("The idea that an agency can cure an unconstitutionally standardless delegation of power by declining to exercise some of that power seems to us internally contradictory. The very choice of which portion of the power to exercise—that is to say, the prescription of the standard that Congress had omitted—would itself be an exercise of the forbidden legislative authority. Whether the statute delegates legislative power is a question for the courts, and

Thus, the courtroom is the proper forum to address perceived defects in this legislation. Because the *Reform Act* contains specific and intelligible commands to the FAA, the agency is obligated to literally follow the statute.¹⁵⁴ Consequently, the FAA must: 1) issue traditional airworthiness certificates to entities building manned aircraft; 2) issue “certificate[s] of waiver” or “certificate[s] of authorization” to entities building commercial or law enforcement robotic aircraft; and 3) turn a blind eye to any entity building an arguably non-commercial model aircraft.¹⁵⁵

3. The Act May be Difficult to Challenge in a Court of Law Because Parties with Standing are Unlikely to be Injured Due to Relaxed Federal Oversight

If concerned parties are dissatisfied with either the constitutionality or the impact of the *Reform Act*, they must challenge it in federal courts. Although the Supreme Court famously held that “[t]here is no federal general common law[,]”¹⁵⁶ federal case law remains a powerful force. Today, “federal common law addresses ‘subjects within national legislative power where Congress has so directed’ or where the basic scheme of the Constitution so demands.”¹⁵⁷ Federal case law gives courts the power to arbitrate conflicting statutes,¹⁵⁸ although courts typically defer to the newer statute when faced with a challenge.¹⁵⁹ For a plaintiff to assert a claim under this theory, they must raise a 28 U.S.C. § 1331 federal question essential to the injury sustained.¹⁶⁰

It seems difficult to speculate on how an injury-in-fact

an agency’s voluntary self-denial has no bearing upon the answer.”) (emphasis omitted).

¹⁵⁴ See FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, 126 Stat. 11.

¹⁵⁵ *Id.* §§ 333(b)(2), 336(a), 816(b)(3).

¹⁵⁶ *Erie R. Co. v. Tompkins*, 304 U.S. 64, 78 (1938).

¹⁵⁷ *Am. Elec. Power Co., Inc. v. Connecticut*, 131 S. Ct. 2527, 2535 (2011) (quoting Henry J. Friendly, *In Praise of Erie—and of the New Federal Common Law*, 39 N.Y.U. L. REV. 383, 408, n. 119, 421–22 (1964) (“When we deal with air and water in their ambient or interstate aspects, there is a federal common law.” *Illinois v. Milwaukee*, 406 U.S. 91, 103 (1972))).

¹⁵⁸ See generally *Radzanower v. Touche Ross & Co.*, 426 U.S. 148, 149–50 (1976) (the Court had to determine which statute to apply in order to determine venue: the Securities Exchange Act or the National Bank Act).

¹⁵⁹ *Id.* at 154.

¹⁶⁰ See 28 U.S.C. § 1331 (2006); *Ellis v. Cassidy*, 625 F.2d 227, 229 (9th Cir. 1980); Rory Ryan, *No Welcome Mat, No Problem?: Federal-Question Jurisdiction After Grable*, 80 ST. JOHN’S L. REV. 621, 629 (2012) (“a claim ‘arises under’ federal law when federal common law creates the cause of action.”).

stemming from a lack of federal regulation of robotic aircraft could easily challenge the *Act*. Third parties injured by negligently designed, manufactured, and operated Drones would tend to file civil tort actions in local courts against owners, operators, and manufacturers. Drone operators sued by injured parties would tend to file product liability tort actions in local courts against Drone manufacturers. Drone developers who are granted exemption from compliance with federal airworthiness rules cannot assert a preemption defense.¹⁶¹

It seems as though the principles of federal standing favor those directly injured by government action or inaction, rather than those injured by lack of government regulation over a third party,¹⁶² and this may make the *Act* difficult to overturn in court.

4. While Airworthiness Certification is a Fundamental Responsibility of the FAA, Privacy Issues Probably Exceed the Agencies Statutory Authority

Federal regulation of aviation has been based upon the Commerce Clause of the Constitution.¹⁶³ Because “federal regulation of interstate and foreign commercial air navigation would accomplish little unless it applied to . . . corresponding regulation of intrastate and non-commercial air navigation[,]” the Air Commerce Act of 1926 “expressly prohibits the navigation of any aircraft otherwise than in conformity with the [federal] air traffic rules.”¹⁶⁴ Thus, since the Air Commerce Act was passed, the United States has operated under a uniform aviation law

¹⁶¹ See generally *Geier v. Am. Honda Motor Co.*, 529 U.S. 861, 886 (2000) (The Preemption Argument asserts that no liability can be found for a supposedly negligent design when the design was certified as compliant with specific Federal Law. Without a need to comply with federal regulation, a product liability suit against a drone manufacturer can never lead to an FAA entangling preemption defense. Thus, the validity of an act that forces de-regulation cannot be tangentially challenged using a preemption theory.)

¹⁶² See *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561–62 (1992) (“When the suit is one challenging the legality of government action or inaction, the nature and extent of facts that must be averred . . . or proved . . . in order to establish standing depends considerably upon whether the plaintiff is himself an object of the action . . . at issue. When, however, . . . a plaintiff’s asserted injury arises from the government’s allegedly unlawful regulation (or lack of regulation) of *someone else*, much more is needed.”).

¹⁶³ Veeder, *supra* note 61, at 30.

¹⁶⁴ *Id.* at 30 (“In other words, in order to protect and prevent undue burdens upon interstate and foreign air commerce the federal air traffic rules are to apply equally to intrastate and non-commercial navigation.”).

system.¹⁶⁵ Federal air traffic rules are “applicable to all flying, commercial, non-commercial, intrastate and interstate.”¹⁶⁶ This situation, whereby states have laws requiring federal licenses for intrastate air activities, “obviates the necessity of a separate State inspection, licensing and an approval system with its attendant difficulties, complications and expense.”¹⁶⁷

Current and future robotic aircraft regulations will need to address five broad issues: 1) Does the FAA have the authority to regulate the design and manufacture of robotic aircraft based upon the airworthiness of the design? 2) Does the FAA have the authority to regulate the operation and maintenance of robotic aircraft for use in and beneath federal, navigable airspace? 3) Does the FAA have the authority to regulate data collected as a byproduct of robotic aircraft operations used in interstate commerce? 4) Does the FAA have the authority to regulate data collected as a byproduct of robotic aircraft operations used outside of interstate commerce? And 5) Does law enforcement have a reduced burden of proof to compel disclosure of commercially obtained Drone telemetry?

Because federal aviation regulations were initially promulgated during the *Lochner* era of Commerce Clause jurisprudence, the power of the FAA to regulate aviation traces to an older, narrower view of legislative power.¹⁶⁸ Although the Court’s recent holding in *NFIB v. Sebelius* narrowed the constitutionally permissible breadth of the Commerce Power of Congress¹⁶⁹ from the more expansive perspective of *Wickard v.*

¹⁶⁵ See generally *id.* (“Uniformity is of such obvious importance in any consideration of the regulation of air navigation that attention was naturally directed to the possibility of federal control.”).

¹⁶⁶ W. P. MacCracken, *The Growth of Aeronautical Law in America*, 1 J. AIR L. 415, 418 (1930).

¹⁶⁷ Clarence M. Young, *The Province of Federal and State Regulation of Aeronautics*, 1 J. AIR L. 423, 425 (1930).

¹⁶⁸ See generally Haramati & Zuckerman, *Will SCOTUS Usher a Return to the “Lochner Era”?*, CBS NEWS (Apr. 5, 2012, 3:46 PM), <http://www.cbsnews.com/news/will-scotus-usher-a-return-to-the-lochner-era/.90> (“The ‘Lochner era’ was a period in early 20th century American history during which federal courts routinely struck down laws on the basis of personal liberty and freedom of contract” The decision in *Lochner* “marginalized the greater good in favor of individual economic rights” holding that a state’s maximum hour law was not an appropriate exercise of the state police power because a worker has the right to work themselves as much as deem fit “even [to] his or her own peril.”).

¹⁶⁹ See Nat’l Fed’n of Indep. Bus. v. Sebelius, 132 S. Ct. 2566, 2587, 2589 (2012) (holding that construction of the Commerce Clause “to permit Congress to

Filburn,¹⁷⁰ most federal aviation regulations will never exceed the commerce power of Congress.

5. The FAA Has the Authority to Regulate the Design and Manufacture of Aircraft, Manned and Robotic

Shortly after President Coolidge signed the Air Commerce Act of 1926 into law, its constitutionality was challenged.¹⁷¹ In *Swetland v. Curtiss Airports*, the Northern District of Ohio held that “[t]here can be no doubt of the power of Congress to authorize the Secretary of Commerce to promulgate regulations . . . and such regulations have the force of law.”¹⁷² Similarly, in *Neiswonger v. Goodyear Tire & Rubber Co.*, the District Court held that the Federal Aviation Laws would apply to intrastate commerce insofar as was “necessary.”¹⁷³ *Neiswonger* invoked the Supreme Court’s ruling in *Railroad Commission of Wisconsin*, a late *Lochner*-era case affirming federal power to regulate instrumentalities of intrastate commerce when they are also used as instrumentalities of interstate commerce.¹⁷⁴ Thus it would follow that the FAA has clear authority to regulate the design and manufacture of aircrafts—manned or robotic—used in both inter and intrastate commerce.¹⁷⁵

Historically, Congress did not intend for the FAA to hamstring technological development. The FAA is supposed to encourage

regulate individuals precisely because they are doing nothing” is too broad, as that would essentially authorize Congress to “use its commerce power to compel citizens to act as the Government would have them act.” (emphasis omitted).

¹⁷⁰ See generally *Wickard v. Filburn*, 317 U.S. 111, 124 (1942) (holding that the commerce power extends to intrastate activities “which so affect interstate commerce . . . as to make regulation of them appropriate means to the attainment of a legitimate end, the effective execution of the granted power to regulate interstate commerce.”) (quoting *United States v. Wrightwood Dairy Co.*, 315 U.S. 110, 119 (1942)).

¹⁷¹ See *Swetland v. Curtiss Airports Corp.*, 41 F.2d 929, 938 (N.D. Ohio 1930); *FAA Historical Chronology, 1926–1996*, FED. AVIATION ADMIN., <http://www.faa.gov/about/media/h-chron.pdf> (last visited Sept. 29, 2014).

¹⁷² *Swetland*, 41 F.2d at 938.

¹⁷³ *Neiswonger v. Goodyear Tire & Rubber Co.*, 35 F.2d 761, 763 (N.D. Ohio, 1929).

¹⁷⁴ *Id.*; *R.R. Comm’n of Wis. v. Chicago, B. & Q. R. Co.*, 257 U.S. 563, 589 (1922) (holding that Congress could “restrain undue limitation of the earning power of the interstate commerce system in doing state work.”).

¹⁷⁵ See *R.R. Comm’n of Wis.*, 257 U.S. at 589 (holding that Congress could “restrain undue limitation of the earning power of the interstate commerce system in doing state work” thereby allowing Congress to control intrastate commerce).

developments in “civil aeronautics,” including new aviation technology.¹⁷⁶ When the Air Commerce Act of 1926 was enacted, aircraft were made of wood and cloth, and radio communication was mostly limited to long-wave amplitude modulation transmissions.¹⁷⁷ Today, after 87 years of pervasive regulation, aircraft are made from exotic alloys and graphite-epoxy composites, they feature sophisticated air-to-ground, air-to-air, and satellite based communications systems, and they may be controlled by intricate computer systems.¹⁷⁸ Commercially successful, technologically advanced flying machines arose as the byproduct of regulation. Provided that robotic aircraft can be made truly airworthy, the FAA should be able to certify them for use in commerce.

As of this writing, only one relevant docket is active in the judiciary. This is the case of *Administrator v. Raphael Pirker*.¹⁷⁹ Here, Pirker was paid to fly his Drone over the University of Virginia’s campus for the purposes of aerial photography.¹⁸⁰ According to the order of assessment, Pirker did not have a FAA pilot’s license.¹⁸¹ Moreover, he flew this aircraft at high altitudes from anywhere between ten feet above the ground to more than 400 feet above ground level in proximity to people and property.¹⁸² The FAA found out about Pirker because he posted the video he shot on *YouTube*.¹⁸³ The FAA claimed that Pirker violated 14 C.F.R. § 91.13 for flying his Drone in a “careless or reckless manner” and assessed him a \$10,000 fine.¹⁸⁴

¹⁷⁶ 49 U.S.C. § 40101(8), (12)–(14) (2006).

¹⁷⁷ Peter L. Jakab, *Wood to Metal: The Structural Origins of the Modern Airplane*, 36 J. AIRCRAFT 914, 914 (1999). See generally Ian Poole, *What is Amplitude Modulation*, RADIO-ELECTRONICS, <http://www.radio-electronics.com/info/rf-technology-design/am-amplitude-modulation/what-is-am-tutorial> (last visited Oct. 1, 2014).

¹⁷⁸ See Jacky Pouzet, *Moving Aviation Towards a 21st-Century Communications System*, SKYWAY MAG., at 10, 12–13 (2010); *Composites and Advanced Materials in Aircraft*, CENTURY OF FLIGHT, <http://www.century-of-flight.net/Aviation%20history/evolution%20of%20technology/Composites%20and%20Advanced%20Materials.htm> (last visited Oct. 1, 2014); Thom Patterson, *Who’s Really Flying the Plane?*, CNN (Mar. 26, 2012, 8:15 AM), <http://www.cnn.com/2012/03/24/travel/autopilot-airlines/>.

¹⁷⁹ Order of Assessment, 2014 WL 3388631 (N.T.S.B.) (2014).

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ sUAS News, *Stunt Sheep Don’t Try This at Home: Trappys \$10k Fine UVA Video*, YOUTUBE (Oct. 15, 2013), <http://www.youtube.com/watch?v=OZnJeuAja-4>.

¹⁸⁴ Order of Assessment, 2014 WL 3388631 (N.T.S.B.) (2014); see also 14

An NTSB administrative law judge dismissed this case on the grounds that Pirker flew a model aircraft (not a “real” aircraft) and as such was subject only to *voluntary* compliance with AC 91-57¹⁸⁵ because the FAA has historically excluded model aircraft from its definition of “aircraft.”¹⁸⁶ The judge held that neither the FAA’s policy statements nor its “Notice of Policy” were binding because policy statements are not binding on the general public¹⁸⁷ and the “Notice of Policy” was issued outside of the processes required by 5 U.S.C. § 553(d).¹⁸⁸ The judge also held that there were no enforceable FAA rules or regulations that applied to model aircraft at the time of Pirker’s Drone operation.¹⁸⁹

Upon appeal, the full National Transportation Safety Board, meeting *en banc*, vacated this order.¹⁹⁰ The board declared that the FAA has jurisdiction over all aircraft, piloted, remotely piloted, or autonomously controlled.¹⁹¹ However, the board did not expressly call out for the FAA to require Drones to conform with approved design, manufacturing, and maintenance regulations.¹⁹² Such regulations are within the purview of the FAA as a clarification of existing rules, as airworthiness regulations such as 14 C.F.R. § 23 and 14 C.F.R. § 25 do not expressly require an onboard pilot.¹⁹³

6. The FAA Has the Authority to Regulate the Operation of Manned and Robotic Aircraft Inside and Outside of Federal “Navigable Airspace”

The federal government regulates controlled airspace (classes A, B, C, D, and E) which are airspaces more than 1,200 feet above

C.F.R. § 91.13(a) (2013) (“No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.”).

¹⁸⁵ *Huerta v. Pirker*, CP-217, 2014 WL 3388631 (N.T.S.B.), at *7–8 (Mar. 6, 2014). (FED. AVIATION ADMIN. AC 91-57, ADVISORY CIRCULAR: MODEL AIRCRAFT OPERATING STANDARDS (June 9, 1981).

¹⁸⁶ *Id.* at *3.

¹⁸⁷ *Id.* at *6.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at *8.

¹⁹⁰ *See Huerta v. Pirker*, CP-217, NTSB Order No. EA-5730, at *6, 12 (Nov. 18, 2014), available at <http://www.nts.gov/legal/pirker/5730.pdf>; Press Release, FAA Statement (Mar. 7, 2014), http://www.faa.gov/news/press_releases/news_story.cfm?newsId=15894.

¹⁹¹ *Pirker*, NTSB Order No. EA-5730, at *5.

¹⁹² *Id.*

¹⁹³ *See* 14 C.F.R. §§ 23.1, 25.1 (2014).

ground level.¹⁹⁴

The press reports that on March 22, 2014, a U.S. Airways regional jet and a Drone “nearly collided in midair over the Florida Panhandle.”¹⁹⁵ The incident occurred when the regional jet was on approach to the Tallahassee Regional Airport; the jet was flying at an altitude of approximately 2,300 feet when the pilot thought he had collided with the Drone.¹⁹⁶ In March 2013, an Alitalia jetliner came within 200 feet of a small helicopter Drone at an altitude of 1,750 feet during final approach into John F. Kennedy airport in New York.¹⁹⁷ Under these clear circumstances, robotic aircraft operated in proximity to other aircraft should be designed, built, and operated in a FAA approved manner.

The federal jurisdiction of uncontrolled class G airspace has been subject to some controversy. Common law holds that “landowners rights are not limited to the surface of the earth, but extend into the space above it”¹⁹⁸ and that it is a “trespass to thrust one’s arm into the space over a neighbor’s land.”¹⁹⁹ One hundred years ago, the Supreme Court held that that the shooting of ordinance across the land of an adjoining owner constituted a trespass.²⁰⁰ Thus a trespass occurs when someone “fir[es] a missile . . . or driv[es] an airplane through the air, over the land of another, sufficiently low to invade that space which the owner of the soil may effectively possess[.]”²⁰¹

In *Swetland*, the Northern District of Ohio held that a landowner does not have “the exclusive right to occupy all of the

¹⁹⁴ FED. AVIATION ADMIN., AERONAUTICAL INFORMATION MANUAL 3-2-1 (2014) (as Figure 3-2-1 shows, Class G airspace (which is uncontrolled as only Classes A, B, C, D, and E are controlled) ends at 1,200 feet above ground level).

¹⁹⁵ *Commercial Jet And Drone Had Close Call Over Florida, FAA Says*, CBS NEWS (May 9, 2014, 6:47 PM), <http://www.cbsnews.com/news/commercial-jet-and-drone-had-close-call-over-florida-faa-says/>.

¹⁹⁶ *Id.*

¹⁹⁷ Patrick Benedict, *Commercial Drones a Serious Safety Concern?*, ABC 15 NEWS (June 6, 2013, 10:36 PM), <http://www.abc15.com/news/investigations/commercial-drones-a-serious-safety-concern>.

¹⁹⁸ *Swetland v. Curtiss Airports Corp.*, 41 F.2d 929, 934 (N.D. Ohio 1930).

¹⁹⁹ *Id.* at 935 (quoting *Hannabalsen v. Sessions*, 90 N.W. 93, 93 (1902)).

²⁰⁰ *Id.* at 936 (citing *Peabody v. United States*, 231 U.S. 530 (1913); *Portsmouth Harbor Land & Hotel Co. v. United States*, 250 U.S. 1 (1919); *Portsmouth Harbor Land & Hotel Co. v. United States*, 260 U.S. 327 (1929)).

²⁰¹ *Id.* at 937 (citing FRANCIS M. BURDICK, *THE LAW OF TORTS* 406 (4th Ed. 1926)).

air space above his property to an indefinite extent.”²⁰² However,

passage through the air space superjacent to land, at a height beyond that at which the owner of the soil can exercise effective possession, will not be treated as a trespass, though dropping objects onto the land, or falling onto the land would constitute such trespass.²⁰³

Because federal regulations in effect at the time of that suit expressly regulated safe flight to a minimum altitude of 1,000 feet over congested areas and 500 feet elsewhere,²⁰⁴ the Court ruled that the plaintiffs were entitled to relief and enjoined the defendants from “avigating over the property of plaintiffs or any part thereof unless at altitudes of 500 feet or in excess thereof.”²⁰⁵

If an operator flies an aircraft less than 500 feet above the ground, he risks potential liability in state or local court.²⁰⁶ Legal damages may be sought based upon a nuisance or trespass theory.²⁰⁷ Local property rights do not fully preempt federal regulation because the FAA is specifically expected to control “the use of the navigable airspace and regulat[e] . . . operations in that airspace in the interest of . . . safety and efficiency”²⁰⁸ Case law does not seem to question the authority of the federal government to regulate the national airspace from earth to the heavens.²⁰⁹

Because the precise lower boundary of federally regulated airspace is vague, the FAA has “fuzzy” jurisdiction over operations under 500 feet.²¹⁰ Moreover, the arguments of the

²⁰² See *id.* at 934–36.

²⁰³ *Id.* at 937 (citing BURDICK, *supra* note 201, at 406).

²⁰⁴ *Id.* at 939 (quoting the Air Commerce Act of 1926 § 74(G)(1),(2) (“[A]ircraft shall not be flown [o]ver the congested parts of cities, towns, or settlements . . . [at less than] 1,000 feet . . . [or] [e]lsewhere at a height less than 500 feet, except where indispensable to an industrial flying operation.”)).

²⁰⁵ *Id.* at 944.

²⁰⁶ See generally *id.* at 940 (if rules and regulations are not complied with, licenses can be challenged, there may be civil penalties or, in some places, it may be a crime to violate certain regulations).

²⁰⁷ *Id.* at 942 (“if defendants were permitted in taking off and landing to fly at altitudes lower than 500 feet, such flying, if it would not constitute trespasses, would at least constitute the maintenance of a nuisance.”).

²⁰⁸ 49 U.S.C. § 40101(d)(4) (2006).

²⁰⁹ See generally *Swetland*, 41 F.2d at 934 (the case did not challenge whether the federal government had the power to regulate airspace, rather the case sought to determine what an individual landowner’s rights were in connection to the airspace surrounding the landowner’s property).

²¹⁰ See *id.* at 942.

1920's-era Federalism debate over airspace have largely receded from the public's eye. Nonetheless, current jurisprudence seems to indicate that new federal regulation of non-commercial Drone operations in uncontrolled non-commercial airspace could be challenged as an act that exceeds the Commerce power of Congress.²¹¹

In *Pirker*, the jurisdiction of low-altitude airspace was a sticking point.²¹² Pirker's attorneys claimed that the FAA did not have jurisdiction below 400 feet, arguing that Congress gave the FAA the power to define²¹³ and regulate navigable airspace.²¹⁴ Navigable airspace is defined in 49 U.S.C. § 40102(32);²¹⁵ it somehow limits its jurisdiction to those regions of airspace expressly located in 14 C.F.R. § 71²¹⁶ and FAA Order 7400.9.²¹⁷

Because this case is still under adjudication, not all questions raised by the lawsuit may be answered in a timely manner.²¹⁸

The FAA should have jurisdiction over Drones operated *below* formal navigable airspace so long as the Drones it attempts to regulate are being used in interstate commerce. In *Pirker*, the FAA Administrator argued that "the FAA unquestionably has authority to regulate aircraft in U.S. airspace[]"²¹⁹ because "49

²¹¹ See generally *United States v. Lopez*, 514 U.S. 549, 551, 556, 560–61 (1995) (The Supreme Court ruled a federal statute criminalizing the possession of guns in local public schools unconstitutional because it exceeded *Wickard v. Filburn*'s limit on Congressional regulation of commerce. *Wickard* held that Congress could regulate local activity if it had a substantial economic effect on interstate commerce. The gun possession in *Lopez* did not have a substantial economic effect on interstate commerce. Likewise, there would be no substantial economic effect on interstate commerce when dealing with a flock of non-commercial hobbyist R/C aircraft operating beneath federally controlled airspace.).

²¹² See Respondent's Motion to Dismiss at 3, *Huerta v. Pirker*, 2014 WL 3388631 (N.T.S.B.) (Mar. 6, 2014) (No. CP-217).

²¹³ See generally *id.* at 29 (a voluntary maximum altitude is set for model aircraft, but there is no minimum set by the FAA).

²¹⁴ 49 U.S.C. § 40103(b)(1) (2006); see Respondent's Motion to Dismiss, *supra* note 212, at 5, 29.

²¹⁵ 49 U.S.C. § 40102(32) (2006).

²¹⁶ See 14 C.F.R. §§ 71.33, 71.41, 71.51, 71.61, 71.71 (2014).

²¹⁷ FED. AVIATION ADMIN., ORDER JO 7400.9Y, AIRSPACE DESIGNATIONS AND REPORTING POINTS (2014).

²¹⁸ See generally Administrator's Appeal Brief, *Huerta v. Pirker*, 2014 WL 3388631 (N.T.S.B.) (Mar. 6, 2014) (No. CP-217); *Huerta v. Pirker*, CP-217, NTSB Order No. EA-5730 (Nov. 18, 2014).

²¹⁹ Administrator's Response to Respondent's Motion to Dismiss at 2, *Huerta v. Pirker*, 2014 WL 3388631 (N.T.S.B.) (Mar. 6, 2014) (No. CP-217).

U.S.C. § 40103(b)(1) states that “[t]he Administrator of the Federal Aviation Administration shall develop plans and policy for the use of the navigable airspace and *assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace.*”²²⁰ Moreover, the FAA argued that “the legislative history of the Federal Aviation Act of 1958 demonstrates, Congress proposed to ‘give the Administrator authority to regulate the use of *all airspace* over the United States by both civil and military aircraft”²²¹

Drone acolytes may argue the opposite. Fortunately, the FAA is likely to prevail in the long run.²²²

7. The FAA Can Be Given the Authority to Regulate Data Collected By Robotic Aircraft Used In Interstate Commerce

The United States Constitution authorizes Congress “[t]o regulate Commerce . . . among the several States[.]”²²³ In *Sebelius*, the Supreme Court reiterated its view that “Congress may regulate ‘the channels of interstate commerce,’ ‘persons or things in interstate commerce,’ and ‘those activities that substantially affect interstate commerce.’”²²⁴ The power is expansive; when challenged as to the breadth of the Commerce Clause, the Supreme Court held that Congress may “authorize federal regulation of such seemingly local matters as a farmer’s decision to grow wheat for himself and his livestock, and a loan shark’s extortionate collections from a neighborhood butcher shop.”²²⁵

Following this line of reasoning, it is entirely within the scope of Congress to grant the Federal Aviation Administration the

²²⁰ *Id.* at 4–5 (quoting 49 U.S.C. § 40103(b)(1)) (emphasis added).

²²¹ *Id.* at 5 (quoting *United States v. Christenson*, 419 F.2d 1401, 1404 (9th Cir. 1969)) (emphasis added).

²²² See Stephen Burroughs, *Heads I Win, Tails You Lose: When Chevron Deference to Retroactive IRS Regulations Changes the Rules of the Game*, 7 CHARLESTON L. REV. 411, 413 (2013); Cyrus Farivar, *San Jose Police Department Says FAA Can’t Regulate Its Drone Use*, ARSTECHNICA (Aug. 6, 2014, 5:02 PM), <http://arstechnica.com/tech-policy/2014/08/san-jose-police-say-faa-cant-regulate-its-drone-use-faa-disagrees/>.

²²³ U.S. CONST. art. I, § 8, cl. 3.

²²⁴ *Nat’l Fed’n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566, 2578 (2012) (quoting *United States v. Morrison*, 529 U.S. 598, 609 (2000)).

²²⁵ *Id.* at 2578–79 (citing *Wickard v. Filburn*, 317 U.S. 111 (1942); *Perez v. United States*, 402 U.S. 146 (1971)).

power to regulate data collected as a byproduct of robotic aircraft operations used either in intra- or interstate commerce. At the present time it seems as though Title 49 U.S.C. lacks any clear-cut mandate for the Department of Transportation to engage in or refrain from making regulations concerning the third party collection of remote sensing data.²²⁶ It is only to facilitate accident reconstruction that commercial aircraft are required to carry cockpit voice recorders and flight data recorders; data that is directly traceable to “safety . . . in air commerce.”²²⁷ Beyond these accident reconstruction recorders, at the present time the C.F.R. does not otherwise regulate the recording and potential archival use of flight telemetry.

If the FAA required third party data to be transmitted to it, 5 U.S.C. § 552a would strictly control the public dissemination of such records in any personally identifiable form.²²⁸

8. State and Local Government Have the Authority to Regulate Data Collected by Robotic Aircraft Used Outside of Interstate Commerce

On April 3, 2013, the FAA held an online forum regarding the upcoming selection of federally approved sites for the testing of robotic aircraft.²²⁹ Privacy concerning the disposition of any electronic data collected by Drones, dominated the discussion.²³⁰ Over the course of the two-hour virtual meeting, a “recurring theme emerged — many think the FAA shouldn’t be involved in drone privacy at all.”²³¹

Some citizens expressed an opinion that privacy should be left up to other government agencies.²³² Timothy Adelman, an attorney, stated that “the problem is not the aircraft in the air

²²⁶ See generally 49 U.S.C. §§ 40101–46507 (2012).

²²⁷ See 14 C.F.R. § 25.1459; 14 C.F.R. § 91.609(a), (g) (2014); 14 C.F.R. §§ 125.225–228; 49 U.S.C. § 40101(a)(3) (2006). The disappearance of the Malaysia Airlines Flight 370 and the subsequent attempt at flight reconstruction from non-regulated satellite broadcast telemetry may prompt the FAA to revisit these regulations.

²²⁸ 5 U.S.C. § 552a(b) (2006).

²²⁹ Public Meeting: Unmanned Aircraft Systems Test Site Program; Privacy Approach, 78 Fed. Reg. 18932 (Mar. 28, 2013) (notice of public engagement session); Ben Wolfgang, *FAA Forum Gauges Approval of Drone Privacy*, WASH. TIMES (Apr. 3, 2013), <http://www.washingtontimes.com/news/2013/apr/3/faa-forum-gauges-approval-of-drone-privacy/?page=all>.

²³⁰ Wolfgang, *supra* note 229.

²³¹ *Id.*

²³² *Id.*

but the use of data obtained. Regulating the use of data is not the FAA's responsibility[.]”²³³ Other citizens “argued that privacy guidelines should be written by Congress[.]” not the FAA.²³⁴ Yet another citizen stated that the FAA should focus its efforts “on how quickly the federal government recognizes Americans’ freedom to own and operate drones as methods of self-defense under the Second Amendment.”²³⁵

Traditionally, actions arising from third party aerial surveillance are litigated under state law.²³⁶ In the famous case of *DuPont v. Christopher*, the court found that DuPont was the victim of industrial espionage when the Christophers took and delivered aerial photographs of DuPont’s new plant to an undisclosed third party.²³⁷ The court disagreed with the Christophers’ argument that a tortious act can only be committed in the presence of “a trespass, other illegal conduct, or breach of a confidential relationship.”²³⁸ The court ruled in favor of DuPont because the applicable state law recognized “a cause of action for the discovery of a trade secret by any ‘improper means.’”²³⁹

Portions of state privacy laws often focus their attention upon internet content providers. The California Online Privacy Protection Act (OPPA) is one such law.²⁴⁰ While the OPPA requires internet content providers who collect “personally identifiable information” to “conspicuously post . . . privacy policy” documents,²⁴¹ it exempts from compliance third parties that do not own an online service.²⁴² The OPPA does not restrict the nature of the commercial use of such information; it only requires

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ See generally ALISSA M. DOLAN & RICHARD M. THOMPSON II, INTEGRATION OF DRONES INTO DOMESTIC AIRSPACE 14 (2013) (explaining the Restatement (Second) of Torts section that, if adopted by states, is “the privacy tort most likely to apply to drone surveillance.”).

²³⁷ *E. I. Du Pont de Nemours & Co. v. Christopher*, 431 F.2d 1012, 1013, 1017 (5th Cir. 1970).

²³⁸ *Id.* at 1014.

²³⁹ *Id.* at 1015 (citing *Hyde Corporation v. Huffines*, 314 S.W.2d 763, 769 (1958)).

²⁴⁰ KAMALA D. HARRIS, CAL. DEP’T. OF JUSTICE, MAKING YOUR PRIVACY PRACTICES PUBLIC 1 (2014).

²⁴¹ CAL. BUS. & PROF. CODE § 22575(a) (Deering 2014).

²⁴² CAL. BUS. & PROF. CODE § 22577(c) (Deering 2014) (stating in the definition of “operator” the statute excludes “any third party that operates, hosts, or manages, but does not own, a Web site or online service on the owner’s behalf or by processing information on behalf of the owner.”).

disclosure that such information is being collected.²⁴³ Consequently, a Drone operator who collects personally identifiable information from his aircraft would be immune from litigation under the OPPA because he did not obtain that information through the Internet.

Federal privacy laws apply “only to federal agencies” and to certain federal contractors who operate *Privacy Act* protected systems of records.²⁴⁴ This Act allows a citizen to request that the federal government disclose, with some restrictions, information it has collected about them.²⁴⁵ It provides a mechanism for a citizen to request a change of any information that is incorrect, irrelevant, untimely, or incomplete.²⁴⁶ It allows a citizen to sue the Government to impose misdemeanor penalties against agency employees who willfully disclose such information to persons or agencies not entitled to receive it.²⁴⁷ It does apply to government contractors who are hired by a government agency to carry out an agency function.²⁴⁸

Narrowly tailored federal laws prohibit unauthorized persons from engaging in domestic “spying.” The *Electronic Communications Privacy Act of 1986* criminalizes unauthorized third parties from eavesdropping upon telephone conversations (“wiretaps”) and other forms of electronic data transmissions.²⁴⁹ Authorization may be granted by “a court order directing such assistance . . . or . . . a certification in writing . . . that no warrant or court order is required by law, that all statutory requirements have been met, and that the specified assistance is required[.]”²⁵⁰ Similarly, the *Stored Communications Act* as amended by the *USA PATRIOT Act*, criminalizes unauthorized third parties who “obtain[], alter[], or prevent[] authorized access to a wire or electronic communication while it is in electronic storage[.]”²⁵¹ These laws do not cover the collection, storage and dissemination

²⁴³ CAL. BUS. & PROF. CODE § 22575(5), (6) (Deering 2014).

²⁴⁴ 5 U.S.C. § 552a(m)(1) (2012); *Denne v. Univ. of Pittsburgh Sch. of Med.*, 21 V.I. 51, 56 (1984).

²⁴⁵ 5 U.S.C. § 552a(d)(1).

²⁴⁶ *Id.* § 552a(d)(2)(B)(i).

²⁴⁷ *Id.* § 552a(i)(1).

²⁴⁸ *Id.* § 552a(m)(1).

²⁴⁹ *See* 18 U.S.C. § 2511(1)(a) (2006).

²⁵⁰ *Id.* § 2511(2)(a)(ii)(A–B).

²⁵¹ 18 U.S.C. § 2701(a)(2) (2006); *Electronic Communications Privacy Act of 1986 (ECPA)*, 18 U.S.C. § 2510–22, JUSTICE INFORMATION SHARING: U.S. DEP’T OF JUST., <https://it.ojp.gov/default.aspx?area=privacy&page=1285> (last visited Oct. 1, 2014).

of broader visual and position information.²⁵²

Ultimately the FAA's town-hall meeting led to unresolvable questions. However necessary, the FAA does not currently have the statutory authority to promulgate a comprehensive privacy policy.²⁵³ Because existing state laws were designed to inform the consumer of the potential third-party use of information voluntarily supplied through cyberspace interactions with websites, they are wholly inadequate to cover the sorts of information collected by Drones.

If Congress were to broaden the FAA's statutory authority, it could easily regulate the collection and dissemination of data collected by commercial robotic aircraft.

III. THE FOURTH AMENDMENT CAN POTENTIALLY PROTECT CITIZENS FROM WARRANTLESS DRONE SURVEILLANCE

Robotic aircraft generally report their position and send telemetry back to their operators.²⁵⁴ In general, operators' computers will have some archival data storage capability.²⁵⁵ Thus, all Drone flights potentially leave a permanent record of time, position and information in cyberspace.

Drones, especially commercial Drones, are expected to operate in populated areas.²⁵⁶ It stands to reason that when such an aircraft flies over private property, its telemetry system may observe people, places, and things. This information may well comprise embarrassing voyeuristic images, capture a tragedy in progress,²⁵⁷ or even provide enough personally identifiable information to help capture criminals.²⁵⁸ Because such telemetry

²⁵² See 18 U.S.C. §§ 2701(a)(2), 3121(b).

²⁵³ See Melissa Barbee, Comment, *Uncharted Territory: The FAA and the Regulation of Privacy via Rulemaking for Domestic Drones*, 66 ADMIN. L. REV. 463, 480 (2014).

²⁵⁴ Timothy T. Takahashi, *Drones and Privacy*, 14 COLUM. SCI. & TECH. L. REV. 72, 87 (2012).

²⁵⁵ See *id.* at 91–92.

²⁵⁶ See generally Conor Dougherty, *Drone Developers Consider Obstacles That Cannot Be Flown Around*, N.Y. TIMES, Sept. 1, 2014, at B5 (explaining the different projects in development and future intended uses of drones in more populated places around the world for commercial use).

²⁵⁷ See, e.g., W.J. Hennigan, *Investigators Sent to Afghan Air Base Where Cargo Plane Crashed*, L.A. TIMES (Apr. 30, 2013), <http://articles.latimes.com/2013/apr/30/business/la-fi-mo-bagram-747-crash-20130430> (discussing live “dashcam” recorded video which documented the fiery crash of a Boeing 747 aircraft).

²⁵⁸ Richard A. Serrano, Ken Dilanian & Joseph Tanfani, *Video Images Yield*

is likely to be archived, operators will amass a collection of potentially sensitive data.

Once data has been collected, it has the potential to be distributed widely. Unlike fixed security cameras, or law enforcement dashboard cameras, Drone collected data may be obtained from potentially unlawful vantage points.²⁵⁹ Consider the high probability that a Drone being used to create video imagery for a real estate company would spend at least some time “avigating” over the property of neighbors at altitudes below 500 feet.²⁶⁰ Not only could this possibly be a trespass in the eyes of the *Swetland* court, but this operation would be in direct violation of 14 C.F.R. § 91.119.²⁶¹ Current laws do little to protect the observed from the possibility of a private (commercial or non-commercial) or government party obtaining information in this manner.²⁶² However, the Constitution and modern evidentiary laws limit the use of such data in a court of law. The Fourth Amendment to the United States Constitution reads:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures,

Two Possible Boston Bombing Suspects, L.A. TIMES (Apr. 17, 2013), <http://articles.latimes.com/2013/apr/17/nation/la-na-boston-bombings-investigation-20130418> (“Authorities have obtained clear images of the faces of two men with backpacks who they believe were acting suspiciously around the time of the Boston Marathon bombings A department store surveillance camera caught an image of at least one of the men leaving a backpack near the finish line Authorities are relying not only on extensive surveillance video but a flood of photos and videos sent in by spectators, office workers and others who were at the disaster scene ‘I think that this will go down in U.S. history as the most videotaped bombing in history,’ said Tom Thurman, who formerly headed the FBI’s Bomb Data Center”).

²⁵⁹ See RICHARD M. THOMPSON, DRONES IN DOMESTIC SERVICE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES 13–14 (2013); Travis Dunlap, *We’ve Got Our Eyes on You: When Surveillance by Unmanned Aircraft Systems Constitutes a Fourth Amendment Search*, 51 S. TEX. L. REV. 173, 198 (2009).

²⁶⁰ *Swetland v. Curtiss Airports Corp.*, 41 F.2d 929, 944 (N.D. Ohio 1930) (preventing planes from flying over adjacent landowners property at altitudes less than five hundred feet).

²⁶¹ *Id.* at 942; see 14 C.F.R. § 91.119 (2014) (stating that an individual cannot operate an aircraft below 1000 feet in a congested area or lower than 500 feet in a non-congested area).

²⁶² See generally *Eyes in the Sky: The Domestic Use of Unmanned Aerial Systems: Hearing Before the Subcomm. On Crime, Terrorism, Homeland Security and Investigations* 2–3 (2013) (statement of Gregory S. McNeal, Associate Professor of Law, Pepperdine University School of Law) (arguing that proposals prohibiting drone-enabled collection of information, which would protect individuals, are overbroad and ill advised).

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.²⁶³

The cornerstone to any Fourth Amendment analysis begins with the actors. In order for the Fourth Amendment to apply, the government must actually perform the search in question.²⁶⁴ The government includes police and other publicly paid professionals as well as private persons acting in an agency relationship with law enforcement.²⁶⁵ Private security forces that are not deputized do not trigger Fourth Amendment protections.²⁶⁶ Thus the admissibility of Drone surveillance data in a law-enforcement action turns on whether the information derives from a police operated or police deputized aircraft. If surveillance records are obtained by an independent third-party and then voluntarily or compulsively turned over to law enforcement, courts will not exclude such evidence.²⁶⁷

A. The Fourth Amendment Is Founded In Property Theory; It Traditionally Protected Individuals Against Physical, Government Trespass

The Fourth Amendment's text "reflects its close connection to property, since otherwise it would have referred simply to 'the right of the people to be secure against unreasonable searches and seizures'; the phrase 'in their persons, houses, papers, and effects' would have been superfluous."²⁶⁸ The Framers of the Constitution crafted the first clause of the Fourth Amendment to

²⁶³ U.S. CONST. amend. IV.

²⁶⁴ *United States v. Jacobsen*, 466 U.S. 109, 113 (1984) (quoting *Walter v. United States*, 447 U.S. 649, 662 (1980) (Blackmun, J., dissenting)) (The United States Supreme Court construes the Fourth Amendment as proscribing "only governmental action; it is wholly inapplicable 'to a search or seizure, even an unreasonable one, effected by a private individual not acting as an agent of the Government or with the participation or knowledge of any governmental official.'").

²⁶⁵ *United States v. Cameron*, 699 F.3d 621, 637 (1st Cir. 2012) (citing *United States v. Silva* 554 F.3d 13, 18 (1st Cir. 2009)); see *Coolidge v. New Hampshire*, 403 U.S. 443, 449 (1971).

²⁶⁶ See *United States v. Lima*, 24 A.2d 113, 118–19 (D.C. 1980).

²⁶⁷ See *Jacobsen*, 466 U.S. at 117 (quoting *United States v. Miller*, 425 U.S. 435, 443 (1976)).

²⁶⁸ *United States v. Jones*, 132 S. Ct. 945, 949 (2012) (quoting U.S. CONST. amend. IV).

combat perceived law enforcement abuses made during colonial times;²⁶⁹ British officers commonly used general warrants to freely search private property in advance of making an arrest.²⁷⁰ The second clause of the Fourth Amendment codified the 1763 British case, *Wilkes v. Wood*, disallowing evidence found during a general search.²⁷¹

In *Gouled v. United States* the Supreme Court held that search warrants “may not be used as a means of gaining access to a man’s house or office and papers solely for the purpose of making search to secure evidence to be used against him[.]”²⁷² “Access” is a synonym for “trespass.” If a property owner does not want to invite a government representative onto his property, he is allowed to exclude him from the premises.²⁷³

B. Hayden and Katz Broadened the Reach of the Fourth Amendment to Protected Individuals Against Government Intrusions Upon Their Reasonable Expectation of Privacy

By the early twentieth century, the invention of telecommunications technology stretched the strict property-based interpretation of the Fourth Amendment to the breaking point. In 1928, the Supreme Court refused to protect citizens against wireless wiretaps of their telephone lines²⁷⁴ finding the Fourth Amendment protected only real property (“material things”) from search and seizure.²⁷⁵ When *Katz* overruled the *Olmstead* holding, Justice Stewart effectively broadened the

²⁶⁹ See Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 MICH. L. REV. 547, 561–67 (1999).

²⁷⁰ See *id.*

²⁷¹ Samantha Trepel, *Digital Searches, General Warrants, and the Case for the Courts*, 10 YALE J.L. & TECH. 120, 123 (2007); see *Wilkes v. Wood*, 98 Eng. Rep. 489, 498 (1763) (Wilkes, a critic of the King, was charged based on evidence acquired during a search of his business premises under a general warrant, a warrant “where no inventory [was] made of the things thus taken away, and where no offenders names [were] specified in the warrant, and therefore a discretionary power given to messengers to search wherever their suspicions may chance to fall.” The Crown Court ruled the evidence inadmissible, holding that if the Court were to allow the Crown to issue general warrants “such a power . . . [would] affect the person and property of every man in [the] kingdom, and is totally subversive of the liberty of the subject.”).

²⁷² *Gouled v. United States*, 255 U.S. 298, 309 (1921).

²⁷³ See *Payton v. New York*, 445 U.S. 573, 603 (1980) (holding police are prohibited from entering a suspect’s home absent consent or a warrant).

²⁷⁴ See *Olmstead v. United States*, 277 U.S. 438, 466 (1928).

²⁷⁵ *Id.* at 464 (determining that “the person, the house, his papers, or his effects[]” are all “material things”).

scope of the Fourth Amendment.²⁷⁶ Today, this precedent holds that the Fourth Amendment protects both tangible physical property and intangible intellectual property from search.²⁷⁷

In his dissent in *Olmstead*, Justice Brandeis stated that “[s]ubtler and more far-reaching means of invading privacy [had already] become available to the Government.”²⁷⁸ He believed that technological “invention[s] 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.”²⁷⁹

In *Hayden*, the Supreme Court formally abandoned a strict property-based interpretation of the Fourth Amendment.²⁸⁰ Writing for the majority, Justice Brennan rejected *Boyd*’s requirement that the Government demonstrate its property interest in the thing to be seized, reasoning that “[s]earches and seizures may be ‘unreasonable’ within the Fourth Amendment even though the Government asserts a superior property interest at common law.”²⁸¹

Under the new policy, with a valid warrant the “government may [] seize evidence simply for the purpose of proving [a] crime.”²⁸² This enlarged “the area of permissible searches . . . made after fulfilling the probable cause and particularity requirements of the Fourth Amendment and after the intervention of ‘a neutral and detached magistrate . . .’”²⁸³ Under these circumstances, “[t]he Fourth Amendment allows intrusions upon privacy . . . and there is no viable reason to distinguish intrusions to secure ‘mere evidence’ from intrusions to secure fruits, instrumentalities, or contraband.”²⁸⁴

In *Katz*, the Supreme Court overturned *Olmstead*; warrantless

²⁷⁶ *Katz v. United States*, 389 U.S. 347, 353 (1967) (“We conclude that 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.”).

²⁷⁷ *Id.* (Because “the Fourth Amendment protects people—and not simply “areas”—against unreasonable searches and seizures, it becomes clear that the reach of that Amendment cannot turn upon the presence or absence of a physical intrusion into any given enclosure.”).

²⁷⁸ *Olmstead*, 277 U.S. at 473 (Brandeis, J., dissenting).

²⁷⁹ *Id.*

²⁸⁰ *See Warden v. Hayden*, 387 U.S. 294, 310 (1967).

²⁸¹ *Id.* at 304.

²⁸² *Id.* at 306.

²⁸³ *Id.* at 309 (quoting *Johnson v. United States*, 333 U.S. 10, 14 (1948)).

²⁸⁴ *Id.* at 310.

wiretapping does violate the Fourth Amendment.²⁸⁵ Although the *Katz* majority enshrined a privacy basis for Fourth Amendment protection, the court held that “the Fourth Amendment cannot be translated into a general constitutional ‘right to privacy.’”²⁸⁶ Instead, the Court articulated that the Fourth Amendment “protects individual privacy against certain kinds of governmental intrusion, but its protections go further, and often have nothing to do with privacy at all.”²⁸⁷

Today, courts use a *Katz*-derived analysis procedure to decide what is within the bounds of a reasonable search absent a valid warrant.²⁸⁸ This two-part test was not articulated in the majority holding; it stems from Justice Harlan’s concurrence.²⁸⁹ Step one: the court must consider “whether the individual . . . has ‘exhibited an actual (subjective) expectation of privacy[]’” in the object of the challenged search.²⁹⁰ Step two: the court must then ask whether society is “prepared to recognize [that expectation] as ‘reasonable[.]’”²⁹¹

Invoking Justice Harlan’s test, the Supreme Court has permitted warrantless searches of privately owned “open fields,” curbside trash, private residences and even factories of closely regulated industries.²⁹² Generally speaking, where there is scrutiny by or open access to the public, or where there is voluntary (or compelled) cooperation by a third party, there is no expectation of privacy.²⁹³ Under these circumstances, the Fourth Amendment does not protect the individual who was searched from evidence found against him.²⁹⁴

²⁸⁵ See *Katz v. United States*, 389 U.S. 347, 353 (1967).

²⁸⁶ *Id.* at 350.

²⁸⁷ *Id.*

²⁸⁸ See *Smith v. Maryland*, 442 U.S. 735, 740 (1979).

²⁸⁹ *Id.*

²⁹⁰ *Id.* (quoting *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring)).

²⁹¹ *Id.*

²⁹² See generally *Minnesota v. Olson*, 495 U.S. 91, 100 (1990) (permitting warrantless entries into a permanent residence when exigent circumstances are present); *California v. Greenwood*, 486 U.S. 35, 40–41 (1988) (no legitimate expectation of privacy with respect to curbside trash); *New York v. Burger*, 482 U.S. 691, 711–12 (1987) (holding warrantless administrative inspections of “closely regulated” businesses as an exception under the Fourth Amendment); *Oliver v. United States*, 466 U.S. 170, 179, 183–84 (1984) (no legitimate expectation of privacy in an open field).

²⁹³ See *Greenwood*, 486 U.S. at 40–41; *Oliver*, 466 U.S. at 179.

²⁹⁴ See *Greenwood*, 486 U.S. at 41 (citing *United States v. Reicherter*, 647 F.2d 397, 399 (3d Cir. 1981)).

C. Jones and Jardines Have Reasserted the Idea of the Fourth Amendment Protecting Individuals Against Physical Government Trespass

While Justice Harlan's test is a permissible interpretation of the *Katz* majority holding, those words were found in his concurrence.²⁹⁵ With the recent decisions in *Jones* and *Jardines*, the Supreme Court has asserted that the *Katz* "reasonable expectation of privacy" test is a non-exclusive interpretation of the Fourth Amendment.²⁹⁶

Justice Scalia's majority opinion in *Jones* reiterates that "Fourth Amendment rights do not rise or fall with [Justice Harlan's] *Katz* formulation."²⁹⁷ At a minimum, the court must preserve the "degree of privacy against [the] government that existed when the Fourth Amendment was adopted."²⁹⁸ Justice Scalia insists that "*Katz* did not repudiate" the eighteenth century property theory basis of the Fourth Amendment.²⁹⁹ Justice Scalia further noted in *Jardines* that although "*Katz* may add to the baseline, it does not subtract anything from the [Fourth] Amendment's protections"³⁰⁰

In *Jones*, the government obtained information by physically intruding on "persons, houses, papers, and effects" "within the original meaning of the Fourth Amendment . . . by physically intruding on a constitutionally protected area" such as a person's vehicle.³⁰¹ Absent a valid warrant, police affixed a GPS device on Jones' SUV and tracked his whereabouts for twenty-eight days.³⁰² The Court decided that the act of placing the tracking device on the defendant's car rose to the level of a "search" within the original meaning of the Fourth Amendment.³⁰³ To protect our citizens against abuse, the Government must have previously obtained a valid search warrant based upon probable cause, "particularly describing the place to be searched, and the persons

²⁹⁵ *Katz*, 389 U.S. at 360–61.

²⁹⁶ See *Florida v. Jardines*, 133 S. Ct. 1409, 1414 (2013); *United States v. Jones*, 132 S. Ct. 945, 951 (2012).

²⁹⁷ *Jones*, 132 S. Ct. at 950.

²⁹⁸ *Kyllo v. United States*, 533 U.S. 27, 34 (2001).

²⁹⁹ *Jones*, 132 S. Ct. at 950, 950 n.3.

³⁰⁰ *Jardines*, 133 S. Ct. at 1414.

³⁰¹ See *Jones*, 132 S. Ct. at 948, 950 n.3.

³⁰² See *id.* at 948.

³⁰³ *Id.* at 949.

or things to be seized.”³⁰⁴

*D. Warrantless Surveillance Absent Trespass Cannot Utilize
“Enhanced Sensory Technology”*

The Supreme Court has addressed the permissible boundaries for the government, absent a search warrant, to obtain information by remote observation. Traditionally, police are expected to walk their beat to protect citizens against potentially illegal and dangerous activities. So long as a police officer can observe an individual’s activities from public areas, where neither a trespass of private real estate nor a search of private property is necessary to enforce the law,³⁰⁵ the policeman has not violated the individual’s Fourth Amendment right. If police do not disturb anything and restrict themselves to looking “at what is already exposed to view”³⁰⁶ the Fourth Amendment does not apply. Whatever “a person knowingly exposes to the public, even in his own home or office, is not a subject of Fourth Amendment protection.”³⁰⁷

Police may engage in casual conversations with passersby like any other citizen.³⁰⁸ Police may also stop, briefly question, and even “frisk” a fellow citizen.³⁰⁹ Police may use binoculars to view citizens at a distance.³¹⁰ Police may even place a tracking device in contraband, and follow that contraband to its destination.³¹¹ Without the need for a warrant, police may even employ “a well-trained narcotics-detection dog” during routine traffic stops.³¹²

³⁰⁴ U.S. CONST. amend. IV.

³⁰⁵ See *California v. Ciraolo*, 476 U.S. 207, 213–14 (1986) (holding that the Fourth Amendment does not preclude an officer’s observation from a public vantage point).

³⁰⁶ *Arizona v. Hicks*, 480 U.S. 321, 328 (1987).

³⁰⁷ *Katz v. United States*, 389 U.S. 347, 351 (1967).

³⁰⁸ See *Terry v. Ohio*, 392 U.S. 1, 32 (1968) (Harlan, J., concurring).

³⁰⁹ *Id.* at 8 (majority opinion).

³¹⁰ *United States v. Vela*, 486 F. Supp. 2d. 587, 590 (W.D. Tex. 2005).

³¹¹ See *United States v. Knotts*, 460 U.S. 276, 278, 285 (1983) (holding that the warrantless use of a transmitting “beeper” placed in goods could be used by the police to track a potential suspect to his final destination when those movements tracked were visible to the public). *But see* *United States v. Karo*, 468 U.S. 705, 714–16 (1984) (holding that the warrantless use of a transmitting “beeper” placed in goods was impermissible when used by the police to reveal things it could not discover from a legal vantage point outside the suspect’s house).

³¹² *Illinois v. Caballes*, 543 U.S. 405, 409 (2005) (holding that once subject to a lawful traffic stop, the need for a warrant is dispensed and “[a]ny intrusion on respondent’s expectation of privacy does not rise to the level of a constitutionally

Police may do all this upon reasonable suspicion, but without a warrant.³¹³

The Supreme Court limits what forms of technological assistance the Government may employ when conducting warrantless surveillance.³¹⁴ Accordingly, “absent exigent circumstances Government agents have a constitutional duty to obtain a warrant before they install an electronic device *on a private citizen’s property*.”³¹⁵ In *Jones*, the court found that transmission of electronic signals without trespass would still remain subject to a *Katz*-style “reasonable-expectation-of-privacy” analysis.³¹⁶

In *Kyllo*, the Court found the warrantless use of a thermal imaging system unconstitutional.³¹⁷ The fact that the police did not trespass onto Kyllo’s property was immaterial (they operated the thermal imager from a public street).³¹⁸ When “the Government *uses* a device that is not in general public *use*, to explore details of the home that would previously have been unknowable without physical intrusion, the surveillance is a ‘search’ and is presumptively unreasonable without a warrant.”³¹⁹

cognizable infringement.”).

³¹³ See *Knotts*, 460 U.S. at 278, 285 (finding the movement tracked to be within the scope of the public view, thus holding the defendant had no reasonable expectation of privacy); *United States v. Garcia*, 474 F.3d 994, 996 (7th Cir. 2007).

³¹⁴ See *United States v. Jones*, 132 S. Ct. 945, 949 (2012) (warrantless physical attachment of a GPS device upon personal property is impermissible); *Caballes*, 543 U.S. at 409 (warrantless use of police drug detection dogs during a lawful traffic stop without reasonable suspicion of further wrongdoing was permissible); *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (warrantless thermal imaging of a suspect’s home impermissible); *Florida v. Riley*, 488 U.S. 445, 451–52 (1989) (warrantless observation from low altitude helicopter flyover permissible); *California v. Ciraolo*, 476 U.S. 207, 215 (1986) (warrantless observation from aircraft permissible); *Dow Chem. Co. v. United States*, 476 U.S. 227, 239 (1986) (warrantless photography of commercial property by a Federal regulatory agency from an aircraft permissible); *Knotts*, 460 U.S. at 278, 285 (warrantless use of a transmitting “beeper” placed in goods permissible to track a potential suspect to his final destination).

³¹⁵ *Karo*, 468 U.S. at 736 (1984) (Stevens, J., concurring in part and dissenting in part) (emphasis added). Despite Justice Stevens’ assertion appearing separate from the Majority, courts have adopted this principal. See *Jones*, 132 S. Ct. at 949 (holding the warrantless physical attachment of a GPS device to a private automobile to be impermissible); see also *People v. Dominquez*, 529 N.Y.S.2d 889, 889 (2d Dep’t 1988) (“[h]owever, where exigent circumstances exist, the failure of the police to procure a warrant is excusable.”).

³¹⁶ *Jones*, 132 S. Ct. at 953.

³¹⁷ See *Kyllo*, 533 U.S. at 40.

³¹⁸ *Id.* at 29–30, 40.

³¹⁹ *Id.* at 40.

E. Warrantless Surveillance Requires Law Enforcement to View Suspects From a Lawful Vantage Point

So long as a policeman can lawfully obtain a vantage point for direct observation or inspection, no warrant is required.³²⁰ Police may technically trespass upon a citizen's real property, as long as they do not trespass on his "persons, houses, papers, and effects[]" in order to make their observation.³²¹ In *Oliver v. United States*, the Supreme Court held that warrantless police access to real property beyond the curtilage of the home yet located behind a "no trespass" sign did not trigger Fourth Amendment protections.³²² In *California v. Greenwood*, the Supreme Court found no need for a warrant when the police inspected a citizen's trash left outside of the curtilage of his home.³²³ Thus acceptable police vantage points include both public property (roads, sidewalks), and "lawful" private property (curbside lawns, open fields around a home, as well as steps up to front door).³²⁴ Importantly, "[t]he Fourth Amendment protection of the home has never . . . require[d] law enforcement officers to shield their eyes when passing by a home on public thoroughfares."³²⁵

In *California v. Ciraolo*, the Supreme Court upheld warrantless aerial surveillance from an altitude greater than 1000 feet.³²⁶ Here, police aboard a fixed-wing aircraft viewed cannabis growth in a citizen's backyard.³²⁷ The police aircraft

³²⁰ See e.g. *Hester v. United States*, 265 U.S. 57, 58–59 (1924) (police did not have a warrant but they observed the defendant from an open field; an area not protected by the Fourth Amendment).

³²¹ *Id.* at 59 (holding that only those constitutionally enumerated areas were protected by the Fourth Amendment and that warrantless police trespass onto open fields did not violate a protected space).

³²² *Oliver v. United States*, 466 U.S. 170, 182–83 (1984).

³²³ *California v. Greenwood*, 486 U.S. 35, 37 (1988).

³²⁴ See *Florida v. Jardines*, 133 S. Ct. 1409, 1416 (2013) (police can approach a front door without a warrant); *California v. Ciraolo*, 476 U.S. 207, 213 (1986) (police can observe what they pass on public thoroughfares); *Hester*, 265 U.S. at 59 (open fields are not protected by the Fourth Amendment); *United States v. Garcia*, 474 F.3d 994, 997, 998 (7th Cir. 2007) (following a car on a public street not a search).

³²⁵ *Ciraolo*, 476 U.S. at 213.

³²⁶ *Id.* at 215 (surveillance of even the curtilage of a home from publicly navigable airspace, at an altitude of 1,000 feet generally used by the public and conducted with the naked eye, is not a "search" within the meaning of the Fourth Amendment, because there is no reasonable expectation of privacy in areas visible to the public).

³²⁷ *Id.* at 209 (without visual aids, police observed and photographed a marijuana garden in defendant's backyard).

flew in accordance with 14 C.F.R. § 91.119 minimum altitude requirements.³²⁸ Because police observed the contraband with their “naked eye . . . [aboard] an aircraft lawfully operating at an altitude of 1,000 feet” no warrant was required.³²⁹

In *Florida v. Riley*, the Court held that a police officer’s warrantless visual observation of the interior of a partially open greenhouse from the vantage point of a helicopter circling 400 feet above did not violate the Fourth Amendment.³³⁰ Because 14 C.F.R. § 91.119 minimum altitude requirements are relaxed for helicopters, the low-altitude police helicopter did not violate this FAA provision.³³¹ In *Riley*, a plurality of the Court believed that a warrant would be required if the surveillance occurred at a lower altitude where the aircraft would have been flying “contrary to law or regulation.”³³²

Riley seems ripe to be further distinguished. *Jones* and *Jardines* hold that a warrant is necessary when police conduct amounts to a trespass at common law *and* police invade a constitutionally protected area enumerated in the Fourth Amendment (persons/houses/papers/effects) *and* police perform such an act for the purpose gathering information.³³³ Due to several factors: 1) flight at altitudes below 500 feet above ground level constitutes a trespass, 2) police viewed contraband within the curtilage of citizen’s home, and 3) police flying over the citizens home for the express purpose of searching for contraband, an application of the facts of *Riley* to the *Jones* test would lead this author to a rather different conclusion, as such a search would be invalid absent a warrant.

In a world filled with robotic aircraft, police could dispense with a need for physical intrusion, as they could easily position a Drone quad-copter outside the bedroom window of a citizen’s property where the robotic aircraft’s roving electronic eye could view activities within.³³⁴ In such circumstances, the drone would

³²⁸ See *id.* at 209; 14 C.F.R. § 91.119(b) (2014) (the minimum safe altitude for such an area is 1,000 feet).

³²⁹ *Ciraolo*, 476 U.S. at 213.

³³⁰ *Florida v. Riley*, 488 U.S. 445, 447–48, 452 (1989).

³³¹ 14 C.F.R. § 91.119(d)(1) (2014) (note: Part 91 has been renumbered since the 1988 holding; 14 C.F.R. § 91.119 is the current form of the controlling regulation).

³³² See *Riley*, 488 U.S. at 451.

³³³ See *Florida v. Jardines*, 133 S. Ct. 1409, 1414 (2013); *United States v. Jones*, 132 S. Ct. 945, 949 (2012).

³³⁴ See Jason Koebler, *Police to Use Drones for Spying on Citizens*, U.S. NEWS & WORLD REP. (Aug. 23, 2012, 11:30 AM),

operate in concord with 14 C.F.R. § 91.119 and its provisions regarding helicopters.³³⁵ Because this scenario differs only “slightly in degree and not at all in kind from” *Riley*, the implications of *Jardines* and *Jones* are crucial.³³⁶ “Such platforms in the sky [should be] clear examples of government conduct that oversteps Fourth Amendment privacy protections in the home by revealing that ‘intimate activity associated with the ‘sanctity of [the home] and the privacies of life.’”³³⁷ Absent a warrant, it should be impermissible for police to use artificial aids to observe activities within an individual’s home because that act triggers a Fourth Amendment search.³³⁸ In conclusion, it is apparent that the Constitution limits both the amount of technological assistance and the placement of such technology. The author hopes that the Supreme Court would concur with this viewpoint.

F. The Third Party Doctrine Allows Law Enforcement to Bypass Fourth Amendment Guarantees by Obtaining Otherwise Inadmissible Evidence from Private Business Records

In *Jones*, the Supreme Court unanimously agreed that the warrantless fixation of GPS device on a suspect’s vehicle violated his Fourth Amendment rights.³³⁹ However, the justices fractured in a 5-1-4 split opinion regarding the reason to exclude this evidence.³⁴⁰ Justice Scalia’s majority opinion (joined by Roberts, Kennedy, Thomas, and Sotomayor) found the physical acts of the police constituted a trespass on private property.³⁴¹ This trespass

<http://www.usnews.com/news/articles/2012/08/23/docs-law-enforcement-agencies-plan-to-use-domestic-drones-for-surveillance>.

³³⁵ 14 C.F.R. § 91.119(d) (2014).

³³⁶ Brief for American Civil Liberties Union, et al. as Amici Curiae Supporting Respondent at 23, *Florida v. Riley*, 448 U.S. 445 (1988) (No. 87–764), 1988 WL 1025587.

³³⁷ *Id.* at 24 (internal citation omitted) (citing *United States v. Dunn*, 480 U.S. 294, 300 (1987) (quoting *Oliver v. United States*, 466 U.S. 170, 180 (1984)) (quoting *Boyd v. United States*, 116 U.S. 616, 630 (1886))).

³³⁸ See *United States v. Kim*, 415 F. Supp. 1252, 1256–57 (D. Haw. 1976) (“It is inconceivable that the government can intrude so far into an individual’s home that it can detect the material he is reading and still not be considered to have engaged in a search. If government agents have probable cause to suspect criminal activity and feel the need for telescopic surveillance, they may apply for a warrant; otherwise, they have no right to peer into people’s windows with special equipment not generally in use.”) (internal citation omitted).

³³⁹ *United States v. Jones*, 132 S. Ct. 945, 949 (2012).

³⁴⁰ See generally *id.* (Justice Scalia wrote the majority opinion, with Justices Sotomayor and Alito writing concurring opinions.)

³⁴¹ *Id.* at 949–51.

became a “search” when the GPS tracking device that monitored the defendant’s whereabouts was attached to the defendant’s vehicle.³⁴² Justice Samuel Alito (joined by Ginsburg, Breyer and Kagan) filed a concurring opinion.³⁴³ These Justices argued that a *Katz* analysis was appropriate for the circumstances: that long term position monitoring violates an individual’s reasonable expectation of privacy.³⁴⁴ Justice Sotomayor also filed a concurring opinion,³⁴⁵ where she agreed broadly with Scalia’s trespass theory, but further warned “I would not assume that all information voluntarily disclosed to some member of the public for a limited purpose is, for that reason alone, disentitled to Fourth Amendment protection.”³⁴⁶

Since 1979, the Supreme Court has maintained that there is no inherent expectation of privacy for incriminating information voluntarily transferred to a third party.³⁴⁷ For example, law enforcement could examine checks and deposit slips sent through the banking system without a warrant.³⁴⁸ Basic time and number dialed telephone records can be obtained without a warrant, under a broad court order.³⁴⁹ E-mail addressing information can be tracked without a warrant.³⁵⁰ The “third party doctrine” declines to offer citizens Fourth Amendment protections when government snoops through such information.³⁵¹

Today, modern society compels us to make use of third party data providers. Digital cellular and internet technology is nearly universal. It is difficult to contact friends and family, to reserve

³⁴² *Id.* at 952.

³⁴³ *Id.* at 957.

³⁴⁴ *Id.* at 964 (Alito, J., concurring).

³⁴⁵ *Id.* at 954.

³⁴⁶ *Id.* at 957 (Sotomayor, J., concurring).

³⁴⁷ *Smith v. Maryland*, 442 U.S. 735, 738 (1979) (affirming the lower court’s holding “that ‘there is no constitutionally protected reasonable expectation of privacy in the numbers dialed into a telephone system and hence no search within the fourth amendment’”).

³⁴⁸ *California Bankers Ass’n v. Shultz*, 416 U.S. 21, 96 (1974) (Marshall, J., dissenting); *United States v. Miller*, 425 U.S. 435, 442–43 (1976) (internal citation omitted).

³⁴⁹ *See Smith*, 442 U.S. at 743–45 ([w]hen he used his phone, petitioner voluntarily conveyed numerical information to the telephone company In so doing, petitioner assumed the risk that the company would reveal to police the numbers he dialed.”).

³⁵⁰ *United States v. Forrester*, 512 F.3d 500, 510 (9th Cir. 2008).

³⁵¹ *See Orin Kerr & Greg Nojeim, The Data Question: Should the Third-Party Records Doctrine Be Revisited?*, A.B.A. J. (Aug. 1, 2012), http://www.abajournal.com/magazine/article/the_data_question_should_the_third-party_records_doctrine_be_revisited/.

an airline flight, to make a medical appointment, or even obtain directions to visit a new church without leaving footprints in cyberspace. “All of these interactions create records in the hands of third parties about our interests, problems, loves and losses, finances, associates, family moments, and even our location at any moment.”³⁵² Once upon a time, law enforcement would have to take an active role in collecting this information: it would have to “tail suspects and query informants.”³⁵³ Historically, while police could embark on a fishing expedition, such an adventure required proactive effort on the part of law enforcement lest ephemeral actions dissipate.³⁵⁴ Today, third party archived electronic records make such an effort inexpensive and retrospective.³⁵⁵ Third parties store telephone “pen register” information, records of airline flights and hotel stays, locations of IP sites visited, and contents of Google queries.³⁵⁶ Can law enforcement access this information without a warrant supported by probable cause?

G. In the Near Future, Courts May Narrow the Breadth of the Third Party Doctrine

After the 2012 Supreme Court decision, declaring warrantless GPS tracking unconditional, Antoine Jones was re-prosecuted.³⁵⁷ At the subsequent trial, the Government’s case placed the defendant at specific places using cell phone tower tracking data.³⁵⁸ As before, police obtained such data without a warrant (records were obtained using an 18 U.S.C. 2703(d) order).³⁵⁹ Although the retrial ended with a hung jury, the District Court judge found that no Fourth Amendment violation occurred through this warrantless surveillance.³⁶⁰

³⁵² *Id.*

³⁵³ *Id.*

³⁵⁴ *Id.*

³⁵⁵ *Cf. Jones*, 132 S. Ct. at 963 (“In the pre-computer age, the greatest protections of privacy were neither constitutional nor statutory, but practical. Traditional surveillance for any extended period of time was difficult and costly and therefore rarely undertaken.”).

³⁵⁶ *Id.* at 957; Kim Komando, *How to Protect Your Privacy on Google*, USA TODAY (May 17, 2013, 7:33 AM), <http://usat.ly/16mQuNa>.

³⁵⁷ David Kravets, *Alleged Drug Dealer at Center of Supreme Court GPS Case Wins Mistrial*, WIRED MAG. (Mar. 4, 2013), <http://www.wired.com/threatlevel/2013/03/gps-drug-dealer-retrial/>.

³⁵⁸ *Id.*

³⁵⁹ *United States v. Jones*, 908 F. Supp. 2d 203, 205 (D.D.C. 2012).

³⁶⁰ Kravets, *supra* note 357.

This case is unsettling because police obtained and used detailed positional information of the defendant based upon a retrospective search of his cellular phone provider's records.³⁶¹ Absent a valid search warrant based upon probable cause, the police were able to track Jones' whereabouts over a period of approximately four months.³⁶²

In the earlier *Jones* case that reached the Supreme Court, the majority opinion and both concurrences discussed the possibility that long term electronic monitoring without physical trespass could violate the Fourth Amendment.³⁶³ Although the majority found the trespass the controlling factor, five justices (Sotomayor, Alito writing, joined by Justices Ginsburg, Breyer, and Kagan) specifically mentioned the unpalatable nature of long-term warrantless tracking.³⁶⁴ Justice Sotomayor, though joining the majority, concurs with the minority in holding that she "agree[s] with Justice Alito that, at the very least, 'longer term [position] monitoring in investigations of most offenses impinges on expectations of privacy.'"³⁶⁵

If *Jones*, on appeal from any subsequent retrial, again reaches the Supreme Court, Justice Sotomayor may prove to be the pivotal vote in distinguishing the "third party doctrine." In dicta, she specifically found the existence of "a reasonable societal expectation of privacy in the sum of one's public movements."³⁶⁶ She does not believe that citizens "expect that their movements will be recorded and aggregated in a manner that enables the Government to ascertain, more or less at will, their political and religious beliefs, sexual habits, and so on."³⁶⁷ Thus, absent physical trespass, she would likely join a five vote majority (with Alito, Ginsburg, Breyer and Kagan) ruling on *Katz* based reasoning that Fourth Amendment protections apply when the

³⁶¹ *Jones*, 908 F. Supp. 2d at 206 (in the application for the order, law enforcement officials laid out the benefits of knowing the defendant's location for the purposes of discovering his unlawful activity).

³⁶² *Id.*

³⁶³ *United States v. Jones*, 132 S. Ct. 945, 953–54 (2012) ("Situations . . . without trespass would *remain* subject to *Katz* analysis [M]ere visual observation does not constitute a search . . . [but] achieving the same result through electronic means, without an accompanying trespass, is an unconstitutional invasion of privacy"); *Id.* at 954 (Sotomayor, J., concurring); *Id.* at 957 (Alito, J., concurring).

³⁶⁴ *Id.* at 955 (Sotomayor, J., concurring); *Id.* at 964 (Alito, J.).

³⁶⁵ *Id.* at 955 (Sotomayor, J., concurring).

³⁶⁶ *Id.* at 956.

³⁶⁷ *Id.*

government obtains such detailed surveillance without a warrant.

When Justice Sotomayor discussed the concerns of “entrusting to [Law Enforcement], in the absence of any oversight from [the Judiciary], a tool so amenable to misuse,” she did not comment on any need to regulate third parties from gathering such information.³⁶⁸ She doubts that “people would accept . . . the warrantless disclosure to the Government of a list of every Web site they had visited in the last . . . year.”³⁶⁹ Should people accept that any party, governmental or commercial, aggregates such detailed records? In other words, is there a fundamental problem that Verizon or Sprint has an archival database tracking a lifetime of whereabouts? Or is the problem strictly limited to when Government has warrantless access to such a database?

IV. THE FIFTH AMENDMENT PRIVILEGE AGAINST SELF- INCRIMINATION ONLY APPLIES TO PERSONS COMPELLED TO PRODUCE TESTIMONY

While the Fifth Amendment states that “[n]o person . . . shall be compelled in any criminal case to be a witness against himself,”³⁷⁰ modern criminal procedure distinguishes this right narrowly.

First, the Fifth Amendment only applies to persons, not to corporations.³⁷¹ Since data archived by a corporate owned drone is considered to be a business record, no such privilege can be asserted if the data is used in a criminal investigation of another business.³⁷² Once telemetry is stored in cyberspace, it becomes a joint possession of its creator and the cloud storage provider. The Fifth Amendment does not apply to the corporate data warehouse.

Today, Fifth Amendment protections against self-incrimination apply only when a person is compelled by the Government to provide testimony (in the form of words and writings, not physical evidence or actions) that makes it easier for the prosecution to convict rather than to acquit.³⁷³ The Fifth Amendment does not protect against government-compelled disclosure of private

³⁶⁸ *Id.*

³⁶⁹ *Id.* at 957.

³⁷⁰ U.S. CONST. amend. V.

³⁷¹ *Braswell v. United States*, 487 U.S. 99, 104–05 (1988) (citing *Hale v. Henkel*, 201 U.S. 43, 74 (1906)).

³⁷² *See Hale v. Henkel*, 201 U.S. 43, 74 (1906).

³⁷³ *Schmerber v. California*, 384 U.S. 757, 765 (1966).

information or documents.³⁷⁴ In *Boyd v. United States*, the Supreme Court held broadly that a government subpoena of a person's private papers violated the Fifth Amendment.³⁷⁵ In *Fisher v. United States*, the Supreme Court distinguished *Boyd* and held that Fifth Amendment privilege cannot be asserted to prevent the government from obtaining the same sorts of evidence from a third party.³⁷⁶ In other words, the Fifth Amendment only prevents compulsion to produce truly private papers.³⁷⁷ So long as the government does not compel the defendant to make the incriminating records, the privilege dissipates.³⁷⁸

Fifth Amendment privilege applies strictly to self-incrimination.³⁷⁹ No such privilege extends to a third-party subject to a governmental request.³⁸⁰ So long as the party who created and archived the incriminating information does not implicate himself in any wrongdoing, the defendant cannot object to the compelled production of evidence.³⁸¹

Thus, under modern legal reasoning the Fifth Amendment cannot apply to prevent archived Drone telemetry recorded, obtained or stored by a third-party from being introduced into criminal proceedings. If the Supreme Court decides to distinguish the "third-party doctrine" on Fourth Amendment grounds, a change in third-party admissibility on Fifth Amendment grounds may soon follow.

V. CASES AND CONTROVERSIES ARISING FROM DRONE AIRCRAFT OPERATIONS WILL TRIGGER A COLLISION BETWEEN OTHERWISE DISPARATE FOURTH AND FIFTH AMENDMENT JURISPRUDENCE

In this section, I posit five scenarios where robotic Drone

³⁷⁴ See *Couch v. United States*, 409 U.S. 322, 328 (1973).

³⁷⁵ *Boyd v. United States*, 116 U.S. 616, 638 (1886).

³⁷⁶ See *Fisher v. United States*, 425 U.S. 391, 400 (1976) (citations omitted).

³⁷⁷ See *id.* at 401.

³⁷⁸ *United States v. Doe*, 465 U.S. 605, 610–11 (1984).

³⁷⁹ *Fisher*, 425 U.S. at 401.

³⁸⁰ *Cf. id.* at 396–97 (providing an example where a taxpayer provided paperwork from their accountant to a lawyer, the Court found that the lawyer would not be excused from a demand for production).

³⁸¹ See *Hale v. Henkel*, 201 U.S. 43, 69–70 (1906) ("[The right of a person under the 5th Amendment to refuse to incriminate himself is purely a personal privilege of the witness. It was never intended to permit him to plead the fact that some third person might be incriminated by his testimony."] (emphasis added)).

aircraft are used in a manner that leads to a litigable “case or controversy.” Some proposed uses are permissible, while other uses create a collision of existing federalism, commerce authority, separation of powers, Fourth and/or Fifth Amendment doctrines.

A. Drones can Conduct Covert Police Surveillance Provided a Magistrate Issues a Formal Warrant

If police obtain a valid warrant and then use a robotic Drone flying machine to surveil a suspect, such evidence will be admissible in a court of law.³⁸² So long as the warrant describes places to be searched and evidence to be found with particularity, *Kyllo* would control. The Drone may be equipped with whatever “enhanced sensory” devices are necessary to obtain the incriminating information. The Drone could fly in “public airspace,” it could “trespass” onto the suspect’s property; it could even invade the suspect’s home. Courts presume any such police search conducted with a warrant as valid unless the defendant can show that the search was in some manner unreasonable.³⁸³

B. “RoboCop” Drones “Walking the Beat” Should Have Limited Sensory Capability and Abide by Strict Rules of Engagement

If police use a robotic Drone flying machine to walk the beat, their operational vantage will be restricted. Absent a particularized warrant, *Kyllo*, *Jones*, *Jardines*, *Ciraolo* and *Riley* will control.³⁸⁴ To avoid legal challenges, the drone may be

³⁸² Cf. *Florida v. Riley*, 488 U.S. 445, 450–51 (1989); *California v. Ciraolo*, 476 U.S. 207, 215 (1986) (in both these cases the Court ruled that evidence was admissible even absent a warrant in part because given that property was viewed from public airspace there was no reasonable expectation of privacy). But see Lisa Cornwell, *States Consider Regulation of Drones in U.S. Skies*, THE BIG STORY (Aug. 6, 2013, 11:21 AM), <http://bigstory.ap.org/article/states-consider-regulation-drones-us-skies> (various states are proposing legislation “to regulate law enforcement’s use of information-gathering drones by requiring search warrants.”); Conor Friedersdorf, *Why Police Don’t Need Warrants to Snoop with Drones*, ATLANTIC (Aug. 28, 2014, 10:25 AM), www.theatlantic.com/politics/archive/2014/08/california-lawmakers-back-a-restraining-order-on-police-drones/379267/ (noting that the California Legislature has passed a bill “requir[ing] police to obtain warrants to use drones for surveillance except in exigent circumstances.”).

³⁸³ See, e.g., *Bettin v. Maricopa County*, No. CIV 04-02980 PHX MEA 2007 U.S. Dist. LEXIS 42979, at *49–50 (D. Ariz. June 12, 2007).

³⁸⁴ See generally *Florida v. Jardines*, 133 S. Ct. 1409, 1414–15 (2013) (use of trained police dog on front porch invalid without a warrant); *United States v.*

equipped with only basic telemetry and video technology: the sorts of technology “in general, public use . . .”³⁸⁵ No thermal imaging, night-vision, FLIR, or laser-microphonic technology would be allowed.³⁸⁶ The drone would need formal permission (or exemption) from the FAA to operate in public airspace.³⁸⁷ The drone should always fly in navigable airspace (at least 500-feet above ground level); absent well-defined exigent circumstances,³⁸⁸ the drone should never “trespass” upon private property.³⁸⁹

Absent any changes to 14 C.F.R. § 91.119, when police employ a fixed wing (airplane-like) drone for warrantless surveillance, its operations will fall wholly within the orbit of *Ciarolo*.³⁹⁰ If the police employ a rotary wing (quad-copter-like) drone, the flying machine might be considered more like a helicopter than an airplane. If a quad-copter drone is legally analogous to a helicopter, the lower permissible altitudes permitted by *Riley* might control.³⁹¹ Because low-altitude operations might

Jones, 132 S. Ct. 945 (2012) (attaching a GPS onto a vehicle constitutes a 4th Amendment search); *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (using technology “not in general public use” is a search); *Riley*, 488 U.S. at 450 (holding an owner has no reasonable expectation of privacy from a person viewing from a public vantage point); *Ciraolo*, 476 U.S. at 215 (holding officers did not exhibit a search when they saw illicit drugs while traveling on public airways).

³⁸⁵ See *Kyllo*, 533 U.S. at 40 (ruling that when “the Government uses a device that is not in general public use . . . the surveillance is a ‘search’ and is presumptively unreasonable without a warrant.”). But see *id.* at 47 (Stevens, J., dissenting) (noting that the Court did not define “general public use”); Orin Kerr, *Can the Police Now Use Thermal Imaging Devices Without a Warrant? A Reexamination of Kyllo in Light of the Widespread Use of Infrared Temperature Sensors*, VOLOKH CONSPIRACY (Jan. 4, 2010, 12:33 PM), <http://volokh.com/2010/01/04/can-the-police-now-use-thermal-imaging-devices-without-a-warrant-a-reexamination-of-kyllo-in-light-of-the-widespread-use-of-infrared-temperature-sensors/> (“[T]he courts have never elaborated on the test for ‘general public use.’”).

³⁸⁶ See *Kyllo*, 533 U.S. at 40.

³⁸⁷ See *Unmanned Aircraft Sys.*, FED. AVIATION ADMIN., <https://www.faa.gov/uas> (last modified Aug. 20, 2014) (“Obtaining a Special Airworthiness Certificate . . . is currently the only way civil operators are accessing the [National Airspace System].”).

³⁸⁸ See 14 C.F.R. § 91.119(c) (2014).

³⁸⁹ See *Jones*, 132 S. Ct. at 949 (finding a government global positioning device being affixed on the defendant’s vehicle to be a trespass that violated the Fourth Amendment).

³⁹⁰ See *Ciraolo*, 476 U.S. at 215.

³⁹¹ See generally *Florida v. Riley*, 488 U.S. 445, 451–52 (1989) (finding evidence observed by a helicopter flying over defendant’s property, at an altitude permissible by law, to be outside the curtilage and thus outside the scope of Fourth Amendment protection).

constitute a constructive trespass by law enforcement, such action might violate the Fourth Amendment under the *Jones/Jardines* test.³⁹² It would seem that each police department would have to match drone technology to its intended use to avoid Fourth Amendment entanglements.

Such dragnet use of drones would constitute a direct violation of a defendant's Fourth Amendment rights. The accused could then challenge the admissibility of the evidence in trial and, if the Court decides that police did violate the defendant's reasonable expectation of privacy the evidence may be excluded.

*C. Drones Used by Private Parties Below "Lawful" Federal
Airspace Will Trigger Local Tort or Criminal Action*

In a widely publicized interview with the British Guardian newspaper, Eric Schmidt, Google's executive chairman expressed his concern that drone aircraft could be used to harass.³⁹³ Schmidt speculated: "You're having a dispute with your neighbour How would you feel if your neighbour went over and bought a commercial observation drone that they can launch from their back yard. It just flies over your house all day. How would you feel about it?"³⁹⁴

Presciently, the *Atlantic* monthly reported a controversy in Seattle involving private party drone use.³⁹⁵ A resident claims that:

a stranger set an aerial drone into flight over my yard and beside my house I looked out my third-story window to see a drone hovering a few feet away. My husband went to talk to the man on the sidewalk outside our home who was operating the drone with a remote control, to ask him to not fly his drone near our home. The man insisted that it is legal for him to fly an aerial drone over our yard and adjacent to our windows. He noted that the drone has a camera, which transmits images he viewed through a set of

³⁹² See *Florida v. Jardines*, 133 S. Ct. 1409, 1414 (2013); *Jones*, 132 S. Ct. at 949.

³⁹³ James Ball, *Drones Should be Banned from Private Use, Says Google's Eric Schmidt*, *GUARDIAN* (Apr. 12, 2013), <http://www.theguardian.com/technology/2013/apr/21/drone-google-eric-schmidt>.

³⁹⁴ *Id.*

³⁹⁵ Rebecca J. Rosen, *So This Is How It Begins: Guy Refuses to Stop Drone-Spying on Seattle Woman*, *ATLANTIC MONTHLY* (May 13, 2013, 11:59 AM), <http://www.theatlantic.com/technology/archive/2013/05/so-this-is-how-it-begins-guy-refuses-to-stop-drone-spying-on-seattle-woman/275769/>.

glasses. He purported to be doing ‘research.’ We are extremely concerned, as he could very easily be a criminal who plans to break into our house or a peeping-tom.³⁹⁶

The non-commercial use of a drone to harass will create an action in tort under a trespass or nuisance theory.³⁹⁷ Peeping-tom voyeurism might violate a local criminal code.³⁹⁸

Treated as a model aircraft, such flights would be permissible under the *FAA Modernization and Reform Act of 2012*.³⁹⁹ Remember, that the *Act* specifically requires the FAA not to oversee robotic “aircraft flown [strictly] for hobby or recreational use.”⁴⁰⁰ Unless the stranger operated the drone in regulated airspace, there would be no reason for the FAA to assert any jurisdiction over his actions.

D. Commercial Drones Should Abide by All Relevant Federal Regulations; Their Use Should Be Restricted To Lawful Airspace

If a commercial entity uses a robotic drone flying machine to acquire otherwise legal imagery and telemetry, the information acquired can be used in a lawsuit.⁴⁰¹ Civil lawsuits operate under a relaxed level of constitutional scrutiny; the Fourth Amendment and the Fifth Amendment’s self-incrimination clause only apply to a civil dispute in very narrow circumstances.⁴⁰² Although the FAA can conceivably regulate what sorts of remote sensing telemetry a drone may carry, it lacks the authority through its organic statute to do so.⁴⁰³ Presently, the boundaries of “legal” as

³⁹⁶ *Id.*

³⁹⁷ Melanie Reid, *Grounding Drones: Big Brother’s Tool Box Needs Regulation Not Elimination*, 20 RICH. J.L. & TECH. 9, 21, 26 (2014).

³⁹⁸ DOLAN & THOMPSON, *supra* note 236, at 21.

³⁹⁹ *Id.* at 5.

⁴⁰⁰ FAA Modernization and Reform Act, Pub. L. No. 112-95, 126 Stat. 77; DOLAN & THOMPSON, *supra* note 236, at 5.

⁴⁰¹ See Reid, *supra* note 397, at 87.

⁴⁰² U.S. CONST. amend. IV; U.S. CONST. amend. V; See, e.g., *McCarthy v. Arndstein*, 266 U.S. 34, 40 (1924) (The Fifth Amendment privilege against self-incrimination holds no witness can be compelled in a *criminal case* to incriminate oneself. In a civil case, this is not available *unless* any testimony a witness is compelled to give would render him criminally culpable); *Franks v. Smith*, 717 F.2d 183, 186 (5th Cir. 1983) (holding that Fourth Amendment protections exist in both civil and criminal contexts) (emphasis added).

⁴⁰³ See 49 U.S.C. § 44104(1) (2014) (Generally regulates aircraft engines, propellers, or any appliances, but does not specifically regulate drones). See generally 49 U.S.C. §§ 40101–46507 (2014) (regulating aircrafts in general).

opposed to “illegal” sensing technology must be subject to other federal or state and local laws.⁴⁰⁴

A commercial drone must abide by all FAA regulations in effect at the time of its flight.⁴⁰⁵ Ideally, this will require some sort of airworthiness certificate on file.⁴⁰⁶ The drone must operate consistent with 14 C.F.R. § 91 rules-of-the-road; except when taking off or landing, drones must fly at least 500 feet above ground level.⁴⁰⁷

Low altitude flights will subject the commercial drone operator to FAA sanctions for violating 14 C.F.R. § 91 Class G airspace or controlled airspace rules.⁴⁰⁸ Low altitude flights can lead to local tort action under either a trespass or a nuisance theory.⁴⁰⁹ Operation with unauthorized sensing technology could lead to local or state level criminal penalties.⁴¹⁰

No federal or local law prevents a concerned citizen or business entity from reporting observed criminal activities to the police. If a commercial drone operator witnesses perceived criminal acts during flight, he may voluntarily turn the information over to law enforcement individuals. The applicable federal and state evidentiary laws will then control its admissibility into a court of law.⁴¹¹

*E. In the Absence of New Laws, Absent a Search Warrant
Commercial Drones Operators May Be Compelled By Law
Enforcement To Turn Over Archival Telemetry For Use In
Criminal Investigations*

If a commercial entity uses a robotic drone flying machine to lawfully acquire imagery and telemetry, the information recorded

⁴⁰⁴ See generally 22 C.F.R. § 121.1 (2014). These are the ITAR – International Traffic in Arms Regulations, making military and surveillance technologies subject to Federal commerce restrictions.

⁴⁰⁵ See *Busting Myths about the FAA and Unmanned Aircraft*, FED. AVIATION ADMIN. (Mar. 7, 2014), <http://www.faa.gov/news/updates/?newsId=76240>.

⁴⁰⁶ See *Fact Sheet–Unmanned Aircraft Sys. (UAS)*, FED. AVIATION ADMIN. (Jan. 6, 2014), http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=14153.

⁴⁰⁷ See 14 C.F.R. § 1.1 (2014); 14 C.F.R. § 91.119(c) (2014).

⁴⁰⁸ 14 C.F.R. § 91.126 (2014).

⁴⁰⁹ See Reid, *supra* note 397, at 26.

⁴¹⁰ *Id.* at 25.

⁴¹¹ See FED. R. EVID. 803(6) (The Business Records exception to the Hearsay rule allows “records of regularly conducted activity” to be admitted as direct evidence into a criminal trial. Business is defined broadly enough to cover commercial drone operators.).

can be obtained by law enforcement under a subpoena or warrant.⁴¹² So long as the commercial entity has not been deputized to serve as an agent of law enforcement, Fourth Amendment protections against disclosure of private and sensitive information will not apply.⁴¹³ Under the present “third-party doctrine,” constitutional protections that would prevent a police drone from collecting information would no longer apply.⁴¹⁴ Absent a warrant, law enforcement could obtain data from a third-party Drone operator that police could not obtain themselves.

It is unclear how proposed state level Drone legislation designed to require police to obtain a warrant before sending in their drones will apply to third-party operators. We must wait for clear cut third-party laws to pass state houses or for a high profile Federal appellate case to further distinguish the breadth of the “third-party doctrine.”

VI. STATE AND LOCAL LEGISLATURES ARE ACTIVELY PASSING LAWS TO REQUIRE LAW ENFORCEMENT TO EMPLOY DRONES ONLY WITH A VALID SEARCH WARRANT

Many state legislatures and local municipalities have proposed resolutions to set parameters on the uses of drones.⁴¹⁵ A common

⁴¹² See Allie Bohm, *The Year of the Drone: An Analysis of State Legislation Passed This Year*, ACLU (Nov. 7, 2013, 8:50 AM), <https://www.aclu.org/blog/technology-and-liberty/year-drone-roundup-legislation-passed-year> (explaining that two states, Montana and Oregon, have passed laws prohibiting the collection of data from third-party drones without a warrant.); see also OR. REV. STAT. § 837.320 (2013) (1)(a) (“A law enforcement agency may . . . acquire information through the operation of a drone . . . if a warrant is issued authorizing [the] use of a drone.”); S. 196, 2013 Leg., 63rd Sess. (Mont. 2013) (“information from an unmanned aerial vehicle is not admissible as evidence unless the information was obtained . . . pursuant to the authority of a search warrant . . .”). See generally Preserving American Privacy Act, H.R. 637, 113th Cong. § 3119c (c)(1) (2013) (requiring a warrant for the operation, collection, or disclosure of data collected from drones.).

⁴¹³ See Sharon Finegan, *Watching the Watchers: The Growing Privatization of Criminal Law Enforcement and the Need for Limits on Neighborhood Watch Associations*, 8 U. MASS. L. REV. 88, 111–12, 114 (2013).

⁴¹⁴ See *United States v. Graham*, 846 F. Supp. 2d 384, 388–89 (D. Md. 2012) (referring to the Supreme Court which held that defendants who use their cellphones, and thus voluntarily conveying their locations to their service provider, exhibit no Fourth Amendment expectation of privacy in that data under the “third-party doctrine” because they shared this private information with a third-party).

⁴¹⁵ Preston Maddock, *Domestic Drone Bill Seeks To Protect Privacy Rights*, HUFFINGTON POST (May 2, 2013, 4:07 PM),

proposal is to place a requirement on local law enforcement to obtain a formal search warrant before using “a drone to surveil citizens.”⁴¹⁶

A. Nine States Have Passed Warrantless Surveillance Restrictions While Others Debate Similar Laws

In April 2013, Governor Bob McDonnell (R-Va.) signed into law legislation placing “a two-year moratorium on the use of drones throughout the state, allowing for exceptions in the case of emergencies and for military training purposes.”⁴¹⁷

A few days later, Governor C.L. Otter (R-Id.) signed into law a similar set of restrictions requiring “law enforcement to obtain warrants to collect evidence using drones in most cases[.]”⁴¹⁸ The bill’s sponsor, Chuck Winder (R-Id.-14) told Reuters that he intended the bill to specifically “prevent high-tech window-peeping.”⁴¹⁹

By late April 2013, Governor Rick Scott (R-Florida) signed into law regulations “restricting the use of unmanned aerial vehicles, or drones, by state law enforcement officials.”⁴²⁰ Florida’s “*Freedom From Unwarranted Surveillance Act* requires local police to obtain a warrant based on probable cause before using a drone for surveillance purposes.”⁴²¹ “Police are only allowed to use drones without a warrant in situations where there’s an imminent threat to property or life, or if the U.S. Department of Homeland Security has declared a high risk of a terrorist attack.”⁴²²

On May 1, 2013, lawmakers in Maine “accepted an amendment to a bill offered by Sen. John Patrick, D-Rumford, that could

http://www.huffingtonpost.com/2013/05/02/domestic-drone-bills-privacy-rights_n_3202774.html.

⁴¹⁶ *Id.*

⁴¹⁷ *Id.*

⁴¹⁸ Laura Zuckerman, *Idaho Restricts Drone Use by Police Agencies Amid Privacy Concerns*, CHI. TRIB. (Apr. 11, 2013), http://articles.chicagotribune.com/2013-04-11/news/sns-rt-usa-dronesidahol2n0cz01f-20130411_1_drone-use-small-drones-privacy-concerns.

⁴¹⁹ *Id.*

⁴²⁰ Jaikumar Vijayan, *Florida Restricts Use of Drones by Law Enforcement Officials*, COMPUTERWORLD (May 6, 2013, 7:00 AM), <http://www.computerworld.com/article/2496925/security0/florida-restricts-use-of-drones-by-law-enforcement-officials.html>.

⁴²¹ *Id.* (emphasis added).

⁴²² *Id.*

allow police to use a drone without a search warrant.”⁴²³ The Maine Legislature’s judiciary committee has otherwise set a “one-year moratorium on the use of drones by law enforcement in Maine, except in emergencies, while the state’s Criminal Justice Academy studies drone use and issue[d] a report to the Legislature in 2014, including suggested protocols for police use.”⁴²⁴

On May 2, 2013, a comprehensive drone regulation bill sponsored by Alex Padilla (D-Los Angeles) passed the California Senate.⁴²⁵ It “prohibits weapon-equipped drones, penalizes eavesdropping or spying, and would require law enforcement to obtain a warrant before deploying drones in searches.”⁴²⁶

Later, in May 2013, Wisconsin lawmakers Tyler August (R-Lake Geneva) and Fred Kessler (D-Milwaukee) co-sponsored a bill that would “require law enforcement to obtain a warrant before using unmanned aircraft equipped with video or audio recording devices as part of criminal investigations. Evidence will not be allowed if obtained illegally. Exceptions would apply in certain situations, such as during manhunts or rescue operations.”⁴²⁷

In June 2013, the New Jersey Senate passed a bill that would let “state, county and local police and fire departments and offices of emergency management deploy drones, with some restrictions.”⁴²⁸ Drones could be used in “criminal investigations and events that ‘substantially endanger the health, safety and property of the citizens of this state[.]’”⁴²⁹ The bill limits the distribution of such telemetry: “Information or records of a verbal

⁴²³ Scott Thistle, *Bill to Allow Police to Use Drones Without Search Warrant Heads to Maine Senate*, BANGOR DAILY NEWS (May 7, 2013, 10:27 AM), <http://www.infowars.com/bill-to-allow-police-to-use-drones-without-search-warrant-heads-to-maine-senate/>.

⁴²⁴ *Id.*

⁴²⁵ Maria Dinzeo, *Drone Regulation Bill Passes California Senate*, COURTHOUSE NEWS SERVICE (May 2, 2013, 9:01 AM), <http://www.courthousenews.com/2013/05/02/57237.htm>.

⁴²⁶ *Id.*

⁴²⁷ Kevin Wang, *August Unveils Legislation to Limit Drones*, WALWORTH COUNTY TODAY (May 10, 2013), <http://walworth.www.clients.ellingtoncms.com/news/2013/may/10/august-unveils-legislation-limit-drones/>.

⁴²⁸ Salvador Rizzo, *N.J. Senate Passes Drone Regulations*, NJ.COM (June 28, 2013, 1:49 PM), http://www.nj.com/politics/index.ssf/2013/06/nj_senate_passes_drone_regulations.html.

⁴²⁹ *Id.*

or video communication derived from the use of an unmanned aerial vehicle shall be strictly safeguarded and shall not be made available or disclosed to the public or any third party[.]”⁴³⁰ Moreover, “[a]ny data deemed irrelevant to a criminal investigation must be discarded after 14 days[.]”⁴³¹

In February 2014, Hawaii state lawmakers began the debate of Senate Bill 2608 SD1.⁴³² This law would “make it illegal for police to monitor people with unmanned aircraft without due process.”⁴³³

Similarly, in Georgia, State Rep. Stephen Allison (R-Blairsville) sponsored a bill that would “prohibit manned or unmanned aircraft from flying within 100 feet above the surface of a property for surveillance without [either] a search warrant or permission of the property owner.”⁴³⁴

In Utah, a “bill to ban government spying with aerial drones” was “put on hold.”⁴³⁵ SB 167, sponsored by state Senator Howard Stephenson (R-Draper) would “allow law-enforcement agencies to use drones for surveillance on someone only when they have a warrant.”⁴³⁶ The proposed bill has “exceptions for life-threatening situations and emergencies such as in [sic] the event of an earthquake or flood.”⁴³⁷ The bill was opposed by people like Rep. Richard Greenwood (R-Roy), who said that there was “no difference between a police helicopter with a pilot in the sky, and a drone with a pilot on the ground — except using a drone would be much cheaper and more safe.”⁴³⁸

Another representative, Merrill Nelson (R-Grantsville), said that the bill “goes too far because people do not have an expectation of privacy in public places, and drones take pictures generally of public places.”⁴³⁹

⁴³⁰ *Id.*

⁴³¹ *Id.*

⁴³² Sam Eifling, *State Lawmakers Grapple with Drone Issues*, STAR ADVERTISER (Feb. 18, 2014, 2:04 PM), <http://www.staradvertiser.com/news/breaking/246065471.html?id=246065471>.

⁴³³ *Id.*

⁴³⁴ Christina Cassidy, *Georgia Lawmakers Eye Regulations for Drones*, INS. J. (Feb. 5, 2014), <http://www.insurancejournal.com/news/southeast/2014/02/05/319321.htm>.

⁴³⁵ Lee Davidson, *Banning Spying by Drones Runs into Turbulence*, SALT LAKE TRIB. (Mar. 12, 2014, 10:50 AM), <http://www.sltrib.com/sltrib/mobile/57667469-68/backyard-ban-bill-debate.html.csp>.

⁴³⁶ *Id.*

⁴³⁷ *Id.*

⁴³⁸ *Id.*

⁴³⁹ *Id.*

Whereas, in March 2014, the House and Senate of the State of Washington passed a bill that would “require[] state agencies and law enforcement to receive approval from their governing bodies before procuring drones and to obtain warrants for most uses.”⁴⁴⁰

In May 2014, “the Illinois House unanimously approved legislation requiring police to secure a warrant from a judge if they want to use aerial drones in investigations.”⁴⁴¹

B. Other Municipalities Enact Broad Based “Drone-Free” Laws for Flight Under 500 feet

Across the nation, other states and municipalities are debating and acting upon their responsibility to regulate the use of robotic aircraft beneath federal airspace.

In February 2013, Charlottesville, V.A., became the first city government in the nation to pass a no-drone ordinance.⁴⁴² This is particularly interesting seeing that the Pirker controversy discussed earlier in this monograph involved a paid drone flight over the University of Virginia Charlottesville campus in 2011.⁴⁴³

In January 2014, Waldron, W.A. voted in “overwhelming numbers” to declare itself a “drone-free zone.”⁴⁴⁴ Community chairman Ryan Drum stated that, “the drone-free-zone declaration is intended to signify the community’s displeasure and frustration with the expanded use of unmanned aircraft for military purposes and for domestic surveillance”⁴⁴⁵

In May 2014, Yosemite National Park announced that drones would not be welcome within park boundaries.⁴⁴⁶

⁴⁴⁰ Ashley Stewart, *Bill Limiting Drone Use Passes House, Senate*, SEATTLE TIMES (Mar. 10, 2014, 4:54 PM), <http://blogs.seattletimes.com/politics/northwest/2014/03/10/bill-limiting-drone-use-pasees-house-sentate/>.

⁴⁴¹ Kurt Erickson, *Drone Legislation Heads to Governor’s Desk*, PANTAGRAPH.COM (May 10, 2014, 7:00 AM), http://www.pantagraph.com/test/test-drone-legislation-heads-to-governor-s-desk/article_50dbcc6f-ab68-53b2-ab49-2c1657ebddff.html?print=true&cid=print.

⁴⁴² W.J. Hennigan, *City Passes Anti-Drone Resolution*, L.A. TIMES, Feb. 6, 2013, at B2.

⁴⁴³ Administrator’s Complaint ¶ 1, 6, *Huerta v. Pirker*, 2014 WL 3388631 (N.T.S.B.) (Mar. 6, 2014) (No. CP-217).

⁴⁴⁴ Scott Rasmussen, *Waldron Declares Itself A ‘Drone-Free Zone’*, ISLANDS SOUNDER (Jan. 3, 2014, 9:17 AM), <http://www.islandssounder.com/news/238608571.html>.

⁴⁴⁵ *Id.*

⁴⁴⁶ Doug Gross, *Drones Banned from Yosemite, Other Parks*, CNN (May 9, 2014, 9:02 PM), <http://www.cnn.com/2014/05/05/tech/innovation/parks-yosemite-drones-ban/>.

C. Other States and Municipalities Debate and Enact Drone Regulation to Strengthen Personal Privacy Protection

In May 2013, the Texas House passed a bill making “[p]hotographs and video images captured by drones on private property without permission” illegal.⁴⁴⁷ This legislation, sponsored by Texas Representative Lance Gooden, (R-Terrell) makes the ownership of drone surveilled images a class C misdemeanor.⁴⁴⁸ The penalties would be elevated to a class B misdemeanor if the perpetrator were to post the images online.⁴⁴⁹

In Kansas “Senate bill 409 . . . is aimed at protecting the privacy of individuals and businesses from drones that are equipped with cameras and recording devices.”⁴⁵⁰ The bill intends “to safeguard property owners from any invasion of privacy.”⁴⁵¹

In May 2014, the Louisiana State House rejected state Senate Bill 330 (SB 330).⁴⁵² This bill planned to make it “illegal to use drones for surveillance on private property without the owner’s consent.”⁴⁵³ SB 330 was opposed by the members of the media, who argued on First Amendment grounds that “drones are as legitimate to news-gathering activities as a notepad and a pencil.”⁴⁵⁴

VII. THE FUTURE OF DRONES REMAINS MURKY: WE LIVE IN
“INTERESTING TIMES”

This paper highlights a number of issues bedeviling the “arrival of the drones.”

The *FAA Modernization and Reform Act of 2012* contains flawed legislation that upsets a number of well-established

⁴⁴⁷ Karen Brooks Harper, *Drone Legislation to Protect Privacy Passes Texas House*, DALLAS NEWS (May 9, 2013, 10:55 PM), <http://www.dallasnews.com/news/politics/headlines/20130509-drone-legislation-to-protect-privacy-passes-texas-house.ece>.

⁴⁴⁸ *Id.*

⁴⁴⁹ *Id.*

⁴⁵⁰ Chris Arnold, *New Bill to Provide Regulations on Drones*, KSN.COM (Mar. 22, 2014, 6:04 PM), <http://ksn.com/2014/03/22/new-bill-to-provide-regulations-on-drones/>.

⁴⁵¹ *Id.*

⁴⁵² Michelle Millhollon, *Drone Bill Dies in Louisiana House Committee*, THE ADVOCATE (May 9, 2014), <http://theadvocate.com/csp/mediapool/sites/Advocate/assests/templates/FullStoryPrint.csp?cid=9101491#&preview=y>.

⁴⁵³ *Id.*

⁴⁵⁴ *See id.*

principles.⁴⁵⁵ Presumably a court of law will find a commercial drone to be lawfully operated absent the otherwise required Airworthiness Certificate so long as the operator has a “certificate-of-waiver-or-authorization” on file.⁴⁵⁶ Courts may decide the fate of the COA process when a COA holding operator crashes a clearly un-airworthy drone.

The *Act* specifically embraces the idea that drones represent a new paradigm that can only exist in the absence of comprehensive regulation. Eric Schmidt of Google argues the opposite plainly: drones have “got to be regulated It’s one thing for governments, who have some legitimacy in what they’re doing [operating drones], but [to] have other people doing it . . . [sic] It’s not going to happen.”⁴⁵⁷

Operation of drones in flagrant defiance of 14 C.F.R. § 91 flight rules will compromise public safety. Drones can place manned commercial aircraft at an elevated risk of collision. Absent strong regulatory and enforcement procedures, land owners are, at minimum, subject to trespass. Poorly designed, marginally airworthy drones are likely to crash regularly; they will cause needless property damage.

Our nation’s Congress and President Obama should amend the *FAA Modernization Act of 2012* to require the FAA to implement comprehensive airworthiness regulations for drones. Drone manufacturers should prove their basic designs airworthy just as manned aircraft manufacturers must.⁴⁵⁸ Drone repair should be performed by certified mechanics, just as manned aircraft repair must.⁴⁵⁹ Drone operations should be flown by certified pilots, just as manned aircraft must.⁴⁶⁰ Like manned aircraft, drones should “*not wander about in the sky like vagrant clouds. They [should] move only by federal permission, subject to federal inspection, in*

⁴⁵⁵ Conference Powerpoint, Timothy Takahashi, “As Time Drones On . . .” What IS and ISN’T Happening Regarding the Federal Regulation of Robotic Aircraft (May 27, 2014), Slides 11–12 <http://conferences.asucollegeoflaw.com/emergingtechnologies2014/files/2014/06/Takahashi.PP2014.pdf>.

⁴⁵⁶ *Busting Myths About the FAA and Unmanned Aircraft*, FED. AVIATION ADMIN., <http://www.faa.gov/news/updates/?newsID=76240> (last modified Mar. 7, 2014, 4:44 PM).

⁴⁵⁷ Ball, *supra* note 393.

⁴⁵⁸ 14 C.F.R. §§ 39.1, 39.3, 39.7 (2014) (“FAA’s airworthiness directives are legally enforceable rules that apply to the following products: aircraft, aircraft engines, propellers, and appliances.”).

⁴⁵⁹ 14 C.F.R. §§ 65.1, 65.71 (2014).

⁴⁶⁰ 14 C.F.R. § 61.1 (2014).

the hands of federally certified personnel and under an intricate system of federal commands."⁴⁶¹

Our nation's Congress and President Obama should amend the *FAA Modernization Act of 2012* to better delineate what is and is not public airspace for use in interstate commerce. Presently, airspace less than 1200 feet above ground level (Class G airspace) exists in Tenth Amendment limbo.⁴⁶² While aircraft operations are permissible in class G airspace,⁴⁶³ the government may fine those who fly below 500 feet above ground level.⁴⁶⁴ Additionally, common law trespass violations may occur in these instances where aircraft is flown below 500 feet.⁴⁶⁵ As with the *Pirker* controversy, "Tacocopter" will definitely bring interstate commerce within 500 feet of the ground. Since the economic viability of drones and crucial Fourth Amendment jurisprudence depend upon the precise definition of lawful airspace, clarity is needed.

Our nation's Congress and President Obama should also pass and sign new legislation that gives the FAA the statutory authority to implement a proper Federal privacy policy for robotic as well as manned aircraft. The "Certificate-of-Waiver-or-Authorization" process should give way to a general set of comprehensive airworthiness regulations for drones, as drones should be safe.

Thus, the laws under consideration in our state houses represent a step in the right direction. The acceptable bounds of police use of drones with and without a warrant should be clearly delineated. State legislatures should not stop there; they should clearly spell out what level of remote sensing technology may or may not be legally employed on a private or commercial drone. State houses should also delineate what sorts of airspace violation comprise a formal trespass. Voyeur laws should be amended to go beyond boudoir and bedroom to discourage public

⁴⁶¹ *Northwest Airlines v. Minnesota*, 322 U.S. 292, 303 (1944) (Jackson, J., concurring) (emphasis added).

⁴⁶² Takahashi, *supra* note 455, at slide 11; *Pilot's Handbook of Aeronautical Knowledge Chapter 14: Airspace*, FED. AVIATION ADMIN. https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2014.pdf (last modified July 1, 2013) (identifies that Class G airspace is less than 1200 feet above ground).

⁴⁶³ *FAA Modernization and Reform Act of 2012*, Pub. L. No. 112-95, § 334(c)(2)(C)(iv), 126 Stat. 76-77 (2012).

⁴⁶⁴ See 14 C.F.R. § 91.119 (2014).

⁴⁶⁵ See *DOLAN & THOMPSON*, *supra* note 236, at 10.

stalking by drone.

Finally, our courts must be alerted to the impact of drone operations crystallizing fractures in our Fourth and Fifth Amendment jurisprudence.

With the *Jones* and *Jardines* holdings, the Supreme Court reasserted that warrantless government trespass is a violation of a citizen's Fourth Amendment rights.⁴⁶⁶ Even in the absence of physical trespass, the Court has expressed its unease with any form of extended duration warrantless surveillance.⁴⁶⁷

⁴⁶⁶ *Florida v. Jardines* 133 S. Ct. 1409, 1417 (2013); *United States v. Jones*, 132 S. Ct. 945, 949 (2012).

⁴⁶⁷ *Jones*, 132 S. Ct. at 954 (majority), 963–64 (Alito, J., concurring).