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A Digital Albatross': Navigating the Legal Framework of Domestic Police Drone Technology versus Privacy Rights in Massachusetts and beyond

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A DIGITAL ALBATROSS¹: NAVIGATING THE LEGAL FRAMEWORK OF DOMESTIC POLICE DRONE TECHNOLOGY VERSUS PRIVACY RIGHTS IN MASSACHUSETTS AND BEYOND

*“Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been and there you will always long to return.”*²

I. INTRODUCTION

In the aftermath of the Boston Marathon bombing the partnership between emerging technologies and law enforcement operations vaulted into the public discourse.³ While families anxiously called loved ones in the Boston area, the FBI and other law enforcement officials urgently combed through digital surveillance video searching for answers.⁴ Days later and upon a tentative identification of possible suspects, police moved into Watertown, engaging in a dramatic shootout as some college students live-tweeted information from their television and internet police scanners.⁵

¹ See Samuel Taylor Coleridge, *The Rime of the Ancient Mariner*, in *Lyrical Ballads*, with a Few Other Poems (1798), available at <http://www.poetryfoundation.org/poem/173253> (establishing albatross birds as paradoxical symbol of both good fortune and curse); see also Peter Finn, *Rise of the drone: From Calif. garage to multibillion-dollar defense industry*, WASH. POST (Dec. 23, 2011), available at http://www.washingtonpost.com/national/national-security/rise-of-the-drone-from-calif-garage-to-multibillion-dollar-defense-industry/2011/12/22/gIQA8UEP_story.html. Abraham Kareem, inventor of the infamous Predator Drone, tested early-unmanned vehicles with the first prototype nicknamed “Albatross.” Finn, *supra*. Mr. Kareem and his colleagues also engineered a viable model of one of Da Vinci’s renaissance-era flying machine designs. *Id.*

² LEONARDO DA VINCI, CODEX ATLANTICUS (circa 1490). Leonardo DaVinci made revolutionary attempts at developing workable aircraft systems during the Renaissance era. See *id.* One of Da Vinci’s early aircraft blueprints included the reference, “[n]on il volo umano,” meaning “[n]on-human flight.” See Jayson Clifford and Massood Towhidnejad, *Blackbird Unmanned Aircraft System*, AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS (Apr. 2009), available at <http://enu.kz/repository/2009/AIAA-2009-1900.pdf>; cf. PREDATOR UAS, GENERAL ATOMICS AERONAUTICAL, <http://www.ga-asi.com/products/aircraft/predator.php> (summarizing modern predator drone capabilities).

³ *Marathon Bombing Timeline*, BOS. GLOBE (Apr. 28, 2013), <http://www.bostonglobe.com/2013/04/27/marathon-bombing-timeline/9RL3oUZRMjZ4mJRFB5hkxK/story.html> (detailing timeline of events during and after Boston Marathon bombing incident).

⁴ See *id.*

⁵ See *id.*

With one suspect killed and another at-large, members of the Massachusetts State Police Bomb Squad cautiously commanded a robotic vehicle or “unmanned ground vehicle” (UGV) to detect and diffuse the improvised explosive devices left at the scene.⁶ By nightfall the following day, and after a so-called “Shelter-in-Place” order by Massachusetts Governor Deval Patrick, the manhunt came to an end with police operating a robotic arm to reveal the interior of the suspect’s boat hideout.⁷ Subsequently, a Massachusetts State Police helicopter provided aerial reconnaissance to the tactical law enforcement teams on the ground equipped with forward looking infrared (FLIR) technology.⁸

Although the prospect of domestic “unmanned aerial vehicles” (UAV) or “drones” being utilized by law enforcement has invoked wide anxiety in the legal community concerning the balance between privacy and security,⁹ police have long utilized emerging technologies in aerial search and rescue missions, unmanned tactical bomb squad robots, hostage

⁶ See *id.*; see also Steve Annear, *Waltham-Based Robotics Company Lends ‘Arm’ During Bomb Searches*, BOS. MAGAZINE (Apr. 24, 2013), available at <http://www.bostonmagazine.com/news/blog/2013/04/24/qinetiq-waltham-robots-talon-marathon/> (noting role of robotics in high risk police responses).

⁷ See Ryan Villarreal, *Robots Helped Capture Boston Bombing Suspect*, IB TIMES (Apr. 21, 2013, 1:32 PM), <http://www.ibtimes.com/robots-helped-capture-boston-bombing-suspect-video-1206075> (illustrating role of robots in Boston Marathon bombing manhunt).

⁸ See George Graham, *State Police Air Wing Crew that Spotted Boston Bombing Suspect Dzhokhar Tsarnaev Inside Watertown Boat Discusses Capture*, THE REPUBLICAN (Apr. 26, 2013, 3:29 PM), http://www.masslive.com/news/index.ssf/2013/04/massachusetts_state_police_air_crew_spotted_boston_bombing_suspect_discusses_capture.html (outlining Massachusetts State Police’s helicopter operations during Boston marathon bombing manhunt); see also David Abel, *Boat Owner Seeks to Clarify Record on Tsarnaev capture*, BOS. GLOBE (Oct. 16, 2013), available at <http://www.bostonglobe.com/metro/2013/10/15/six-months-later-man-who-found-dzhokhar-tsarnaev-his-boat-tries-move/fMSWzruQfE2EUNYXjXKOZP/story.html>; Sara Germano, *Security for Marathons Could Include Drones*, THE WALL STREET JOURNAL (Apr. 26, 2013), available at <http://online.wsj.com/news/articles/SB10001424127887324474004578445244172239854> (highlighting former Boston Police Commissioner’s comments on possible use of drones for future Boston Marathons); Hunter Walker, *Police Release Photos Showing How Thermal Imaging And Robotics Uncovered Bombing Suspect*, TALKING POINTS MEMO (Apr. 20, 2013, 4:10 PM), <http://talkingpointsmemo.com/livewire/police-release-photos-showing-how-thermal-imaging-and-robotics-uncovered-bombing-suspect>.

⁹ See Joan Lowry, *AP-NCC Poll: A third of the public fears police use of drones for surveillance will erode their privacy*, THE ASSOCIATED PRESS (Sep. 27, 2013), available at <http://ap-gfkpoll.com/uncategorized/our-latest-poll-findings-13> (polling data showing 1/3 of Americans fear domestic law enforcement drones). But see *National: U.S. Supports Unarmed Domestic Drones*, MONMOUTH UNIVERSITY POLL (Aug. 15, 2013), available at <https://www.monmouth.edu/assets/0/32212254770/32212254991/32212254992/32212254994/32212254995/30064771087/409aecfb-3897-4360-8a05-03838ba69e46.pdf> (showing majority of Americans favoring law enforcement drones if warrant is obtained).

crisis and electronic wiretapping of organized crime.¹⁰ Nevertheless, the potential of drones coming to the domestic front raises fair and legitimate privacy concerns.¹¹ Even the so-called “militarization” of local law enforcement has become a controversial trend in policing, with domestic drones—seen as robotic weapons of war—continuing this evolution.¹² As new surveillance technology arises in police procedure it will present new legal and practical challenges for courts and practitioners under the Fourth Amendment of the United States Constitution and Article 14 of Massachusetts Declaration of Rights.¹³ The clash between surveillance technology and individual privacy blurs the legal lines of search, seizure and suppression matters in Massachusetts and beyond.¹⁴

Part II of this note will trace the historical development of aerial and other technological means of surveillance in a search and seizure context from the Supreme Court of the United States and Massachusetts. Furthermore, Part II summarizes the general scope of warrant requirements and exigencies permitting warrantless, police protective intrusions that are often accomplished with technology. Part III.B & D discusses the Federal and state regulatory schemes upon potential domestic drone surveillance by law enforcement. In addition, Part III.A outlines the current capabilities of domestic drones. Part III.C discusses some recent federal case law on the Fourth Amendment relative to unreasonable “seizures” in the U.S. drone strikes that killed American citizen and al-Qaeda operative, Anwar al-Aulaqi. Part IV analyzes the relevant Fourth Amendment jurisprudence surrounding technological searches and evaluates the proposed legislative schemes on domestic drones and law enforcement. Furthermore, this piece

¹⁰ See Curt Brown, *State, Local Police Turn To Robots For Help With Sensitive Situations*, SOUTH COAST TODAY (Oct. 2, 2013, 5:57 AM), <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=/20131002/NEWS/310020333>. “The trade-off is you’re sending in machinery instead of a human if there is a problem.” *Id.*

¹¹ See Chris Schlag, *The New Privacy Battle: How Expanding the Use of Drones Continues to Erode Our Concept of Privacy and Privacy Rights*, 13 PGH. J. TECH. L. & POL’Y 1, 22 (2013) (warning about immense privacy concerns regarding domestic drones).

¹² See Alex Ramirez, *To Protect and Serve? Police Militarization from “Urban Shield” Has Boston Residents Worried*, SPARE CHANGE NEWS (May 29, 2014), available at <http://www.sparechangenews.net/news/protect-serve-police-militarization-urban-shield-boston-residents-worried/> (discussing police militarization in Boston during recent training operations).

¹³ See Matthew L. Burow, *The Sentinel Clouds Above the Nameless Crowd: Protecting Anonymity from Domestic Drones*, 39 NEW ENG. J. ON CRIM. & CIV. CONFINEMENT 427, 456 (2013) (“[The] only impediment to domestic law enforcement use of UASs and their frightening surveillance capabilities is paperwork and bureaucratic red tape . . . [the FAA should] be evaluating the privacy implications of this technology.”).

¹⁴ See John Villasenor, *Privacy, Security and Human Dignity in the Digital Age: Observations from Above: Unmanned Aircraft Systems and Privacy*, 36 HARV. J.L. & PUB. POL’Y 457, 486-98 (2013) (analyzing Fourth Amendment implications of drone use in light of relevant Supreme Court precedent).

will provide the legal framework for the integration of domestic drones within limited emergency and exigent circumstances. Finally, this note will argue that the use of drone technology for criminal investigations should be discouraged by the courts and legislature through forceful regulation and judicial scrutiny.

II. HISTORY

A. U.S. Supreme Court & Technological Searches

The Fourth Amendment of the United States Constitution protects individuals from unreasonable police searches.¹⁵ The legal definition of a search was once confined to only actions that served as a physical intrusion upon an individual's constitutionally protected place.¹⁶ In *Katz v. United States*, the Supreme Court of the United States overruled this delineation of a search and prescribed a new scope of a search to encompass Fourth Amendment protection wherever an individual maintains a "reasonable expectation of privacy."¹⁷ Following *Katz*, the Court began to balance the

¹⁵ U.S. CONST. amend. IV; see Thomas K. Clancy, *The Framers' Intent: John Adams, His Era, and the Fourth Amendment*, 86 IND. L.J. 979, 989 (2010) (discussing historical context of drafting Fourth Amendment and its relation to Massachusetts Constitution); Jeffrey Rosen, *Madison's Privacy Blind Spot*, N.Y. TIMES (Jan. 18, 2014), available at <http://www.nytimes.com/2014/01/19/opinion/sunday/madisons-privacy-blind-spot.html?src=recg> (analyzing gap between founding era's drafting of Fourth Amendment and current state of technological surveillance).

¹⁶ See *Olmstead v. United States*, 277 U.S. 438, 464 (1928) (limiting Fourth Amendment protection to searches of person, house, papers, or effects), *overruled in part by* *Katz v. United States*, 389 U.S. 347 (1967). The Court examined a police warrantless wiretap action and noted that because of no physical intrusion into the suspect's home by police, the use of such technology was not unconstitutional. *Katz v. United States*, 389 U.S. at 354-56. The Court reasoned that the evidence having been "unethically secured" by what amounted to a trespass under state law, provided no grounds for its exclusion. See *id.* But see *Olmstead*, 277 U.S. at 478-79 (Brandeis, J., dissenting). Justice Brandeis lamented that the framers "conferred, as against the Government, the right to be let alone-the most comprehensive of rights and the right most valued by civilized men. To protect that right, every unjustifiable intrusion by the Government upon the privacy of the individual, whatever the means employed, must be deemed a violation of the Fourth Amendment." *Id.* at 478-79.

¹⁷ *Katz*, 389 U.S. at 350. The Court held that warrantless electronic surveillance upon an individual in a public phone booth was a search and thus rejected the "physical intrusion" test. *Id.* Specifically, the Court emphasized that the purpose of the Fourth Amendment was to protect people rather than places alone. *Id.* However, Justice White was eager to include that the Fourth Amendment cannot be translated into a general constitutional "right to privacy." *Id.*; see Christopher Slobogin, *The Future of the Constitution: Is the Fourth Amendment Relevant in a Technological Age?*, GOVERNANCE STUDIES AT BROOKINGS 11-15 (Dec. 8, 2010), http://www.brookings.edu/~media/research/files/papers/2010/12/08%204th%20amendment%20slobogin/1208_4th_amendment_slobogin.pdf (highlighting inadequacies of amendment developed in eighteenth century for protecting privacy in digital age).

clash between privacy interests and police interest in security through modern technology.¹⁸

After William Rehnquist became Chief Justice in the 1980s, the Supreme Court thrice determined that aerial surveillance did not invade an individual's "reasonable expectation of privacy," and thus was not a search under the Fourth Amendment.¹⁹ As new technology emerged, the Supreme Court revived its role as constitutional referee between privacy and security interests. Specifically, in *Kyllo v. United States*, Justice Scalia concluded that if the government uses a device that is "not in general public use" to discover specifics of the interior of a home that are otherwise discoverable only by a physical invasion, this constitutes a search that requires a warrant in order to comply with the Fourth Amendment.²⁰ In other words, *Kyllo*

¹⁸ *Katz*, 389 U.S. at 350; see *United States v. Karo*, 468 U.S. 705, 712 (1984). As Justice White explained, "[i]t is the exploitation of technological advances that implicates the Fourth Amendment, not their mere existence." *Karo*, 468 U.S. at 712.

¹⁹ See, e.g., *California v. Ciraolo*, 476 U.S. 207, 214-15 (1986) (holding warrantless aerial observation from airplane at lawful altitude upon private yard is not search); *Dow Chem. Co. v. United States* 476 U.S. 227, 239 (1986) (maintaining even with advanced photography, aerial surveillance of private company facilities was not search); *Florida v. Riley*, 488 U.S. 445, 450-57 (1989) (concluding aerial surveillance from helicopter of residential backyard greenhouse does not constitute search). The Court underscored that so long as the aerial surveillance complied with Federal Aviation regulations, and thus authorities were in a lawful vantage point, neither private citizens nor companies had a reasonable expectation of privacy from such observation. *Riley*, 488 U.S. at 445. But see *id.* at 452-56 (O'Connor, J., concurring) (questioning majority's reliance on compliance with FAA regulations in privacy analysis). Justice Brennan dissented, arguing that the focus ought to be on whether the police surveillance invaded a legitimate privacy interest rather than examining the vantage point of police. See *id.* at 456 (Brennan, J. dissenting). Justice Brennan warned his colleagues of the risk this precedent would set: "[i]magine a helicopter capable of hovering just above an enclosed courtyard or patio without generating any noise, wind...without posing any threat of injury. Suppose the police employed this miraculous tool to discover...what books they were reading and who their dinner guests were." *Id.* at 462; see Brief for Respondent, *California v. Ciraolo*, 476 U.S. 207 (1986) (No. 84-1513); 1985 WL 669865, at *31 [hereinafter *Ciraolo Respondent's Brief*]. The respondent lamented the court, "the time to stop warrantless technological surveillance is now, before it gets out of hand and before it changes the nature of our society. The airplane involved in our case does not lift the police above the law or the constitution." *Ciraolo Respondent's Brief*, *supra*, at *31; see Brief for Respondent, *Florida v. Riley*, 488 U.S. 445 (1989) (No. 87-764); 1987 WL 880078, at *8-16 [hereinafter *Riley Respondent's Brief*] (arguing there is a legitimate expectation of privacy within home and curtilage from aerial observation). The respondent in *Riley* argued:

To allow an aerial search of a person's home or curtilage merely because the vantage point may have been where a law enforcement officer technically had a legal right to be, ignores reasonable privacy expectations in the home and reverts to the analysis of Fourth Amendment protection referenced to physical intrusion or trespass. Such analysis fails to consider the use of technology to assist in surveillance and would expose the intimate lives of citizens to the government watching from the sky.

Riley Respondent's Brief, *supra*, at *11.

²⁰ *Kyllo v. United States*, 553 U.S. 27, 34-35.

announced that the government's use of technologies that are not in "general public use" for warrantless surveillance is presumptively unreasonable under the Fourth Amendment.²¹ Most recently, the Court universally determined that the use of GPS monitoring upon a transient vehicle was within the suspect's "reasonable expectation of privacy" and consequently a search.²² Most recently, the Court addressed police drug

²¹ See *id.* Here the police utilized a thermal imaging device to scan a private home suspected of manufacturing marijuana without a warrant. See *id.* While there was no literal, physical infringement, Justice Scalia reminded that, "we rejected such a mechanical interpretation of the Fourth Amendment in *Katz*, where the eavesdropping device picked up only sound waves that reached the exterior of the phone booth." *Id.* Additionally, the Court emphasized its need to adapt modern technology with historical interpretations of the Constitution because it "would be foolish to contend that the degree of privacy secured to citizens by the Fourth Amendment has been entirely unaffected by the advance of technology." *Id.* at 33; see Brief Amicus Curiae of the National Association of Criminal Defense Attorneys and the American Civil Liberties Union, in Support of Petitioner, *Kyllo v. United States*, 533 U.S. 27 (2001) (No. 99-8508), 2000 WL 1706774 [hereinafter *Kyllo Amicus Brief*]. Despite a favorable holding for the petitioner, Justice Scalia's opinion did not mitigate the broad concern that recent decisions "have not yielded a controlling framework for determining when technology implicates the Fourth Amendment." *Kyllo Amicus Brief*, *supra*, at *24. But see Quin M. Sorenson, *Losing the Plain Meaning of Katz: The Loss of a Reasonable Expectation of Privacy Under the Readily Available Standard*, 107 DICK. L. REV. 179, 180-181 (2002) (arguing that *Kyllo* marks departure from existing precedent and will produce practical problems in application). Mr. Sorenson's predictions that *Kyllo*'s "general public use" or "readily available" standard will prove difficult to apply has potential merit, judging by the fact that a thermal imaging device, which is more advanced than the one in *Kyllo*, may now be purchased as a \$350 iPhone 5 add on. See Xiomara Blanco, *Flir One turns iPhone into personal thermal imaging device*, CNET (Jan. 7, 2014 9:23 PM), http://www.cnet.com/8301-35299_1-57616847/flir-one-turns-iphone-into-personal-thermal-imaging-device/#ixzz2wWiHzliL (explaining birdwatchers, hunters, and campers can all benefit from the ability to visualize heat in their respective activities); see also *Kyllo*, 533 U.S. at 31 ("[T]he imager did not expose any intimate details of *Kyllo*'s life, only amorphous hot spots on the roof and exterior wall . . .") (internal quotation marks omitted).

²² See *United States v. Jones*, 132 S. Ct. 945 (2012). The Court refused to clarify if such a search consequentially carried with it the requirement of a warrant. See *id.* at 954; cf. *United States v. Jones*, 132 S.Ct. 945, 957 (2012) (Sotomayor, J., concurring) ("This approach is ill suited for the digital age...[b]ut whatever the societal expectations, they can attain constitutionally protected status only if our Fourth Amendment jurisprudence ceases to treat secrecy as a prerequisite for privacy."); *Klayman v. Obama*, 957 F. Supp. 2d 1 (D. D.C. 2013) (ruling NSA warrantless metadata program violated Fourth Amendment). Judge Leon insisted that the rise of twenty-first century technology often "infringes on 'that degree of privacy' that the Founders enshrined in the Fourth Amendment. Indeed, I have little doubt that the author of our Constitution, James Madison, who cautioned us to beware 'the abridgement of freedom of the people by gradual and silent encroachments by those in power,' would be aghast." *Klayman*, 957 F. Supp. 2d. at 42. But see *United States v. Pineda-Moreno*, 617 F.3d 1120, 1126-27 (9th Cir. 2010) (Kozinski, C.J., dissenting). Ninth Circuit Judge Kozinski lambasted his colleagues, "[t]he needs of law enforcement, to which my colleagues seem inclined to refuse nothing, are quickly making personal privacy a distant memory. 1984 may have come a bit later than predicted but it's here at last." *Id.* at 1121; see, e.g., Brief of the National Association of Criminal Defense Lawyers et al., as Amici Curiae in Support of Respondent, *United States v. Jones*, 132 S. Ct. 945 (2012) (No. 10-1259), 2011 WL 4614427 at *11 (discussing balance between privacy and invasive government technology); Tom Goldstein, *Jones Confounds the Press*, SCOTUSBLOG

detection dogs as a form of invasive technology under the Fourth Amendment.²³ Writing for the majority, Justice Scalia declared that a police drug detection dog sniff upon a private residence amounted to a search under the Fourth Amendment.²⁴

Perhaps the most pivotal Fourth Amendment privacy interests versus technological search case of the Roberts Court belongs to its unanimous decision in *Riley v. California*.²⁵ The Supreme Court held that the warrantless intrusion upon an arrestee's cell phone violated the Fourth Amendment.²⁶ As Chief Justice Roberts claimed, of the pervasive nature of cell phones and personal privacy information, “. . . many of the more than 90% of American adults who own a cell phone keep on their person a digital record of nearly every aspect of their lives—from the mundane to the intimate.”²⁷

B. Massachusetts Supreme Judicial Court & Technological Searches

The Supreme Judicial Court of Massachusetts has remained consistent with the nation's high Court in concluding that aerial surveillance by police is not a search and thus does not trigger Fourth Amendment or Massachusetts State Constitutional protections.²⁸

(Jan. 25, 2012, 11:30 AM), <http://www.scotusblog.com/2012/01/jones-confounds-the-press/> (highlighting Court's discrepancy between defining police action as search without determining its unreasonableness); Adam Liptak, *Justices Say GPS Tracker Violated Privacy Rights*, N.Y. TIMES, (Jan. 23, 2012), available at <http://www.nytimes.com/2012/01/24/us/police-use-of-gps-is-ruled-unconstitutional.html>.

²³ See *Florida v. Jardines*, 133 S. Ct. 1409, 1413 (2013).

²⁴ See *id.* at 1418-20 (Kagan, J. concurring) (describing drug detection dogs as sophisticated police technology). Justice Kagan plainly insists, “[drug detection police dogs] are to the poodle down the street as high-powered binoculars are to a piece of plain glass. Like the binoculars, a drug-detection dog is a specialized device for discovering objects not in plain view (or plain smell).” *Id.* at 1418; cf. *United States v. Almeida*, No. 2:11-CR-127-DBH, 2012 WL 75751, at *10 (D. Me. Jan. 9, 2012) (distinguishing between scope of police K-9 vehicle search for drugs and technological searches). Specifically, this Court explained, “these cases cannot be fairly read to approve of a search of the interior of a vehicle, absent probable cause, by human hand, pole camera, or drone, any of which would be the product of human design rather than animal instinct.” *Almeida*, 2012 WL 75751, at *10. But see Jeffrey Rosen, *Where there is No Darkness: Technology and the Future of Privacy: Symposium Keynote Address*, 65 RUTGERS L. REV. 965 (2013) (“[Recent rulings] provide[d] little guidance for how to regulate ubiquitous surveillance that doesn’t involve a physical intrusion.”); Jim Harper, *Escaping Fourth Amendment Doctrine After Jones: Physics, Law, and Privacy Protection*, CATO SUPREME COURT REVIEW (2012), <http://object.cato.org/sites/cato.org/files/serials/files/supreme-court-review/2012/9/scr-2012-harper.pdf> (advocating abandonment of Katz expectation of privacy approach).

²⁵ 134 S. Ct. 2473 (2014).

²⁶ *Riley*, 134 S. Ct. at 2485.

²⁷ *Id.* at 2490.

²⁸ See *Commonwealth v. One 1985 Ford Thunderbird Auto.*, 624 N.E.2d 547 (Mass. 1993)

Additionally, the Massachusetts judiciary clarified using the plain view doctrine that where police are within a lawful vantage point, no reasonable expectation of privacy exists and, therefore, any observation of criminality is lawfully obtained.²⁹ However, Massachusetts's courts further specified that where police enter a private area to warrantlessly eavesdrop, such action is outside the scope of the plain view doctrine and warrants, constitutional protection as an unreasonable search.³⁰ Massachusetts courts have met electronic police surveillance through modern technology with skepticism and have largely barred its warrantless use by statute and the state constitution.³¹ For example, the Massachusetts General Court legislatively granted narrow statutory authority for police to conduct electronic monitoring of criminal enterprises, but warned of the grave dangers such police technology poses to privacy interests.³² However, such

(maintaining aerial surveillance from legal vantage point is not search). The Massachusetts high court considered the legality of the police's vantage point and level of public access to the location, the nature of the surveillance and area viewed. *Id.* at 607. Justice Greaney concluded, "when the police have a reasonable suspicion that illegal activity is occurring in a backyard, and engage in brief, foreseeable aerial surveillance from a reasonable altitude where they have a right to be, it has not been demonstrated that an objectively reasonable expectation of privacy has been violated." *Id.* at 610. However, Justice Greaney cautioned that the holding was not suggesting that "a person has no expectation of privacy from government intrusion in his or her backyard, or that aerial surveillance without a warrant can never amount to a search for purposes of art. 14." *Id.* But see, e.g., *People v. Cook*, 710 P.2d 299 (Cal. 1985) (defining warrantless aerial surveillance as search under California state constitution); *State v. Bryant*, 950 A.2d 467 (Vt. 2008) (holding that warrantless aerial surveillance from lawful altitude was search under Vermont's state constitution); *State v. Davis*, 321 P.3d 955 (N.M. App. 2014) (labeling warrantless aerial surveillance as a search under New Mexico state constitution), *cert. granted*, 324 P.3d 376 (N.M. 2014).

²⁹ See *One 1985 Ford Thunderbird Auto.*, 624 N.E.2d at 610.

³⁰ See *Commonwealth v. Pannetti*, 547 N.E.2d 46, 48 (Mass. 1989) ("[S]ociety should honor the privacy interests that apartment dwellers and condominium owners have in being free from warrantless eavesdropping by police who have infiltrated crawl spaces and other areas to which neither the public nor any other occupant of the multiple dwelling has access.").

³¹ See *Commonwealth v. Tavares*, 945 N.E.2d 329, 339 (Mass. 2011) (holding wiretap of gangs failed to satisfy requirements of Massachusetts wiretap law).

³² See MASS. GEN. LAWS. ch. 272, § 99 (2012) (expressing statutory and more restrictive provisions for obtaining warrant for electronic surveillance); *cf.* MASS. GEN. LAWS. ch. 276, § 2 (2012) (outlining standard of probable cause for issuance of search warrant). But see generally *Commonwealth v. Robertson*, 5 N.E.3d 522 (Mass. 2014), *superseded by* 2014 Mass. Acts 43 "An Act Relative to Unlawful Sexual Surveillance," available at <https://malegislature.gov/Laws/SessionLaws/Acts/2014/Chapter43>. The Massachusetts Supreme Judicial Court failed to include a private man's act of sexual voyeurism using a cell phone to take photographs of an unsuspecting women's private area. See *id.*; see also Press Release, Governor Patrick, Governor Patrick Signs "An Act Relative to Unlawful Sexual Surveillance" (Mar. 7, 2014) [hereinafter *Press Release Governor*], available at <http://www.mass.gov/governor/pressoffice/pressreleases/2014/0307-governor-signs-voyeurism-bill.html>. Within days of the Supreme Judicial Court decision, the legislature amended the state's "peeping tom" law to include "upskirting" by private individuals upon others in a public area. *Press Release Governor, supra*. This case highlights the important distinction between

strict interpretation of electronic surveillance laws by the courts has sparked criticism from the Commonwealth's law enforcement community.³³ Finally, Massachusetts' high court offered a guideline for the Supreme Court's future holding in *United States v. Jones* where the state court determined that GPS monitoring was indeed a search.³⁴

C. Constitutional Scope of Police Searches With a Warrant

The Fourth Amendment prescribes that "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."³⁵ The warrant requirement protects personal liberty and privacy from baseless government intrusion through judicial impartiality and a legitimate showing of probable cause.³⁶ Furthermore, Massachusetts's courts have highlighted the importance of search warrants because they specifically define the scope of the search, provide notice to the persons being searched and show the justification for the police's action.³⁷ Under the Constitution, the Supreme Court has held that a determination of probable cause for a search warrant rests only upon a consideration of the "totality of the circumstances."³⁸ However, Massachusetts state courts

government action and private action in regards to digital surveillance and privacy concerns. See *Robertson*, 5 N.E.3d at 529-30. Quite simply, the Fourth Amendment and Massachusetts Article 14 provide no protection of privacy rights from non-government action. *Id.*

³³ See Press Release, Mass. Att'y Gen. Martha Coakley, AG Coakley Stresses Importance of Update to Wiretap Law in Testimony to Legislature (July 9, 2013) [hereinafter *Press Release Att'y Gen.*], available at <http://www.mass.gov/ago/news-and-updates/press-releases/2013/2013-07-09-wiretap-testimony.html> ("AG Coakley emphasized the important safeguards already in place that require judicial approval and lengthy affidavits documenting why a warrant is needed to investigate alleged criminal activity."); see also H.3261, 188th Gen. Ct. (Mass. 2013), available at <https://malegislature.gov/Bills/188/House/H3261>.

³⁴ See *Commonwealth v. Rousseau*, 990 N.E.2d 543, 548 (Mass. 2013) (holding vehicle passengers have reasonable expectation of privacy from persistent electronic surveillance of GPS); *Commonwealth v. Connolly*, 913 N.E.2d 356, 366 (Mass. 2009) (concluding GPS device interferes with reasonable expectation of privacy).

³⁵ U.S. CONST. amend. IV.

³⁶ See 1 WAYNE LAFAVE, *SEARCH & SEIZURE: A TREATISE ON THE FOURTH AMENDMENT* § 4.1(a) (5th ed. 2012) (discussing rationale of warrant requirement). But see Akhil Reed Amar, *Fourth Amendment First Principles*, 107 HARV. L. REV. 757, 766-67 (1994) ("If any members of the early Congresses objected to or even questioned these warrantless searches and seizures on Fourth Amendment grounds, supporters of the so-called warrant requirement have yet to identify them.").

³⁷ See *Commonwealth v. Guaba*, 632 N.E.2d 1217, 1222 (Mass. 1994) (discussing rationale for search warrants).

³⁸ See *Illinois v. Gates*, 462 U.S. 213, 230-31 (1983) (rejecting stricter approach to determining probable cause of search warrant). As Chief Justice Rehnquist insists, challenges to a search warrant must be viewed with the "commonsense, practical question whether there is

have required a more stringent threshold to meet the probable cause standard of search warrants because the Massachusetts State Constitution “provides more substantive protection to criminal defendants than does the Fourth Amendment in the determination of probable cause.”³⁹ In addition to the higher threshold for probable cause under the Massachusetts State Constitution, the Commonwealth’s search warrant statute provides an additional layer of requirements for the issuance of a search warrant with probable cause.⁴⁰ Under Massachusetts’s law, the nature of the police search pursuant to a warrant may trigger more statutory and procedural protections of individual privacy.⁴¹ For example, Massachusetts’s police must comply with the requirements of the Commonwealth’s so-called “Wiretap Statute,” which bans electronic surveillance with a wiretap unless the suspect is connected to an organized, criminal enterprise.⁴²

Beyond search warrants, courts have allowed additional types of protective sweeps such a “search incident to arrest.”⁴³ Specifically, where police make a lawful arrest, they may conduct a protective search of the area within the suspect’s “immediate control” for potential weapons.⁴⁴

‘probable cause’ to believe that contraband or evidence is located in a particular place.” *Id.* at 230.

³⁹ See *Commonwealth v. Upton*, 476 N.E.2d 548, 555-57 (Mass. 1985) (rejecting “totality of the circumstances” test for showing of probable cause).

⁴⁰ See MASS. GEN. LAW ch. 276, § 2B (2012) (codifying more procedural requirements than simply determination of probable cause); see also RICHARD G. STEARNS, MASSACHUSETTS’S PROSECUTOR’S GUIDE, SEARCHES WITH WARRANTS (33rd ed.) (2013); MASSACHUSETTS CONTINUING LEGAL EDUCATION: MASSACHUSETTS SUPERIOR COURT CRIMINAL PRACTICE MANUAL § 7.3.2 (overview of challenging probable cause in issuance of search warrant); MASSACHUSETTS SUPERIOR COURT CRIMINAL PRACTICE MANUAL § 7.3.3 (discussing practical issues of wiretap search warrants).

⁴¹ See MASS. GEN. LAW ch. 272, § 99 (2012) (Massachusetts wiretap statute); *Commonwealth v. Scalise*, 439 N.E.2d 818, 822 (Mass. 1982) (requiring police to obtain prior judicial approval to justify “no-knock” search warrant). Massachusetts’s courts require an additional showing of probable cause to believe that target of the “no-knock” search warrant may discard contraband, pose a risk to police or simply flee. *Scalise*, 439 N.E.2d at 823; cf. *Richards v. Wisconsin*, 520 U.S. 385, 394 (1997) (requiring only reasonable suspicion for “no-knock” warrant execution).

⁴² See MASS. GEN. LAWS ch. 272, § 99B(7); see also *Commonwealth v. Penta*, 669 N.E.2d 767, 771 (Mass. 1996) (discussing “organized crime” connection required within wiretap law); cf. 18 U.S.C. § 2515 (2012) (“Prohibit[ing]...use as evidence of intercepted wire or oral communications.”). Under federal law, a wiretap cannot be executed unless “traditional investigative techniques would suffice to expose [a] crime.” See *United States v. Kahn*, 415 U.S. 143, 153 n.12 (1974).

⁴³ See *Chimel v. California*, 395 U.S. 752, 762-63 (1969) (discussing reasonableness of “search incident to arrest” under Fourth Amendment). The Court defined a search incident to arrest (predicated upon a lawful arrest) as search that is “‘reasonably limited’ by the ‘need to seize weapons’ and ‘to prevent the destruction of evidence.’” *Id.* at 764 (quoting *Sibron v. New York*, 392 U.S. 40 (1968)).

⁴⁴ See *id.* at 763.

However, the Supreme Court has since expanded the scope of such protective searches incident to arrest to include a full “cursory” sweep of a premise to ensure no third-party danger to police.⁴⁵ Similar to searches incident to arrest, the Supreme Court has authorized police to initiate entry into a dwelling where they have a legal arrest, accompanied by “reason to believe the suspect is within,” even in the absence of a warrant specifically authorizing entry into the home.⁴⁶ However, the Supreme Court denied police the authority to enter a private home without a warrant, even if they have probable cause to believe that people who recently committed a violent crime are therein.⁴⁷

D. Constitutional Scope of Warrantless Police Action

A warrantless government intrusion upon a legitimate expectation of privacy is presumed to be unreasonable under the Fourth Amendment.⁴⁸

⁴⁵ See *Maryland v. Buie*, 494 U.S. 325, 326 (1990); see also *United States v. Winston*, 444 F.3d 115, 118 (1st Cir. 2006) (discussing extent of protective sweeps within private residence). The *Winston* court further clarified that:

[T]o prevent law enforcement from abusing the protective sweep by using it as a pretext for searching an individual’s home, the Supreme Court has limited its use. First, law enforcement officers conducting the sweep must have a reasonable suspicion of danger: there must be articulable facts which, taken together with the rational inferences from those facts, would warrant a reasonably prudent officer in believing that the area to be swept harbors an individual posing a danger to those on the arrest scene.

Winston, 444 F.3d at 118 (quoting *Maryland v. Buie*, 494 U.S. 325 (1990)) (internal quotation marks omitted).

⁴⁶ See *Payton v. New York*, 445 U.S. 573, 603 (1980). The Supreme Court concluded, “for Fourth Amendment purposes, an arrest warrant founded on probable cause implicitly carries with it the limited authority to enter a dwelling in which the suspect lives when there is reason to believe the suspect is within.” *Id.* at 574; see Paul E. Brown, *Arrest At The Castle: Payton v. New York*, 42 LA. L. REV. 269, 282 (1981) (praising Court’s balance between privacy and effective law enforcement). Professor Brown highlighted the balancing test invoked by the Court and determined that:

New techniques are needed to halt the spiraling increase in crime. However, the privacy rights of our citizens should not be sacrificed unless some purposeful advantage is given to our law enforcement officials. From this standpoint, the *Payton* decision appears very sound indeed, for it grants individuals protections guaranteed by the Constitution and, at the same time, gives society the protection it needs in a time of greatly increasing crime.

Brown, *supra* at 281-82 (internal quotation marks omitted).

⁴⁷ See *Minnesota v. Olson*, 495 U.S. 91, 100 (1990) (barring warrantless entry by police to make arrest). The Court specified that absent exigent circumstances, such as reasonable risk of danger to law enforcement or others, warrantless entry violated the Fourth Amendment. *Id.*

⁴⁸ See *Coolidge v. New Hampshire*, 403 U.S. 443, 454-55 (1971) (declaring narrowness of

However, this presumption against warrantless police conduct as unreasonable is not absolute.⁴⁹ In limited circumstances, American courts have permitted so-called protective searches for weapons as “a limited intrusion designed solely to insure the safety of the police officer and others while the officer is conducting a criminal investigation.”⁵⁰ If exigent circumstances present themselves, such as “hot pursuit,” an objective concern for officer safety or destruction of evidence, or other emergency situations, American courts have relaxed the warrant requirement and determined such action may not be unreasonable.⁵¹ The Supreme Court conceived this police authority in *Terry v. Ohio*, where an investigatory street encounter between police and an individual led to a limited “pat frisk” for weapons, now commonly referred to as a “stop and frisk.” The exigent circumstances exception to the warrant clause of the Fourth Amendment does not dissolve the legal requirement of probable cause.⁵² Therefore, in cases involving warrantless searches and the state cites an exigency, they must show the objective requirement of both probable cause and a legitimate exigency within the context of the police action.⁵³ The Supreme Court of the United States has granted law enforcement some latitude for warrantless searches where police are pursuing a felony suspect and immediate action was necessary to protect “their lives and others.”⁵⁴ In line with the hot pursuit exigency rationale for safety interests, police may

lawful warrantless searches).

⁴⁹ See *Payton*, 445 U.S. at 585-87 (discussing general exceptions to warrant requirement).

⁵⁰ Thomas K. Clancy, *Protective Searches, Pat Downs, or Frisks?: The Scope of Permissive Intrusion to Ascertain if a Detained Person is Armed*, 82 MARQ. L. REV. 491, 491 (1999); see also *Terry v. Ohio*, 392 U.S. 1, 30 (1968) (establishing Constitutionality of warrantless “stop and frisk” under limited circumstances).

⁵¹ See *Payton*, 445 U.S. at 585-87 (1980). Exigent Circumstances has been broadly defined as:

[A]n emergency situation requiring swift action to prevent imminent danger to life or serious damage to property, or to forestall the imminent escape of a suspect, or destruction of evidence. There is no ready litmus test for determining whether such circumstances exist, and in each case the extraordinary situation must be measured by the facts known to the officers.

People v. Ramey, 545 P.2d 1333, 1341 (Cal. 1976).

⁵² See *Terry*, 392 U.S. at 30 (establishing constitutionality of stop and frisk); 3 LAFAYETTE, *supra* note 36, § 6.6(a)-(c).

⁵³ See 14A MASS. PRAC., SUMMARY OF BASIC LAW § 7.63 (4th ed.) (summarizing exigent circumstances and their exception to warrant requirement under Massachusetts law).

⁵⁴ See *Warden v. Hayden*, 387 U.S. 294, 278-279 (1967) (establishing hot pursuit warrant exception under Fourth Amendment); see also *Commonwealth v. Forde*, 329 N.E.2d 717, 723 (Mass. 1975) (discussing contextual factors allowing for warrantless search during “hot pursuit”); cf. *Welsh v. Wisconsin*, 466 U.S. 740, 741 (1984) (declining to extend hot pursuit exception to all circumstances).

make a warrantless intervention when they have a reasonable belief under the totality of the circumstances that a person is in imminent danger or presently injured.⁵⁵ Likewise, during extraordinary and dangerous circumstances where police maintain a reasonable belief that a warrantless intrusion is imperative to protecting the public or themselves from the risk of imminent or ongoing harm, such action is not unreasonable under the Fourth Amendment.⁵⁶ In contrast to the exigency warrant exceptions involving the interest of evidentiary preservation, the emergency exception's primary purpose is preventing harm and ensuring safety rather than centering upon a criminal investigation.⁵⁷ For example, cases involving a imminent risk of explosives or an active shooter, typically provide police with a wider latitude for warrantless action within the framework of the emergency exception.⁵⁸ The emergency exception is no

⁵⁵ See *Brigham City v. Stuart*, 547 U.S. 398, 403 (2006) (laying out emergency circumstances exception); see also *Wayne v. United States*, 318 F.2d 205, 211-12 (D.C. Cir. 1963). Prior to ascending to the nation's highest court, Chief Justice Warren Burger defended an emergency aid exception to the warrant requirement:

[A] warrant is not required to break down a door to enter a burning home to rescue occupants or extinguish a fire, to prevent a shooting or to bring emergency aid to an injured person. The need to protect or preserve life or avoid serious injury is justification for what would be otherwise illegal absent an exigency or emergency. Fires or dead bodies are reported to police by cranks where no fires or bodies are to be found. Acting in response to reports of 'dead bodies,' the police may find the 'bodies' to be common drunks, diabetics in shock, or distressed cardiac patients. But the business of policemen and firemen is to act, not to speculate or meditate on whether the report is correct. People could well die in emergencies if police tried to act with the calm deliberation associated with the judicial process. Even the apparently dead often are saved by swift police response. A myriad of circumstances could fall within the terms exigent circumstances' ... e.g., smoke coming out a window or under a door, the sound of gunfire in a house, threats from the inside to shoot through the door at police, reasonable grounds to believe an injured or seriously ill person is being held within.

Wayne, 318 F.2d at 212.

⁵⁶ See *United States v. Beaudoin*, 362 F.3d 60, 66 (1st Cir. 2004); see also *Mincey v. Arizona*, 437 U.S. 385, 392 (1978). The Court explained in dicta, that "warrantless entries and searches when they reasonably believe that a person within is in need of immediate aid" are not unlawful under the Fourth Amendment. *Mincey*, 437 U.S. at 392; see *People v. Sirhan*, 497 P.2d 1121 (Cal. 1972) (controversial ruling allowing warrantless search in aftermath of Senator Robert Kennedy's assassination).

⁵⁷ See *Mora v. City of Gaithersburg*, 519 F.3d 216, 222 (4th Cir. 2008) (highlighting pragmatic nature of emergency exception to warrant requirement). "We are to approach the Fourth Amendment and the Due Process Clause with at least some measure of pragmatism. If there is a grave public need for the police to take preventive action, the Constitution may impose limits, but it will not bar the way." *Id.* at 222.

⁵⁸ See *United States v. Infante*, 701 F.3d 386, 393 (1st Cir. 2012) (holding that immediate risk of gas explosion justified warrantless entry); *United States v. Sullivan*, 711 F.2d 1, 3 (1st Cir. 1983) (risk object suspected of being explosive device); *United States v. Williams*, 626 F.2d 697, 703 (9th Cir. 1980) (warrantless entry after bomb threat deemed not unreasonable);

blank check for unconstrained police action, because warrantless searches are an exception to the Fourth Amendment, the state bears the burden of showing that an objective emergency existed under the totality of the circumstances.⁵⁹

III. FACTS

A. Capabilities of Domestic UAVs

While UAVs, or drones, have gained wide notoriety through their airstrikes in the U.S. military's counterterrorism strategy, domestic drones have a more diverse application.⁶⁰ Unlike the infamous U.S. military "Predator Drone," more modestly constructed UAVs can be as small as an insect, and often bear a closer resemblance to helicopters than fighter jets.⁶¹ Additionally, UAV technology has increasingly been applied to civilian applications by hobbyists, archeologists, college campuses, farmers, commercial photography, rescue operators, animal conservationists, and fire fighters.⁶²

Commonwealth v. Marchione, 422 N.E.2d 1362, 1364 (Mass. 1981) (report of potentially explosive device and warrantless entry for removal was lawful). See generally 3 LAFAVE, *supra* note 36, § 6.6(a)-(d).

⁵⁹ See 14A MASS. PRAC., *supra* note 53 (discussing practical aspects of confronting exigent circumstances).

⁶⁰ See Kimberly Dozier, *US Defends Drones, Rejects Findings of Rights Groups*, BOS. GLOBE (Oct. 23, 2013), available at <http://www.bostonglobe.com/news/nation/2013/10/22/human-rights-groups-criticize-drone-program/ObEnS6fP7ELMMJNdZHAPAM/story.html> (describing White House push back on military drone policy in combatting terrorism); Lev Grossman, *Drone Home: They Fight and Spy for America Abroad. But What Happens When Drones Return Home?*, TIME MAGAZINE (Feb. 11, 2013), available at <http://content.time.com/time/magazine/article/0,9171,2135132,00.html?artId=2135132?contentType=article?chn=us> (detailing application of drones on domestic front); see also Daisy Carrington & Jenny Soffel, *15 Ways Drones Will Change Your Life*, CNN (Nov. 18, 2013, 5:23 AM), <http://www.cnn.com/2013/11/03/business/meet-your-friendly-neighborhood-drones/index.html?sr=fb110413drones12p> (outlining immense scope of UAV application).

⁶¹ See PREDATOR UAS, GENERAL ATOMICS AERONAUTICAL, <http://www.gas.com/products/aircraft/predator.php> (last visited Mar. 20, 2014); *The Drone Father*, THE ECONOMIST (Dec. 1, 2012), available at <http://www.economist.com/news/technology-quarterly/21567205-abe-karem-created-robotic-plane-transformed-way-modern-warfare> (conducting profile of man that invented Predator Drone); see also Elisabeth Bumiller & Thom Shanker, *War Evolves With Drones, Some Tiny as Bus*, N.Y. TIMES (Jun. 19, 2011), available at http://www.nytimes.com/2011/06/20/world/20drones.html?ref=unmannedaerialvehicles&_r=0 (discussing diverse technology of UAVs).

⁶² See Vince Ambrosia, *Observing Wildfires: Demonstrating Uses of UAS for Civilian Disaster Monitoring*, SAN FRANCISCO STATE UNIVERSITY (Oct. 23, 2013), <http://geog.sfsu.edu/content/vincent-ambrosia-nasa-using-drones-wildfire-work> (lecturing on capabilities of UAVs to aid during wildfires and other emergency situations); Carrington &

On the law enforcement side, aerial operations and unmanned robotics have long been utilized in countless police operations in the United States and Massachusetts.⁶³ Currently, the Mesa County Sheriff Department in Colorado remains one of the few law enforcement agencies using UAVs in police operations.⁶⁴ The Mesa County Sheriff's Department has obtained approval from the Federal Aviation Administration ("FAA") and utilizes a "Draganflyer X6" UAV in operations such as aerial photos of severe automobile accidents, assistance to fire departments during large scale fires, and high-risk suspect apprehension.⁶⁵ In fact, a North Dakota man was apprehended with the help of a U.S. Border Patrol predator drone, used for surveillance, during an armed standoff with police.⁶⁶

B. Federal Regulation of Domestic UAVs

While federal courts have yet to confront the issue of domestic drones and law enforcement, Congress enacted broad domestic drone guidelines through an omnibus Federal Aviation Administration (FAA) funding act.⁶⁷ The Federal law mandates that the FAA establish a

Soffel, *supra* note 60 (outlining immense scope of UAV application); *see also* James Surowiecki, *Why Drone Delivery Won't Replace the UPS Guy*, THE NEW YORKER (Dec. 5, 2013), <http://www.newyorker.com/online/blogs/currency/2013/12/why-drone-delivery-wont-replace-the-ups-guy.html>. Recently, the CEO of Amazon created a media stir when he announced, that his company was "experimenting with having drones deliver its packages." Surowiecki, *supra*.

⁶³ *See* Brown, *supra* note 10 (discussing role of robotics in local law enforcement); Graham, *supra* note 8 (discussing aerial police operation amid Boston Marathon manhunt).

⁶⁴ *See* Susan Greene, *Mesa County, Colo. A National Leader in Domestic Drone Use*, THE COLORADO INDEPENDENT, <http://www.coloradoindependent.com/127870/colorados-mesa-county-a-national-leader-in-domestic-drone-use> (last visited Feb. 20, 2015) (discussing Mesa County Sheriff's UAV activity). *See generally* *The Future of Drones in America: Law Enforcement and Privacy Considerations: Hearing Before S. Comm. on the Judiciary United States Senate*, 113th Cong. (2013) (statement of Benjamin Miller, Unmanned Aircraft Program Manager, Mesa County Sheriff's Office and Representative of the Airborne Law Enforcement Association) [hereinafter *Senate Hearing*], available at judiciary.senate.gov/imo/media/doc/3-20-13MillerTestimony.pdf (offering three examples of when Mesa County deploys UAVs).

⁶⁵ *See Senate Hearing*, *supra* note 64 (statement of Benjamin Miller).

⁶⁶ *See* *State v. Brossart*, No. 32-2011-CR-00049 (N.D. Dist. Ct. App. Aug. 1, 2012). The North Dakota trial court judge rejected the defendant's motion to dismiss that argued in part, that the use of the predator drone in his apprehension was an "outrageous" abuse of government. *Id.* While local police's use of a U.S. Customs and Border Patrol Predator Drone ought to give us pause, the manner of its use is compatible with existing law enforcement practices using technology during high-risk scenarios. *See infra* Part IV (detailing possible permissible use of drones by police); *see also* Thomas A. Bryan, *State v. Brossart: Adapting the Fourth Amendment For a Future With Drones*, 63 CATH. U. L. REV. 465, 488-492 (2014) (analyzing specific circumstances of *Brossart* case within Fourth Amendment framework).

⁶⁷ *See* 49 U.S.C. § 40101 (2012).

“comprehensive plan to safely accelerate the integration” of domestic drones into American airspace.⁶⁸ Under this scheme, any state, local or federal public entity wishing to utilize domestic drones must be granted a “Certificate of Waiver or Authorization (COA).”⁶⁹ While the FAA has regulatory authority to grant a COA to public safety agencies, the approval process is decided solely on the basis of safety concerns.⁷⁰ Therefore, the FAA does not outline prohibited uses of domestic drones related to criminal investigations by law enforcement but simply regulates the logistics to maintain airspace safety.⁷¹ At present, this Federal regulatory ambiguity would require federal courts to determine the permissible scope of UAVs in a law enforcement context.⁷² In light of this perceived gap between FAA safety regulations and potential privacy concerns over law enforcement’s use of drones, U.S. Senator for Massachusetts, Ed Markey filed a bill entitled the “Drone Aircraft Privacy and Transparency Act of 2013.”⁷³ The central purpose of the bill is to provide “[f]ederal standards for informing the public and protecting individual privacy with respect to

⁶⁸ See 47 U.S.C. § 332 (2012).

⁶⁹ See § 40101.

⁷⁰ See *id.*; Press Release, Fact Sheet-Unmanned Aircraft Systems (UAS), Federal Aviation Administration (Feb. 19, 2013), *available at* http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=14153 (“As the FAA clarifies their role as a safety administration and explains that they “evaluate the proposed [public safety UAV] operation to see if it can be conducted safely.”); see also RICHARD M. THOMPSON II, CONG. RESEARCH SERV., DRONES IN DOMESTIC SURVEILLANCE OPERATIONS: FOURTH AMENDMENT IMPLICATIONS AND LEGISLATIVE RESPONSES 21 (2013), *available at* <http://www.fas.org/sgp/crs/natsec/R42701.pdf> (“[T]he sheer sophistication of drone technology and the sensors they can carry may remove drones from this traditional Fourth Amendment framework.”); U.S. GOV’T ACCOUNTABILITY OFFICE, REPORT TO CONG., UNMANNED AIRCRAFT SYSTEMS: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM (2012), *available at* <http://www.gao.gov/assets/650/648348.pdf>.

⁷¹ See, e.g., J. Tyler Black, *Over Your Head, Under the Radar: An Examination of Changing Legislation, Aging Case Law, and Possible Solutions to the Domestic Police Drone Puzzle*, 70 WASH. & LEE L. REV. 1829, 1846-47 (2013); Robert Molko, *The Drones are Coming! Will the Fourth Amendment Stop Their Threat to Our Privacy?*, 78 BROOK. L. REV. 1279, 1283-84 (2013); John Villasenor, *Observations from Above: Unmanned Aircraft Systems and Privacy*, 36 HARV. J.L. & PUB. POL’Y 457, 472-73 (2013); Patrice Hendriksen, Note, *Unmanned and Unchecked: Confronting the Unmanned Aircraft System Privacy Threat Through Interagency Coordination*, 82 GEO. WASH. L. REV. 207, 229 (2013) (arguing for reforming current legislation to mandate interagency coordination); see also *Florida v. Riley*, 488 U.S. 445, 452-56 (1989) (O’Connor, J., concurring) (criticizing FAA regulations as inadequate measure of legitimacy of privacy interests).

⁷² See *infra* Part IV.A (analyzing Supreme Court precedent on technology and Fourth amendment).

⁷³ See S. 1639, 113th Cong. (2013), *available at* <https://www.congress.gov/bill/113th-congress/senate-bill/1639/text> (providing federal limitations upon public agencies, use of domestic drones).

unmanned aircraft systems.”⁷⁴ Although Senator Markey’s bill requires that police obtain a legal warrant before utilizing drone surveillance in criminal investigations, the law would allow warrantless drone operation under limited, exigent circumstances such as an imminent risk of danger or terrorist activity.⁷⁵ Additionally, this amendment to FAA regulations would limit data collection and prohibits its warrantless use in a criminal proceeding.⁷⁶ Aside from regulation of police use of domestic drones, President Obama has vowed to issue an executive order outlining a regulatory framework for integrating commercial drones at home.⁷⁷

C. Fourth Amendment Unreasonable Seizure Challenges to U.S. Counterterrorism Drone Strikes and Anwar al-Aulaqi

Beyond searches, drones encompass the issue of unreasonable seizures through the U.S. lethal drone strikes in the so-called “war on terror.”⁷⁸ Recently, the Second Circuit ordered the Department of Justice to disclose a legal memorandum outlining the legal justification for the 2011 lethal drone strike upon American citizen and Al-Qaeda operative,

⁷⁴ *Id.* § 2(7).

⁷⁵ *See id.* § 341; *see also supra* Part II.D (outlining exigencies that permit certain warrantless police intrusion).

⁷⁶ *See supra* note 73; *see also* S. 1016, 113th Cong. (2013), available at <http://beta.congress.gov/bill/113th-congress/senate-bill/1016>. Senator Rand Paul of Kentucky previously submitted a substantially similar bill that seeks to quell some of the same privacy and evidentiary concerns subsequently addressed in Senator Markey’s bill. *See* Press Release, Sen. Paul Introduces Bill to Protect Americans Against Unwarranted Drone Surveillance (Jun. 12, 2012), available at http://www.paul.senate.gov/?p=press_release&id=545; *see also* Chris Schlag, *The New Privacy Battle: How Expanding the Use of Drones Continues to Erode Our Concept of Privacy and Privacy Rights*, 13 PGH. J. TECH. L. & POL’Y 1, 22 (2013) (noting lack of privacy regulations in FAA law); Matthew L. Burow, Note, *The Sentinel Clouds Above the Nameless Crowd: Protecting Anonymity from Domestic Drones*, 39 N.E. J. ON CRIM. & CIV. CON. 427, 456 (2013). Burow warns that the “only impediment to domestic law enforcement use of UASs and their frightening surveillance capabilities is paperwork and bureaucratic red tape....[The FAA should] be evaluating the privacy implications of this new technology.” Burow, *supra*; *see infra* Part II.C (discussing importance of warrant requirements); Part IV.C (arguing for need for statutory warrant requirements for domestic police drones); Part IV.A (advocating for strict privacy-interest approach to Fourth Amendment jurisprudence). *See generally* Andrea Stone, *Drone Privacy Bill Would Put In Safeguards On Surveillance*, HUFFINGTON POST (Aug. 1, 2012), http://www.huffingtonpost.com/2012/08/01/drone-privacy-bill_n_1728109.html (summarizing two Congressional bills seeking to regulate domestic drones).

⁷⁷ *See* Erin Mershon & Kevin Robillard, *President Barack Obama To Issue Executive Order on Drone Privacy*, POLITICO (Jul. 23, 2014), available at <http://www.politico.com/story/2014/07/executive-order-drone-privacy-barack-obama-109303.html#ixzz38Nv3Qymo>.

⁷⁸ *See* *Archive of Articles About Anwar al-Aulaqi*, N.Y. TIMES, http://topics.nytimes.com/top/reference/timestopics/people/a/anwar_al_awlaki/ (last visited Mar. 20, 2014).

Anwar al-Aulaqi.⁷⁹ This Department of Justice legal memorandum revealed the constitutional permissibility for the killing of an American citizen overseas under the Fourth Amendment.⁸⁰ Since a Fourth Amendment analysis is governed by balancing the governmental interest against the level of intrusion upon the individual, the Department of Justice theorized that this particular action was reasonable.⁸¹ The Department of Justice concluded that “where high-level government officials have determined that a capture operation overseas is infeasible and that the targeted person is part of a dangerous enemy force and is engaged in activities that pose a continued and imminent threat to U.S. persons or interests. . . the use of lethal force would not violate the Fourth Amendment.”⁸² Almost six months after the Department of Justice drafted this legal memorandum, the U.S. District Court for the District of Columbia addressed a lawsuit filed by al-Aulaqi’s father against President Obama.⁸³ The elder al-Aulaqi brought constitutional claims that sought an injunction against a subsequent drone strikes upon his son and demanded that the executive branch articulate the standard for such action.⁸⁴ Despite Judge Bates’ concession that the plaintiff raised “a unique and extraordinary case,” the court deferred the substantive Fourth Amendment

⁷⁹ See *N.Y. Times Co. v. United States*, No. 13-422, slip op. at 1-2 (2d Cir. Jun. 23, 2014), available at <http://www.nytimes.com/interactive/2014/06/23/us/23awlaki-memo.html> (ordering Justice Department to release Barron memorandum).

⁸⁰ See Memorandum from David J. Barron, Acting Assistant Att’y Gen. on Applicability of Federal Criminal Laws and the Constitution to Contemplated Lethal Operations Against Shaykh Anwar al-Aulaqi, to U.S. Att’y Gen. (Jul. 16, 2010) [hereinafter *Barron Memo*], available at <http://www.nytimes.com/interactive/2014/06/23/us/23awlaki-memo.html> (outlining Obama Administration’s legal justification for extraordinary rendition). Of note, David Barron, the former Department of Justice Legal Counsel and drafter of the abovementioned memorandum, is far from a faceless government bureaucrat. See generally David J. Barron, United States Court of Appeals for the First Circuit, available at <http://www.ca1.uscourts.gov/david-j-barron>. This past May, Judge Barron was nominated and approved by the U.S. Senate for a judicial seat on the First Circuit. See Judicial Nominations, S. 3246, 160 Cong. Rec. (daily ed. May 22, 2014), available at <https://beta.congress.gov/crc/2014/05/22/CREC-2014-05-22.pdf>. The Bay State’s two senators supported Mr. Barron’s nomination to their home federal appeals court; Senator Edward Markey was adamant in his support for Mr. Barron—despite his declaration of a “need [for] a public debate on drone policy”—because he was “not responsible for administration’s drone policy or the decision to authorize an attack.” *Id.* at S3260; see Conor Friedersdorf, *7 Pages That Gave President Obama the Cover to Kill Americans*, THE ATLANTIC (Aug. 18, 2014), available at <http://www.theatlantic.com/politics/archive/2014/08/7-pages-that-gave-president-obama-permission-to-kill-americans/378651/>. In stark contrast with the Senators from Massachusetts, libertarian darling Senator Rand Paul opposed “the nomination of anyone who would argue that the president has the power to kill an American citizen not involved in combat and without a trial.” Friedersdorf, *supra* (quoting Senator Rand Paul).

⁸¹ See *Barron Memo*, *supra* note 80 at 97.

⁸² See *id.*

⁸³ See *Al-Aulaqi v. Obama*, 727 F. Supp. 2d 1 (D. D.C. 2010).

⁸⁴ See *id.* at 8.

question and held that the plaintiff's claim lacked standing.⁸⁵ While both the present and future emotional harm al-Aulaqi's father suffered was not an abstract injury in a literal sense, this court determined that the plaintiff's relationship with his son did not rise to the level of obtaining protection of "substantive rights" under the Fourth Amendment.⁸⁶ As Judge Bates confessed, "any harm caused to plaintiff as a result of the extrajudicial killing of his son would be an 'unintended side effect' of government action having other purposes."⁸⁷

In the fall of 2011, Anwar al-Aulaqi was killed by a U.S. drone strike in Yemen.⁸⁸ In the wake of al-Aulaqi's death, his family sued then CIA Director Leon Panetta for illegally seizing al-Aulaqi under the Fourth Amendment.⁸⁹ However, Judge Collyer granted the government's motion to dismiss.⁹⁰ Judge Collyer rejected the notion that a drone could "seize" a person since "they are designed to kill, not capture."⁹¹ Thus, the Court held that without a seizure under the Fourth Amendment, no constitutional claim could be made on this particular issue.⁹² In light of these recent federal cases, the Fourth Amendment offers no refuge for American citizens' claims against unreasonable "seizures" in the form of counter-terrorism drone strikes.⁹³

D. State Regulation of Domestic UAVs

The federal government has yet to enact substantive privacy protections from domestic drones, leaving several states to serve as democratic laboratories on the legal issues of law enforcement and individual privacy.⁹⁴ As of July 2014, thirteen states had enacted statutes

⁸⁵ See *id.* at 8-9.

⁸⁶ See *id.* at 35.

⁸⁷ *Id.*

⁸⁸ See *Al-Aulaqi v. Panetta*, No. 12-1192, slip op. at 1 (D. D.C. Apr. 4, 2014), available at http://www.law.yale.edu/documents/pdf/Memorandum_Op_4-4-14.pdf.

⁸⁹ See *id.*

⁹⁰ See *id.*

⁹¹ *Id.* at 24.

⁹² See *id.*

⁹³ Cf. *Al-Aulaqi*, slip op. at 1-2 (ruling for defendant on Fourth Amendment seizure issue regarding overseas drone strikes against American citizen); *Al-Aulaqi v. Obama*, 727 F. Supp. 2d 1 (D. D.C. 2010) (same).

⁹⁴ See Catherine Crump & Jay Stanley, *Why Americans Are Saying No to Domestic Drones*, SLATE (Feb. 11, 2013), http://www.slate.com/articles/technology/future_tense/2013/02/domestic_surveillance_drone_bans_are_sweeping_the_nation.html (suggesting national movement on state level against domestic drone surveillance has begun).

regulating domestic drones in the interest of individual privacy.⁹⁵ For example, each of the subsequent state laws required the police to obtain a warrant prior to the utilization of a UAV.⁹⁶ Although the states have implemented statutory warrant requirements upon domestic drones and law enforcement, the laws provide emergency exceptions such as national security crisis or where circumstances pose an imminent risk of danger to human life based upon reasonable suspicion.⁹⁷

In conjunction with the growing trend of state regulation of domestic drones, the Massachusetts legislature is considering a UAV bill.⁹⁸ Introduced by Massachusetts State Senator Robert Hedlund, “An Act to Regulate the Use of Unmanned Aerial Vehicles” would provide specific restrictions upon law enforcement’s use of domestic drones such as a probable cause warrant requirement.⁹⁹ Unlike the Massachusetts “wiretap” statute, which provides heavier judicial oversight to law enforcement’s electronic surveillance, the Massachusetts bill simply authorizes UAV surveillance with a general search warrant.¹⁰⁰ Additionally, similar to many other state laws on law enforcement and UAVs, the Massachusetts bill authorizes a warrant exception where a “threat to the life or safety of a person is imminent.”¹⁰¹ Furthermore, this proposed law bans any data collection conducted by law enforcement’s use of domestic drones.¹⁰² Finally, any local police or state police department in the Commonwealth seeking to acquire a UAV must receive authorization by the Secretary of

⁹⁵ See Allie Bohm, *Drone Legislation: What’s Being Proposed in the States?*, ACLU (Mar. 6, 2013, 3:15 PM), <https://www.aclu.org/blog/technology-and-liberty-national-security/drone-legislation-whats-being-proposed-states> (discussing state legislation on domestic drones).

⁹⁶ See *id.*

⁹⁷ See, e.g., FLA. STAT. § 934.50 (2012); IDAHO CODE ANN. § 21-213 (2012); 725 ILL. COMP. STAT. 167 (2012) (allowing UAV photography to aid in crime scene investigation); TENN. CODE ANN. § 39-13-609 (2012); VA. CODE ANN. § 755-1 (2012) (placing two-year ban on all domestic drone use in Virginia); H.B. 2710, 77th Leg. Assemb., (Or. 2013); see also TEX. GOV’T CODE ANN. § 423.4 (2012) (prohibiting all drone photography). The ACLU notes that this prohibition may raise future First Amendment issues against the law. See Bohm, *supra* note 95 (discussing state legislation on domestic drones).

⁹⁸ See Bohm, *supra* note 95 (providing comprehensive guide to state laws and bills on domestic drones).

⁹⁹ See S.1664, 188th Gen. Ct. (Mass. 2013), available at <https://malegislature.gov/Bills/188/Senate/S1664>.

¹⁰⁰ See MASS. GEN. LAWS ch. 276, § 2B (2012); see also *Commonwealth v. Guaba*, 632 N.E.2d 1217, 1222 (Mass. 1994) (providing additional limitations on police use of electronic eavesdropping in organized crime investigations); cf. MASS. GEN. LAWS ch. 272, § 99 (2012).

¹⁰¹ See S.1664; see also *supra* Part II.D (outlining emergency exception to warrant requirement).

¹⁰² See S.1664.

the Massachusetts Executive Office of Public Safety and Security.¹⁰³

IV. ANALYSIS

A. The Future of Electronic Surveillance Jurisprudence

As enhanced surveillance technology grows in scope and practice, the Supreme Court of the United States has maintained an unduly analog perspective in an increasingly digital world.¹⁰⁴ Despite recent holdings on electronic and enhanced surveillance techniques by police, the Court has failed to adequately articulate the Fourth Amendment's protection.¹⁰⁵ For example, while Justice Scalia, writing for the majority in *Jones*, determined that the police officer's installation of a Global Positioning System ("GPS") device was a "search" under the Fourth Amendment, the rationale hinges excessively upon "18th-century" notions of property law and protections from physical intrusions.¹⁰⁶ Scalia's majority opinion in *Jones* resembles the holding of *Olmstead* more than *Katz*, in that it rests upon a question of the level of physical intrusion.¹⁰⁷ Any technological intrusion by the government upon an individual's person, home, property and activities should be considered a search under the Fourth Amendment.¹⁰⁸ Because the property-interest test is based primarily on the level of physical intrusion upon the individual, it cannot adequately secure people in an electronic age.¹⁰⁹ However, some court commentators have more faith in the present Court since the Justices seemingly "prepared to apply broad

¹⁰³ See *id.*

¹⁰⁴ See *supra* note 21 (highlighting inadequacies of recent Court rulings in protecting privacy in digital age).

¹⁰⁵ See Rosen, *supra* note 24, at 968-69; cf. *Riley v. California*, 134 S.Ct. 2473 (2014) (holding warrantless search incident to arrest of cellphone unconstitutional). Unlike a cell phone search, the use of a drone is a police technology that intrudes upon privacy rather than police intruding upon an individual's own technological device. *Riley*, 134 S. Ct. at 2487-86.

¹⁰⁶ See *United States v. Jones*, 132 S. Ct. 945, 949-53 (2013). The Majority opinion reflects the Court's continued bilateral tests of analyzing the degree of physical intrusion under traditional property law, and the individual's reasonable expectation of privacy. See *id.* at 950-51. Justice Scalia does not abandon the *Katz* precedent altogether in *Jones*, but articulates the definition of a Fourth Amendment "search" with a property-interest approach. See *id.* at 950. Conversely, Professor Jeffrey Rosen concluded, "if we are to preserve in the twenty-first century the same amount of privacy that people took for granted in the eighteenth, the Court may have to act." Rosen, *supra* note 24, at 969 (undermining Justice Scalia's view that eighteenth-century property-interests approach capable of adjudicating twenty-first-century technological issues).

¹⁰⁷ See *Jones*, 132 S. Ct. at 950; see also *Olmstead v. United States*, 277 U.S. 438, 464 (1928) (focusing on physical intrusion), *overruled in part by Katz v. United States*, 389 U.S. 347 (1967).

¹⁰⁸ See Rosen, *supra* note 24, at 965.

¹⁰⁹ See *id.*

privacy principles to bring the Fourth Amendment's ban on unreasonable searches into the digital age."¹¹⁰ Other legal scholars have advocated for the abandonment of the *Katz* search test and argued that "the Court should return to natural-language definitions of 'search' and 'seizure' that can resolve both common and 'high-tech' Fourth Amendment cases."¹¹¹ Instead of departing from decades of Fourth Amendment precedent, the Court should evolve with emerging technologies and employ an exclusive privacy-based analysis consistent with *Katz*.¹¹² This privacy-based approach to Fourth Amendment cases is preferable to the property-based test that fails to supply specific "guidance on how to regulate ubiquitous surveillance that doesn't involve a physical intrusion."¹¹³ In determining whether police surveillance through enhanced technology constitutes as a search, the crux of the analysis should rest upon the reasonableness of an individual's expectation of privacy under the specific circumstances.¹¹⁴

B. Integrating UAVs into Existing Laws

Advanced technology such as domestic drones should not be indiscriminately deemed unreasonable under the Fourth Amendment and Massachusetts Constitution in all circumstances.¹¹⁵ Where police lack any reasonable investigative alternative and obtain a search warrant in compliance with a statute and approved by a judge, drones should be a lawful tool under the Fourth Amendment.¹¹⁶ Additionally, during the execution of a high-risk arrest warrant where police have a reasonable belief that the subject of the warrant or a third party on the premises may be armed and presently dangerous, aerial surveillance should be deemed reasonable to ensure officer and public safety.¹¹⁷ While both federal and Massachusetts state courts should presumptively view warrantless drone

¹¹⁰ See Liptak, *supra* note 22 (articulating some commentators' optimism of Court evolving to technological age with jurisprudence on privacy).

¹¹¹ See Harper, *supra* note 24 (urging courts to move beyond *Katz*).

¹¹² See *Katz v. United States*, 389 U.S. 347, 350 (1967) (establishing reasonable expectation of privacy approach); see also *supra* note 21 (commenting on friction between privacy and security interests raised by technological advancements).

¹¹³ See Rosen, *supra* note 24, at 969 (criticizing property law trespass-like test requiring physical intrusion).

¹¹⁴ U.S. CONST. amend. IV.

¹¹⁵ See *supra* notes 54-56 and accompanying text (discussing emergency circumstance and hot pursuit exceptions to warrantless intervention).

¹¹⁶ See S.1664, 188th Gen Ct. (Mass. 2013), available at <https://malegislature.gov/Bills/188/Senate/S1664> (Massachusetts domestic drone bill); see also LAFAVE, *supra* note 36 (discussing importance of warrants).

¹¹⁷ See *supra* Part II.D (reviewing scope of warrantless police action under state and federal law).

surveillance as unreasonable, such devices ought to be lawful during exigent circumstances.¹¹⁸ Just as the Massachusetts legislature's drone bill authorizes, courts should grant police a certain amount of latitude to operate drone technology during exigent circumstances such as hot pursuit and imminent danger to human life or public safety.¹¹⁹ Specifically, law enforcement drones should be permissible under imminent threats of terrorism or during the immediate aftermath of terrorist acts where the public remains at risk.¹²⁰ The operation of domestic drones in these exigent circumstances would not be substantially more invasive than existing practical and legal operations by law enforcement capabilities.¹²¹ For example, the Massachusetts State Police Air Wing unit maintains a handful of helicopters and the operation of drones can be practically integrated into such a division at a substantially cheaper cost to the Commonwealth.¹²² Additionally, various law enforcement bomb squad units utilized so-called unmanned ground vehicles to diffuse improvised explosive devices after the suspects' firefight with police.¹²³ These "ground drones," often equipped with cameras aid in the protection of the public and police personnel during high-risk circumstances.¹²⁴

C. Analysis of Massachusetts Drone Bill

As UAV technology increasingly enters public awareness, the Massachusetts General Court has rightfully begun to address the issue by drafting accompanying legislation.¹²⁵ The drone regulation bill, constructed in cooperation with the American Civil Liberties Union of Massachusetts, aims to protect safety, privacy and civil liberties from unregulated police drone surveillance.¹²⁶ Accordingly, the proposed bill

¹¹⁸ See cases cited *supra* Part II.D (outlining case law allowing warrantless searches in certain emergency scenarios).

¹¹⁹ See S.1664 (providing exceptions for police to execute warrantless drone searches).

¹²⁰ See *supra* note 55 (reviewing emergency exception cases involving high risk of danger).

¹²¹ Cf. Villarreal, *supra* note 7 (discussing robotics and dangerous police operations).

¹²² Cf. Graham, *supra* note 8 (discussing deployment of Air Wing Unit during searches in aftermath of 2013 Boston Marathon Bombing). The existing capabilities of the Massachusetts State Police helicopters were highlighted during the Boston Marathon bombing manhunt. See *id.* Using real-time aerial, infrared images, the police helicopter was able to aid in the capture of the suspect without further violence. See Annear, *supra* note 6.

¹²³ See Villarreal, *supra* note 7 (reporting on use of robotics in detecting suspects during manhunt following 2013 Boston Marathon Bombing).

¹²⁴ See *id.*

¹²⁵ See S.1664, 188th Gen Ct. (Mass. 2013), available at <https://malegislature.gov/Bills/188/Senate/S1664> (proposing comprehensive regulatory scheme for drone activity by law enforcement).

¹²⁶ See S.1664; see also Bohm, *supra* note 95.

sensibly prohibits any weaponization of unmanned aircraft operating in the Commonwealth's airspace and requires any UAV operation be in compliance with existing and future FAA safeguards.¹²⁷ Additionally, this proposed legislation prevents law enforcement from flying a drone unless a lawful warrant is obtained or an emergency situation exists.¹²⁸ Administratively, the Massachusetts drone bill requires approval from either a city council or the Secretary of Public Safety and outlines legislative oversight into UAV operations.¹²⁹ Finally, the drafted legislation helps limit widespread data collection and the types of technology exploited through drone operation.¹³⁰

While the proposed drone privacy bill restricts dragnet police drone surveillance broadly, it fails to effectively provide a complete statutory framework for the future integration of drones into the Commonwealth's skies.¹³¹ First, the warrant requirement is woefully insufficient in addressing drone technology as a police evidence-gathering tool.¹³² Instead of simply allowing drone surveillance in a criminal investigation through a standard search warrant process, the law should provide stronger judicial oversight similar to that of the so-called Massachusetts Wiretap Statute.¹³³ Similar to the Massachusetts Wiretap Statute, drone surveillance should be permitted only with written request from State Attorney General or a District Attorney and where "normal investigative procedures have been tried and have failed or reasonably appear unlikely to succeed if tried."¹³⁴ A Court must find sufficient facts from the warrant application that amount to probable cause.¹³⁵ Additionally, the bill should express evidentiary and discovery safeguards when UAV evidence is being offered against a criminal defendant such as the opportunity to suppress the UAV evidence if it was obtained unconstitutionally or in nonconformity to the statutory requirements.¹³⁶

Secondly, the proposed bill's emergency exception language

¹²⁷ See S.1664.

¹²⁸ See *id.*

¹²⁹ See *id.*

¹³⁰ See *id.*

¹³¹ See *id.*

¹³² Compare 1 LAFAVE, *supra* note 36 (discussing rationale of warrant requirement), with THOMPSON, *supra* note 70, at 21 ("[T]he sheer sophistication of drone technology and the sensors they can carry may remove drones from this traditional Fourth Amendment framework.").

¹³³ MASS. GEN. LAWS ch. 272, § 99 (2012) (governing "[i]nterception of wire and oral communications").

¹³⁴ See *id.*

¹³⁵ See MASS. GEN. LAWS ch. 276, § 2 (2012) (regulating search warrants in traditional criminal investigations); *supra* notes 35-40 (discussing warrants).

¹³⁶ See § 99.

should be amended to reflect a clear reasonable suspicion standard and be based on either the risk or threat of harm to an individual or the public.¹³⁷ Third, the drafted legislation only restricts law enforcement drones and fails to regulate the future operation of UAVs by commercial entities and private citizens in Massachusetts.¹³⁸ The state legislature should outright ban UAV operation by both commercial entities and private entities unless approval with temporal and functional limitations is granted by a requisite state agency.¹³⁹ Furthermore, unlawful drone operation in Massachusetts should trigger civil and potentially criminal sanctions against a rogue operator.¹⁴⁰ More severe, unlawful drone operation such as the intentional surveillance of other citizens or companies ought to trigger criminal penalties consistent with current “peeping Tom” or stalking state statutes.¹⁴¹ Finally, the proposed bill must express a more complete and clear framework for administrative state agencies to research, develop, review, and approve the operation of UAVs in the Commonwealth.¹⁴² Rather than merely allowing drone operation after approval of a local deliberative body or the Massachusetts Executive Office of Public Safety and Security, the law should require both local and state approval.¹⁴³ These improvements would allow for a more comprehensive regulation of drones in Massachusetts and competently mitigate potential privacy and civil liberty infringements.¹⁴⁴

D. Confronting UAV Evidence in Criminal Proceedings

As the emerging technology of UAVs become investigative tools, evidentiary issues arise for criminal law practitioners.¹⁴⁵ Where UAV evidence is obtained in a criminal investigation, the defendant’s exclusive remedy is a motion to suppress.¹⁴⁶ For criminal attorneys in the

¹³⁷ Cf. See S.1664, 188th Gen. Ct. (Mass. 2013), available at <https://malegislature.gov/Bills/188/Senate/S1664>.

¹³⁸ See *id.*

¹³⁹ See Villasenor, *supra* note 14, at 512 (discussing interaction between privacy logistics and fourth amendment jurisprudence).

¹⁴⁰ See *id.* at 500 (calling for reasonable monetary fine as penalty for unlawful UAV operations).

¹⁴¹ See MASS. GEN. LAWS. ch. 272, § 105 (2012) (Massachusetts “peeping tom” law); MASS. GEN. LAWS. ch. 265, § 43 (2012) (Massachusetts stalking law).

¹⁴² See S.1664.

¹⁴³ See *id.*

¹⁴⁴ See Villasenor *supra* note 14, at 473 (discussing mandate of comprehensive plans).

¹⁴⁵ See generally JOSEPH A. GRASSO & CHRISTINE MCEVOY, SUPPRESSION MATTERS UNDER MASSACHUSETTS LAW (2014).

¹⁴⁶ See ALISON BLOOMQUIST, MASSACHUSETTS SUPERIOR COURT CRIMINAL PRACTICE

Commonwealth, a prudent practitioner must cite both the U.S. Constitution and the Massachusetts Constitution's Declaration of Rights because the latter is "generally more "defendant friendly" than the U.S. Constitution."¹⁴⁷ To succeed with an argument that evidence derived from drone surveillance in a criminal investigation is inadmissible, the defendant must argue that no reasonable exigent circumstances existed at the time of the search.¹⁴⁸ Specifically, a defense attorney may counter the state's attempts of introducing drone evidence by asserting that the operation of the UAV was non-compliant with the relevant statute.¹⁴⁹ When drone surveillance becomes a criminal investigative tool, it is very likely that law enforcement will be authorized by a search or arrest warrant.¹⁵⁰ Consequently, a defendant must show that despite previous judicial approval, the warrant lacked probable cause.¹⁵¹ Conversely, if law enforcement UAV use is governed by similar procedural and statutory requirements of the Massachusetts Electronic Surveillance statute, criminal attorneys may be afforded a multitude of statutory grounds to challenge the search warrant of enhanced surveillance.¹⁵²

From the prosecution perspective, the availability of widespread UAVs in criminal investigations is far from becoming the norm in the near future.¹⁵³ There can be no reasonable argument supporting widespread drone evidence gathering in routine criminal investigations.¹⁵⁴ In sum, the use of UAVs in criminal investigations should only be utilized where law enforcement has no alternative means of gathering evidence upon an organized, criminal enterprise, and where the surveillance is reasonably likely to result in evidence of criminal activity.¹⁵⁵

V. CONCLUSION

While law enforcement drones need to be strictly restrained by

MANUAL § 7.7.1 (2014) (summarizing practical components of litigating motion to suppress in Massachusetts state courts).

¹⁴⁷ See *id.*

¹⁴⁸ See Part II.D (discussing exigent circumstances).

¹⁴⁹ See BLOOMQUIST, *supra* note 146 (outlining motions to suppress evidence).

¹⁵⁰ See Bohm, *supra* note 95 (describing multitude of state bills with warrant requirement for UAV use); see also S.1664 (calling for warrants when using drone surveillance during criminal investigations).

¹⁵¹ See BLOOMQUIST, *supra* note 146 (discussing grounds for suppression).

¹⁵² See MASS. GEN. LAWS ch. 272, § 99 (2012) (delineating grounds for suppression of evidence gathered through electronic surveillance).

¹⁵³ See Black, *supra* note 71, at 1846-47; see also Villasenor, *supra* note 14, at 457.

¹⁵⁴ See Rosen, *supra* note 24.

¹⁵⁵ See *id.*

statute, the courts, and government agencies, this emerging technology need not be universally condemned as the advent of George Orwell's dystopian world. American legislatures and courts should legally discourage all dragnet surveillance conducted with drones. If sensible legislation, along with strict judicial review, can be established, domestic drones should be integrated into American skies. The courts must evolve and confront the rapid pace of technology with more stringent approaches to protecting privacy rights. On the practical side, civil libertarians should not unconditionally reject law enforcement's operation of drones if used in the same manner as existing police technology. The arrival of domestic drones offers a new battle within the dichotomy of privacy and security interests. Just as drones may benefit domestic security interests, they burden the right of privacy. As drone and other technologies further complicate this legal clash of competing interests, it will be up to lawmakers and judges to offer reasonable and balanced solutions. While drones possess benefits to public safety, the failure to adapt our Fourth Amendment jurisprudence to the digital age will create a digital albatross upon the privacy interests of us all.¹⁵⁶

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¹⁵⁶ See Coleridge, *supra* note 1.