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“The Lady of the House” vs. a Man with a Gun: Applying *Kyllo* to Gun-Scanning Technology

Sean K. Driscoll

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Cover Page Footnote

J.D., 2013, Harvard Law School; B.A., 2004, University of Virginia; Police Officer, New York City Police Department (NYPD), 2006–2010. The author wishes to thank Emily Dempsey, Michael Klarman, and Jeannie Suk for very helpful comments on an earlier draft. The author also thanks the Catholic University Law Review for superb editing.

“THE LADY OF THE HOUSE” VS. A MAN WITH A GUN: APPLYING *KYLLO* TO GUN-SCANNING TECHNOLOGY

Sean K. Driscoll⁺

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In *Kyllo v. United States*, Justice Antonin Scalia cautioned that without proper Fourth Amendment restraints, police officers’ use of modern surveillance technology would end the privacy of the home, exposing intimate details, such as “at what hour each night the lady of the house takes her daily sauna and bath.”¹ Based on these privacy concerns, *Kyllo* held that police could not use “sense-enhancing technology” to obtain “information regarding the interior of the home that could not otherwise have been obtained without physical ‘intrusion into a constitutionally protected area,’” at least if the technology “is not in general public use.”²

⁺ J.D., 2013, Harvard Law School; B.A., 2004, University of Virginia; Police Officer, New York City Police Department (NYPD), 2006–2010. The author wishes to thank Emily Dempsey, Michael Klarman, and Jeannie Suk for very helpful comments on an earlier draft. The author also thanks the *Catholic University Law Review* for superb editing.

1. 533 U.S. 27, 38 (2001).

2. *Id.* at 34 (quoting *Silverman v. United States*, 365 U.S. 505, 512 (1961)).

Although *Kyllo* clearly applies to the home—“the very core” of the Fourth Amendment³—it remains unclear how far this rule extends. Does *Kyllo* also apply to scanning devices located on public streets? Would the Court have the same reaction if police were interested in finding not “the lady of the house” but rather persons carrying illegal guns?

The problem of illegal firearms is far more serious than Justice Scalia’s bathtub hypothetical. In 2010, 67.5% of homicides were committed using firearms in the United States.⁴ The total cost of gun violence, including medical care, policing, prisons, and social services reaches a staggering \$100 billion annually.⁵ In response, police departments nationwide have taken aggressive steps to combat illegal guns by increasing their use of stop, question, and frisk tactics. These practices have raised a new set of concerns. In 2011, the New York City Police Department (NYPD) stopped 694,660 individuals⁶—approximately 8.5% of the city’s entire 8.2 million population.⁷ Of those stopped, 86.7% were African American or Hispanic.⁸ The sheer number of stops, combined with the racial imbalance, ignited numerous protests from New York City communities and their elected officials.⁹

3. *Id.* at 31 (quoting *Silverman*, 365 U.S. at 511).

4. FED. BUREAU OF INVESTIGATION, EXPANDED HOMICIDE DATA 2 (2011), available at <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/offenses-known-to-law-enforcement/expanded/expandhomicidemain.pdf>.

5. PHILIP J. COOK & JENS LUDWIG, GUN VIOLENCE: THE REAL COSTS 11 (2000). The Police Executive Research Forum (PERF), a police research group, conducted a study of total gun violence costs across six cities in a one-week period and found the total cost to be over \$38 million. Erica Goode, *Police Chiefs Focus on Disparities in Gun Violence with an Eye Towards Solutions*, N.Y. TIMES, Apr. 28, 2012, at A10.

6. N.Y.C. POLICE DEP’T, CRIME AND ENFORCEMENT ACTIVITY IN NEW YORK CITY 15 (2012), available at http://www.nyc.gov/html/nypd/downloads/pdf/analysis_and_planning/year_end2011enforcementreport.pdf.

7. *Id.* at B-1.

8. *Id.* In the 2010 Census, 51.4% of New York City’s total population was identified as African American or Hispanic. *Id.* In addition, some Caucasian residents in gentrifying neighborhoods of the city, such as Williamsburg, have complained about excessive police stops, claiming that the practice discriminates based on class, not race. See Simone Weichselbaum, *Young White Men in Williamsburg, Brooklyn, Say They’re Targets of NYPD’s Stop & Frisk Tactics, Too*, N.Y. DAILY NEWS (Mar. 24, 2012, 10:20 PM), http://articles.nydailynews.com/2012-03-24/news/31235095_1_frisk-targets-white-guys-23rd-precinct (providing a Williamsburg resident’s belief that he was stereotyped).

9. See, e.g., John Eligon, *Taking on Police Tactic, Critics Hit Racial Divide*, N.Y. TIMES, Mar. 23, 2012, at A1, A3 (observing that the divide over the stop-and-frisk practices among legislators revolved around the varying constituents they represent); Michael M. Grynbaum, *Public Advocate to Call for Audit of Police Stop-and-Frisk Tactic*, N.Y. TIMES, May 8, 2012, at A17 (noting the backlash against the practice by NYC legislators); Glenn Blain, *State Attorney General Eric Schneiderman Is Looking into the NYPD’s Stop and Frisk Policy*, N.Y. DAILY NEWS (Apr. 11, 2012, 3:00 AM), <http://www.nydailynews.com/new-york/state-attorney-general-eric-schneiderman-nypd-stop-frisk-policy-article-1.1059520> (discussing New York’s Attorney General’s disdain for the NYPD’s stop-and-frisk practice); Michael Cummings, *In New York, Be Black (or Latino), Be Stopped, Be Frisked*, AM. CIVIL LIBERTIES UNION (May 13,

The problem that the NYPD asserts it is addressing is also startling in its magnitude and racial disparity: 489 people were murdered in New York City in 2011, 88.1% of whom were African American or Hispanic.¹⁰ Similarly, in 2011, 96% of the 1,821 shooting victims in New York City and 96.4% of shooting assailants were identified as African American or Hispanic.¹¹

But what if there was a better way to do stop, question, and frisk? What if the police could obtain identical benefits without exposing thousands of citizens to the fear and resentment of being frisked, while also reducing danger for officers?¹² Regardless of one's opinion of the efficacy of stop-and-frisks,¹³ police and citizens alike can agree that fewer stops would be better, provided there was an equally, if not more, effective way to remove illegal guns and reduce crime.

Cutting edge technology may provide an answer. The NYPD believes that "gun scanners" now in development are one such solution. The NYPD is currently testing prototype devices that use passive imaging technology to detect the outline of weapons underneath individuals' clothing, without revealing any anatomical details.¹⁴ These "gun scanners" could operate from up to eighty feet away, allowing officers to see from a safe distance whether a person is carrying a weapon, without the danger and inconvenience of a *Terry* stop.¹⁵

2010), <http://www.aclu.org/blog/racial-justice/new-york-be-black-or-latino-be-stopped-be-frisked> (noting the sheer number of stops).

10. N.Y.C. POLICE DEP'T, *supra* note 6, at 1. Homicide statistics include both murder and non-negligent manslaughter. *Id.*

11. *Id.* at 11.

12. The NYPD has lost 697 officers in the line of duty, more than any other police department in the country. *Law Enforcement Facts*, NAT'L LAW ENFORCEMENT OFFICERS MEMORIAL FUND, <http://www.nleomf.org/facts/enforcement> (last visited Mar. 9, 2013). The latest victim, Officer Peter Figoski, was shot in the face by a felon carrying an illegal handgun. Rocco Parascandola & Helen Kennedy, *Hero NYPD Cop Peter Figoski Shot & Killed by Robber in Cypress Hills*, N.Y. DAILY NEWS (Dec. 12, 2011, 8:18 AM), <http://www.nydailynews.com/news/crime/shot-face-robbery-cypress-hills-cops-article-1.990216>. Despite a fall in overall incidents of violent crime nationally, the number of law enforcement officers killed has risen steadily in recent years. Michael S. Schmidt & Joseph Goldstein, *Killing of Police Officers Continues Rising as Violence Falls*, N.Y. TIMES, Apr. 10, 2012, at A1.

13. See, e.g., GREG RIDGEWAY, RAND CORP., SUMMARY OF THE RAND REPORT ON NYPD'S STOP, QUESTION, AND FRISK 4 (2009), available at http://www.rand.org/content/dam/rand/pubs/testimonies/2009/RAND_CT329.pdf (concluding that racial bias was not a significant factor in the NYPD's overall stop, question, and frisk practices); Conference Paper, John Lamberth, *The Effectiveness of Stop and Frisk in the United States 2* (Aug. 10–11, 2011), http://www.jjay.cuny.edu/US_Lamberth_The_Effectiveness_of_Stop_and_Frisk_in_the_United_StatesFinal.pdf (finding no crime-reduction benefit to stop, question, and frisk practices).

14. Al Baker, *Police Working on Technology to Detect Concealed Guns*, N.Y. TIMES BLOG (Jan 17, 2012, 4:39 PM), <http://cityroom.blogs.nytimes.com/2012/01/17/police-working-on-technology-to-detect-concealed-guns> (describing the tool as a type of "reverse infrared mapping tool . . . [that] pinpoint[s] where [radiation] is blocked").

15. *Id.*

This technology, however, raises a new set of troubling questions. Are gun scanners a panacea for law enforcement to address illegal gun violence while reducing resentment over stop, question, and frisk practices? Or do gun scanners foreshadow an “Orwellian world,”¹⁶ where each technological advance is another step backward for privacy rights?

Commentators have previously addressed these questions in a theoretical context, when gun scanners were mere possibilities.¹⁷ However, now that the NYPD is actively testing prototypes, this Article re-evaluates the constitutionality of gun scanners. This Article approaches the issue in light of the Supreme Court’s *Kyllo* jurisprudence on technology and the Fourth Amendment and the Court’s recent decision in *United States v. Jones*.¹⁸ Additionally, this Article compares gun scanners to portable radiation detectors—already in widespread use by police departments—to highlight shortcomings in the Court’s rule in *Kyllo* and to advocate for a new doctrine.

Part I of this Article discusses how gun scanners and radiation detectors function and what information police are able to see when using these devices. Part II examines relevant Supreme Court precedent, including decisions pertaining to the use of technology by the police and the permissibility of suspicionless checkpoint searches. Part III applies the current doctrine to gun scanners to determine whether they might be constitutionally permissible in various situations. Finally, Part IV compares the legality of gun scanners to radiation detectors—showing some uncomfortable contradictions—and highlighting the need for a new, coherent rule that can adapt sensibly to ever-advancing law enforcement technology.

I. THE TECHNOLOGY

Law enforcement agencies have always searched for a technological edge in combating crime and improving officer safety. From fingerprints to DNA testing to bullet-resistant vests, police departments’ demands for safety and investigative tools drive innovation in the field. New technology, however, often generates new constitutional questions.¹⁹

16. *United States v. Jacobsen*, 466 U.S. 109, 138 (1984) (Brennan, J., dissenting).

17. See Jon S. Vernick et al., *Technologies to Detect Concealed Weapons: Fourth Amendment Limits on a New Public Health and Law Enforcement Tool*, 31 J.L. MED. & ETHICS 567, 571 (2003) (providing a theoretical overview of gun scanners from a time when no devices were in production and offering a public health perspective on the costs of gun violence).

18. *United States v. Jones*, 132 S. Ct. 945, 949 (2012) (holding that the attachment of GPS tracking devices to a suspect’s vehicle without a validly executed warrant is an unconstitutional search).

19. See, e.g., *Schmerber v. California*, 384 U.S. 757, 772 (1966) (holding that taking a blood sample from a defendant arrested for drunk driving is constitutional); see also George M. Dery, *Lying Eyes: Constitutional Implications of New Thermal Imaging Lie Detection Technology*, 31 AM. J. CRIM. L. 217, 242–43 (2004) (discussing the Fourth Amendment issues regarding thermal eye imaging).

A. Gun Scanners

On January 17, 2012, NYPD Police Commissioner Raymond Kelly announced that the NYPD was developing gun-scanning technology in conjunction with the U.S. Department of Defense.²⁰ The NYPD gun scanners, developed in partnership with the Pentagon's Combating Terrorism Technical Support Office (CTTSO),²¹ use "Terahertz Imaging Detection" to screen for weapons.²² The prototype scanner employs passive imaging technology to allow officers to see the outline of weapons concealed underneath a person's clothing, without revealing other anatomical details.²³

Specifically, all persons and objects emit electromagnetic radiation (similar to thermal radiation) in the terahertz range.²⁴ These emissions are particularly useful for security purposes because the rays pass through clothing but not through metal.²⁵ The gun scanners detect differences in terahertz radiation emissions, producing an image that shows the outline of any concealed weapons on a suspect's body.²⁶ This imaging is accomplished passively,

20. Baker, *supra* note 14.

21. Carmen Cox, *NYPD and Defense Department Testing Gun Scan Technology*, ABC NEWS RADIO (Jan. 17, 2012), <http://abcnewsradioonline.com/national-news/nypd-and-defense-department-testing-gun-scan-technology.html>. The CTTSO partners with companies to develop technology for military and law enforcement use. *About the CTTSO*, COMBATING TERRORISM TECHNICAL SUPPORT OFFICE, <http://www.cttso.gov/about.html> (last visited Mar. 10, 2013).

22. *NYPD, Feds Testing Gun-Scanning Technology but Civil Liberties Groups up in Arms*, CBS N.Y. (Jan. 17, 2012 11:59 PM), <http://newyork.cbslocal.com/2012/01/17/nypd-testing-gun-scanning-technology> [hereinafter *Civil Liberties Groups up in Arms*] (noting that the device can measure a body's energy up to sixteen feet away).

23. Baker, *supra* note 14. For a sample image from one of the NYPD's prototype gun scanners, see *NYPD Tests Technology to Detect Concealed Firearms at a Distance*, NBC N.Y. (Jan. 18, 2012, 6:49 AM), <http://www.nbcnewyork.com/news/local/NYPD-Gun-Scanning-Technology-Gun-Detectors-Police-137507933.html> [hereinafter *NYPD Tests Technology*].

24. *ThruVision TS4 Overview*, DIGITAL BARRIERS, <http://www.digitalbarriers.com/thruvision-ts4/> (last visited Mar. 10, 2013) [hereinafter *TS4 Overview*].

25. See *Detect Terrorist-Related Contraband with Terahertz Technology*, ARGONNE NAT'L LAB. (Sept. 2004), http://web.anl.gov/techtransfer/pdf/Profile_Terahertz_facility.pdf (noting that terahertz technology can "easily penetrate cloth and plastic to detect and image contraband materials"); see also *New T-ray Source Could Improve Airport Security, Cancer Detection*, SCIENCE DAILY (Nov. 26, 2007), <http://www.sciencedaily.com/releases/2007/11/071126121732.htm> (describing terahertz radiation as promising for security because it does not penetrate metals); *Terahertz Waves Penetrate the World of Imaging*, OPTICS.ORG (Sept. 24, 2002), <http://optics.org/article/9937> (noting that terahertz technology is one of the hottest topics in photonics because of its unique properties).

26. Joe Kemp, *NYPD Looks to Scan People on the Street for Guns, Police Commissioner Raymond Kelly Says*, N.Y. DAILY NEWS (Jan. 17, 2012, 11:07 AM), http://articles.nydailynews.com/2012-01-17/news/30637353_1_nypd-guns-police-commissioner-raymond-kelly. Lawrence Livermore National Laboratories is already using the unique terahertz radiation frequency emitted by the molecules in explosive materials to design bomb-detection equipment for the military. *Terahertz Spectroscopic Imaging for Standoff Detection of High Explosives*, LAWRENCE LIVERMORE NAT'L LABORATORY (Apr. 1, 2008), https://www-eng.llnl.gov/meas_tech/meas_tech_explosives.html. In the future, terahertz scanning might be

without subjecting individuals to additional radiation, unlike the airport security scanning machines operated by the Transportation Security Administration (TSA).²⁷

The NYPD is currently testing prototype gun scanners²⁸ at its firearms and tactics training facility.²⁹ Presently, the devices are only effective from three to four meters away, but the NYPD expects future versions to function at a distance of twenty-five meters, allowing them to be mounted on NYPD patrol vehicles.³⁰ Additionally, the devices are bulky (about the size of a desktop computer) with a separate monitor for viewing images; the NYPD anticipates that future models will be reduced in size.³¹

While stressing the need to reduce the presence of illegal guns, Commissioner Kelly has stated unequivocally that officers would only use gun scanners in “reasonably suspicious circumstances” and not for blanket public scans.³² Civil liberties advocates have had mixed reactions to the NYPD’s announcement, stressing the benefits of reduced police stops while also worrying about privacy loss.³³ Donna Lieberman, Executive Director the New York Civil Liberties Union, stated:

able to identify the specific molecular signature of materials in firearms, without the need to contrast it with the natural terahertz radiation emanating from human bodies. *Id.*

27. *AIT: How It Works*, TRANSP. SEC. ADMIN., <http://www.tsa.gov/ait-how-it-works> (last visited Mar. 10, 2013). The TSA employs two types of imaging technologies: millimeter wave detection and backscatter x-ray. *Id.* Unlike passive terahertz imaging, both devices expose passengers to low levels (considered harmless) of electromagnetic radiation or x-rays. *Id.* Additionally, the TSA scanning devices reveal anatomical details of passengers. *Id.* When initially implemented, these machines were the subject of considerable public disapproval and fear. See, e.g., Deborah Kotz, *Radiation Experts Concerned with TSA Airport Security Scanners*, U.S. NEWS & WORLD REP. (Nov. 18, 2010), <http://health.usnews.com/health-news/family-health/cancer/articles/2010/11/18/radiation-experts-concerned-with-tsa-airport-security-scanners> (expressing privacy and radiation exposure concerns).

28. The NYPD did not announce which company was designing its gun scanners; however, ThruVision, a British company, has already deployed stationary terahertz imaging devices in the United Kingdom and Dubai. *Camera ‘Looks’ Through Clothing*, BBC NEWS (Mar. 10, 2008), <http://news.bbc.co.uk/2/hi/technology/7287135.stm>. ThruVision claims that its passive terahertz devices can detect weapons from up to ten meters away. *TS4 Overview*, *supra* note 24.

29. Keith Wagstaff, *Police Developing Tech to Virtually Frisk People from 82 Feet Away*, TIME (Jan. 20, 2012), <http://techland.time.com/2012/01/20/police-developing-tech-to-virtually-frisk-people-from-82-feet-away>.

30. Jamie Schram, *NYPD Developing New Device to Detect Guns Carried by Criminals*, N.Y. POST (Jan. 17, 2012, 12:33 PM), http://www.nypost.com/p/news/local/nypd_developing_new_device_to_detect_HpGz6WUXC9Ji7qaifcCxxkN (stating that, although the devices currently only work at short distances, the NYPD hopes that they will eventually operate at much greater distances).

31. Jamie Schram & Bill Sanderson, *NYPD New ‘Wave’ of Friskless Search*, N.Y. POST (Jan. 18, 2012, 2:35 AM), http://www.nypost.com/p/news/local/nypd_new_wave_of_friskless_search_6w45z56yELmCxNWZlncjtN.

32. *Civil Liberties Groups up in Arms*, *supra* note 22.

33. Wagstaff, *supra* note 29 (discussing the costs and benefits of gun-scanning technology).

We find this proposal both intriguing and worrisome. On the one hand, if technology like this worked as it was billed, New York City should see its stop-and-frisk rate drop by a half-million people a year. On the other hand, the ability to walk down the street free from a virtual police pat-down is a matter of privacy.³⁴

However, because the technology is still being tested, it is too early to assume that police officers' use of the technology will infringe on individuals' privacy rights.³⁵

B. Radiation Detectors

In the aftermath of the September 11, 2001 terrorist attacks, one of the most persistent fears has been the threat of nuclear terrorism using either an improvised nuclear device (IND) or a radiological dispersal device ("RDD" or "dirty bomb").³⁶ Given the devastating potential from nuclear attacks, law enforcement agencies have developed counter-measures to detect radioactive materials.³⁷

Unsurprisingly, New York City has been at the forefront of deploying technology to detect nuclear devices, due in large part to funding from the Department of Homeland Security's (DHS) Securing the Cities initiative (STC).³⁸ Although some of this technology is stationed at fixed points for special events, such as the U.S. Open tennis tournament or New Year's Eve in

34. *Id.*

35. *Id.*

36. Planning Guidance for Protection and Recovery Following Radiological Dispersal Device and Improvised Nuclear Device Incidents, 73 Fed. Reg. 45,029, 45,029-48 (Aug. 1, 2008). The Department of Homeland Security (DHS) defines an IND as: "[A]n illicit nuclear weapon bought, stolen, or otherwise originating from a nuclear State, or a weapon fabricated by a terrorist group from illegally obtained fissile nuclear weapons material that produces a nuclear explosion." *Id.* at 45,031. RDDs include any "device that causes the purposeful dissemination of radioactive material, across an area with the intent to cause harm, without a nuclear detonation occurring." *Id.* at 45,048.

37. See *Status Report on Federal and Local Efforts to Secure Radiological Sources: Field Hearing Before the Subcomm. on Emerging Threats, Cybersecurity, and Science and Technology of the H. Comm. on Homeland Sec.*, 111th Cong. 25-27 (2009) (statement of Capt. Michael Riggio, NYPD Counterterrorism Division); see also *Counterterrorism Units*, N.Y.C. POLICE DEP'T, http://www.nyc.gov/html/nypd/html/administration/counterterrorism_units.shtml (last visited Mar. 10, 2013).

38. *DHS Supports Exercise of Securing the Cities Program Designed to Detect Radiological and Nuclear Threats*, DEP'T OF HOMELAND SEC. (Apr. 5, 2011), <http://blog.dhs.gov/2011/04/dhs-supports-exercise-of-securing.html> (stating that DHS has purchased over 5,800 pieces of radiation-detection equipment for the NYPD and neighboring law enforcement agencies in the New York City metropolitan area). STC also involves large-scale inter-agency drills to simulate detection and interdiction of radiological or nuclear devices in New York City. *Id.* The funding provided by DHS is substantial, topping \$151 million in 2012. Joseph Straw, *New York City Counterterror Grants Hold Steady for Third Year Despite Smaller Pot: Officials*, N.Y. DAILY NEWS (Feb. 17, 2012), <http://www.nydailynews.com/new-york/new-york-city-counterterror-grants-hold-steady-year-smaller-pot-officials-article-1.1024391>.

Times Square,³⁹ the NYPD has thousands of small, portable radiation detectors deployed with officers across New York City every day. According to one NYPD commander, these “smart phone-size radiation detectors” are “the new normal” for addressing the threat of nuclear terrorism.⁴⁰

Currently, over 2,000 such “Personal Radiation Detectors” (PRDs)⁴¹ are deployed by the NYPD.⁴² The units resemble a beeper and are small enough to attach to a police officer’s belt.⁴³ PRDs function by detecting gamma radiation—electromagnetic energy that radioactive substances emit constantly.⁴⁴ If a PRD detects gamma radiation, it vibrates and emits an audible alarm to alert the officer.⁴⁵ The device also has a digital readout to indicate the strength of the gamma radiation source.⁴⁶ Currently, the device only alerts the officer carrying it, but, in the near future, the NYPD will be able to use wireless transmission devices to send all PRD alarms to a central command facility.⁴⁷

39. See Sean Gardiner, *NYPD Prepares Security Dragnet*, WALL ST. J., Sept. 8, 2011, at A20 (noting heavy security at the U.S. Tennis Tournament in Flushing, Queens); see also *NYPD to Ring in 2012 with Tight Security at Times Square*, USA TODAY (Dec. 30, 2011), <http://www.usatoday.com/news/nation/story/2011-12-30/new-years-eve-times-square/52289042/1> (describing police protection of Times Square on New Year’s Eve).

40. *NYC Subway’s Anti-Terror Steps the New Normal*, CBS NEWS (July 18, 2011), http://www.cbsnews.com/2100-201_162-20080279.html (quoting Inspector Scott Shanley of the NYPD’s Counterterrorism Division).

41. Thermo Fisher Scientific manufactures the device used by the NYPD, called the “RadEye PRD Personal Radiation Detector.” For pictures and technical specifications of the product, see *RadEye PRD*, THERMO SCIENTIFIC, http://www.thermoscientific.com/ecommerce/servlet/productsdetail_11152_L10982_81904_12811385_-1 (last visited Mar. 10, 2013). According to the New York State Office of General Services, the NYPD pays \$2,171.98 for each RadEye PRD device. *Procurement: Thermo Fisher*, N.Y. ST. OFF. OF GEN. SERVICES, http://www.ogs.ny.gov/purchase/spg/pdfdocs/3823219745PL_Thermo.pdf (last updated Mar. 2012).

42. Jonathan Allen, *New York Police Launch System to Detect and Track Radiation*, REUTERS (Aug. 3, 2011, 12:40 PM), <http://www.reuters.com/article/2011/08/03/us-newyork-radiation-idUSTRE7720D220110803>.

43. *Id.*

44. *RadEye Selection Guide: Handheld Detection for Any Scenario*, THERMO SCIENTIFIC (Aug. 2012), <http://static.thermoscientific.com/images/D16620~.pdf> [hereinafter *RadEye Selection Guide*]; *Gamma Rays*, U.S. ENVTL. PROT. AGENCY (Jan. 10, 2012), <http://epa.gov/rpdweb00/understand/gamma.html>. Gamma rays are energy created by the decay of the nuclei of radioactive atoms. *Id.*

45. See *RadEye PRD*, *supra* note 41 (describing the device in detail).

46. *Id.*; *RadEye Selection Guide*, *supra* note 44 (stating that the PRD can measure gamma radiation in a variety of units, including rem per hour, sieverts per hour, Roentgens per hour, and counts per second (CPS)).

47. CBS News Online, *Fighting Terrorism in New York City*, YOUTUBE (Sept. 25, 2011), http://www.youtube.com/watch?v=Nf_PzCfpPug (giving viewers an inside look into the NYPD); Tom Hays, *NYPD Pioneers New Dirty Bomb Detection System*, NBC N.Y. (July 29, 2011), <http://www.nbcnewyork.com/news/local/NYPD-Security-Counterterror-Radiation-Dirty-Bomb-126388863.html>.

Although the PRDs are accurate in detecting gamma radiation, the device cannot discern specific materials.⁴⁸ This is problematic because some common materials, like granite, emit harmless but still detectable levels of radiation.⁴⁹ Even if the PRDs correctly identify a source of radiation coming from a person, some materials that contain potentially dangerous radioactive materials also have legitimate civilian uses, such as Troxler gauges for measuring soil density.⁵⁰ The most problematic false alarms, however, come from individuals who have undergone certain medical diagnostic tests or cancer treatments that use radioactive materials.⁵¹ Because some law enforcement agencies have had embarrassing mishaps in dealing with these patients,⁵² the NYPD has alerted its personnel to the potential for false alarms from “medicinal sources.”⁵³ Nevertheless, patients who are stopped must still explain the reason for the radiation, potentially requiring them to reveal very personal medical information to the police.⁵⁴

II. THE LAW

The critical Fourth Amendment questions for analyzing the permissibility of gun scanners are whether they constitute a “search,” and if so, whether a

48. *Detecting Radiation*, U.S. NUCLEAR REGULATORY COMM’N, <http://www.nrc.gov/about-nrc/radiation/health-effects/detection-radiation.html> (last visited Mar. 10, 2013) (noting that the devices cannot determine the precise radioactive element detected).

49. *See Granite Countertops and Radiation*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/radiation/tenorm/granite-countertops.html> (last updated Aug. 30, 2012) (describing radioactivity in granite). Additionally, smoke detectors contain minute amounts of Americium-241, another radioactive material. *See Americium*, U.S. ENVTL. PROT. AGENCY (last updated Aug. 24, 2012), <http://www.epa.gov/radiation/radionuclides/ameridium.html>.

50. *See Model 3440 Surface Moisture-Density Gauge*, TROXLER ELEC. LABS., <http://www.troxlerlabs.com/products/3440.php> (last visited Mar. 10, 2013) (delineating uses for a Troxler gauge).

51. *See, e.g., Radiation Therapy for Cancer*, NAT’L CANCER INST., <http://www.cancer.gov/cancertopics/factsheet/Therapy/radiation> (last visited Mar. 10, 2013) (stating that radiation therapy can help kill cancer cells by damaging their DNA); *What Is Nuclear Medicine?*, STANFORD UNIV. SCH. OF MED., http://nuclearmedicine.stanford.edu/patient_care (last visited Mar. 10, 2013) (describing some medical treatments that involve the use of radioactive materials).

52. *See Kalyan Kumar Gangopadhyay et al., Triggering Radiation Alarms After Radioiodine Treatment*, 333 BRITISH MED. J. 293, 293–94 (2006), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1526947> (recounting the story of a forty-six-year-old man who set off radiation detectors at Orlando Airport and was subsequently strip-searched by the TSA because of a radioiodine diagnostic test he had undergone six weeks earlier).

53. Bob Hennelly, *How NY Officials Prepare for Threat of a Dirty Bomb*, WNYC (Apr. 16, 2010), <http://www.wnyc.org/articles/wnyc-news/2010/apr/16/how-ny-officials-prepare-for-threat-of-a-dirty-bomb> (describing situations in which medicinal sources have lead to a “false hit”).

54. *See Keeping “Hot” Patients Cool During Holiday Travel*, CARDINALHEALTH (November 2009), <http://nps.cardinal.com/nps/thelink/issues/11192009.asp> (recounting examples of medical patients stopped by security personnel because of their radiation levels).

warrantless search is “unreasonable” under the Constitution.⁵⁵ Although the Court’s Fourth Amendment jurisprudence has wavered in its insistence for police to obtain search warrants,⁵⁶ some areas in the law of searches are well defined.

A. Arrests & Terry Stops

Arrests and *Terry* stops are the most basic forms of police conduct during which a warrantless search may be deemed constitutional. Generally, as long as the arrest or stop is valid, a warrantless search for weapons will be permissible.⁵⁷ During an arrest, if the police have probable cause that an individual has committed an offense, a “subsequent search . . . having been made incident to that lawful arrest [is] likewise valid.”⁵⁸ Under the search “incident to a lawful arrest” exception,⁵⁹ the police may frisk and search an individual for weapons, go through his or her pockets and belongings,⁶⁰ and even take the clothes on the individual’s back as evidence of a crime without any particularized suspicion or warrant.⁶¹ In sum, the constitutionality of the search hinges entirely on the validity of the arrest.⁶²

With regard to *Terry* stops, the allowable police intrusion is more circumscribed than during an arrest, authorizing only a “carefully limited search of the outer clothing . . . in an attempt to discover weapons which might be used to assault [the police officer].”⁶³ This brief stop requires only that the

55. U.S. CONST. amend. IV (“The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”); *see also* *Kyllo v. United States*, 533 U.S. 27, 31 (2001) (describing the typical Fourth Amendment analysis).

56. *Compare* *United States v. Watson*, 423 U.S. 411, 418, 423 (1976) (holding warrantless arrests permissible, provided the police had probable cause), *with* *Chimel v. California*, 395 U.S. 752, 763–64 (1969) (requiring a warrant for a search of defendant’s home incident to arrest, despite the existence of evidence amounting to probable cause). Justice Byron White, author of the majority opinion in *Watson*, consistently opposed expanding the warrant requirement and, not surprisingly, he dissented in *Chimel*. *Chimel*, 395 U.S. at 780 (White, J., dissenting).

57. *See infra* notes 58–66 and accompanying text.

58. *Draper v. United States*, 358 U.S. 307, 314 (1959).

59. *United States v. Robinson*, 414 U.S. 218, 224 (1973) (“It is well settled that a search incident to a lawful arrest is a traditional exception to the warrant requirement of the Fourth Amendment.”).

60. *See, e.g., Illinois v. Lafayette*, 462 U.S. 640, 641–42, 648 (1983) (upholding a search in which an arrested person was ordered to empty his pockets).

61. *See, e.g., United States v. Edwards*, 415 U.S. 800, 802 (1974) (upholding the admissibility of clothing taken as evidence).

62. *Robinson*, 414 U.S. at 235 (reasoning that a lawful arrest, by itself, authorizes a search). There may, however, be some limits to highly intrusive searches, such as strip searches, in the case of a non-indictable arrest. *See Florence v. Bd. of Chosen Freeholders*, 132 S. Ct. 1510, 1522–23 (2012) (requiring reasonable suspicion for strip searches in non-indictable arrests).

63. *Terry v. Ohio*, 392 U.S. 1, 30 (1968) (permitting police officers to stop and temporarily detain individuals based on reasonable suspicion of criminality and subsequently frisk those

officer “observe[] unusual conduct which leads him to reasonably conclude in light of his experience that criminal activity is afoot.”⁶⁴ Similar to arrests, the constitutionality of any frisk, and the admissibility of any evidence it produces, hinges on the validity of the *Terry* stop itself.⁶⁵ As long as the stop is valid, the police may frisk for weapons, but may not conduct a full search.⁶⁶

B. Police Investigations

The threshold, and usually dispositive, question for any warrantless information gathering by the police is whether it constitutes a “search” under the Fourth Amendment.⁶⁷ If the police investigation amounts to a “search,” then it is “presumptively unreasonable,”⁶⁸ unless an “‘exceptional situation’ . . . justif[ies] creating a new exception to the warrant requirement.”⁶⁹ Some “exceptions” to the warrant requirement do exist, for example, the existence of exigent circumstances⁷⁰ or for information freely given to third parties.⁷¹ However, in the case of *visual* observations of defendants by the police without a warrant, the Court typically decides cases not on whether an “exception” applies, but on whether the activity even constitutes a “search.”⁷²

In *Kyllo*, the Court redefined what constitutes a “search” in the context of technologically enhanced police observations: “We think that obtaining by

individuals for weapons to protect the officers’ safety). However, *Terry* did not authorize “general exploratory search[es]” during such stops. *Id.*

64. *Id.*

65. *Compare* *Hayes v. Florida*, 470 U.S. 811, 814 (1985) (excluding evidence because the police lacked reasonable suspicion to detain the defendant), *with* *Adams v. Williams*, 407 U.S. 143, 146 (1972) (finding the officer’s fear for his safety justified and admitting evidence seized during a *Terry* stop).

66. *Terry*, 392 U.S. at 30–31 (upholding properly performed frisks as constitutional under the Fourth Amendment).

67. *See* *Kyllo v. United States*, 533 U.S. 27, 31 (2001) (calling the “antecedent” question of the Fourth Amendment whether or not a search occurred).

68. *Payton v. New York*, 445 U.S. 573, 586 (1980).

69. *Mincey v. Arizona*, 437 U.S. 385, 391 (1978) (quoting *Vale v. Louisiana*, 399 U.S. 30, 34 (1970)).

70. *See* *Payton*, 445 U.S. at 583 (describing emergency and dangerous situations as “exigent circumstances”).

71. *Smith v. Maryland*, 442 U.S. 735, 742 (1979) (holding that the police may, without a warrant, obtain records of telephone numbers dialed because the individuals knew that they were relaying this information to the telephone company, a third party).

72. *Compare* *California v. Ciraolo*, 476 U.S. 207, 213 (1986) (finding that a police helicopter flying in a public airway that discovers marijuana in defendant’s backyard does not constitute a “search”), *with* *United States v. Knotts*, 460 U.S. 276, 281, 284–85 (1983) (finding that the warrantless monitoring of an individual’s movements by a beeper was not a “search” because a person does not have a reasonable expectation of privacy in his or her movements on public thoroughfares), *and* *Katz v. United States*, 389 U.S. 347, 353 (1967) (holding that the government listening to a defendant’s phone conversation inside a telephone booth was a “search” because it violated his legitimate expectation of privacy).

sense-enhancing technology any information regarding the interior of the home that could not otherwise have been obtained without physical ‘intrusion into a constitutionally protected area,’ constitutes a search—at least where (as here) the technology in question is not in general public use.”⁷³ Justice Scalia, writing for the majority, concluded that police surveillance using such enhanced imaging technology is a search and is “presumptively unreasonable without a warrant.”⁷⁴ Applying this rule to a thermal scan of the outside of a marijuana grower’s home, the Court found that the police’s actions violated the Fourth Amendment.⁷⁵

It remains unclear whether the *Kyllo* rule is limited to the home or whether it applies in all “core” Fourth Amendment areas, including searches of one’s person. No Supreme Court cases since *Kyllo* have reached this question. Although *Kyllo* focuses on the special constitutional protections owed to the home,⁷⁶ three considerations make it likely that *Kyllo*’s rule is also good law for searches of a person.⁷⁷ First, in previous cases, the Court has stated that “the security of one’s privacy against arbitrary intrusion by the police” is, like one’s home, “at the core of the Fourth Amendment.”⁷⁸ Second, the majority’s rationale in *Kyllo* relies heavily on the text of the Fourth Amendment and its original meaning with regard to its intended degree of privacy protection.⁷⁹ Like one’s home, security of one’s “person” is explicitly protected by the text of the Fourth Amendment.⁸⁰ Third, even the *Kyllo* dissent, although disagreeing with the majority’s conclusion, believed that it would be foolish to limit *Kyllo*’s rule to the home.⁸¹

The determination of whether a “search” occurred in *Kyllo* is simply a technology-specific application of the Court’s general Fourth Amendment search test from *Katz v. United States*: did the person “exhibit[] an actual

73. *United States v. Kyllo*, 533 U.S. 27, 34 (2001) (quoting *Silverman v. United States*, 365 U.S. 505, 512 (1961)).

74. *Id.* at 40.

75. *Id.* at 40–41. The police’s thermal scan revealed only relative differences in hot and cold areas of the house and could not create images of people inside of the home. *Id.* at 41, 49 (Stevens, J., dissenting). A reproduction of the image of the defendant’s home is included in the Appendix of the decision. *Id.* at 52; see also *FLIR T-Series Infrared Cameras*, FLIR, <http://www.flir.com/thermography/americas/us/products/tseries/gallery> (select second photo from the right) (last visited Mar. 10, 2013) (providing a sample thermal image from the company that manufactured the camera used in *Kyllo*).

76. *Kyllo*, 533 U.S. at 40 (“We have said that the Fourth Amendment draws ‘a firm line at the entrance to the house.’” (quoting *Payton v. New York*, 445 U.S. 573, 590 (1980))).

77. See *infra* text accompanying notes 78–81.

78. *Schmerber v. California*, 384 U.S. 757, 767 (1966) (quoting *Wolf v. Colorado*, 338 U.S. 25, 27 (1949)), *overruled in part by* *Mapp v. Ohio*, 367 U.S. 643 (1961).

79. *Kyllo*, 533 U.S. at 34.

80. U.S. CONST. amend. IV.

81. *Kyllo*, 533 U.S. at 48–49 (Stevens, J., dissenting) (“Clearly, a rule that is designed to protect individuals from the overly intrusive use of sense-enhancing equipment should not be limited to the home.”).

(subjective) expectation of privacy,” and was that expectation “one that society is prepared to recognize as ‘reasonable?’”⁸² Although the majority in *Kyllo* cites, but does not explicitly apply, the *Katz* test,⁸³ the dissent concludes that even if police use of the thermal-imaging scanner constituted a search, society does not recognize an interest in protecting the privacy of heat emitting from one’s home.⁸⁴ Therefore, *Kyllo* is also important for what it reveals about the Justices’ attitudes concerning the workability of the *Katz* test.⁸⁵ Notably, in 2012, a majority of the Court joined Justice Scalia in *United States v. Jones*, a case that explicitly disclaimed reliance on *Katz* in ruling that police installation of GPS tracker devices without a properly executed warrant violated the Fourth Amendment.⁸⁶

The application of the *Katz* analysis to Fourth Amendment cases is controversial,⁸⁷ even among the Justices. The dissenters in *Kyllo* raised several objections to the majority’s rule and proposed a holding that would only restrict “sense-enhancing technology” if “it provides its user with the functional equivalent of actual presence in the area being searched.”⁸⁸ As long

82. *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring). In *Katz*, the FBI recorded the defendant’s conversations about illegal gambling in a public phone booth, which the prosecutors introduced as evidence at trial. *Id.* at 348. On appeal, the Court reframed its Fourth Amendment analysis, deciding the case not on the question of whether a phone booth was a “constitutionally protected area,” but on whether a person had a “reasonable” expectation of privacy in a closed phone booth. *Id.* at 350, 352. This flexible test, as articulated in Justice John Marshall Harlan’s concurrence, is the cornerstone of the Court’s modern Fourth Amendment search and seizure jurisprudence. See David A. Skalansky, *Back to the Future: Kyllo, Katz, and Common Law*, 72 MISS. L.J. 143, 157 (2002) (discussing the “lasting effects” of Justice Harlan’s concurrence on the law of search and seizure).

83. *Kyllo*, 533 U.S. at 34.

84. *Id.* at 43–44 (Stevens, J., dissenting) (arguing that a subjective expectation of privacy in heat emanating from one’s home is “implausible” and “unreasonable”).

85. See Richard H. Seamon, *Kyllo v. United States and the Partial Ascendance of Justice Scalia’s Fourth Amendment*, 79 WASH. U. L.Q. 1013, 1015 (2001) (arguing that “*Kyllo* shows that a majority of the Court shares Justice Scalia’s doubt about the usefulness of the *Katz* test”).

86. *United States v. Jones*, 132 S. Ct. 945, 950 (2012) (“[The defendant’s] Fourth Amendment rights do not rise or fall with the *Katz* formulation.”). However, *Jones* did not claim to overrule *Katz*; rather, the majority relied on the theory that attaching the GPS device constituted a trespass and, because the government was also looking for information, was therefore a search. *Id.* at 951, 954 (noting that future cases may have to “resort” to the *Katz* analysis).

87. See Orin S. Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 807 (2004) (“The *Katz* ‘reasonable expectation of privacy’ test has proven more a revolution on paper than in practice.”); Skalansky, *supra* note 82, at 161 (noting that Justice Scalia, among others, has “soured” on the *Katz* doctrine, in part, because of the abundance of “contradictions and indeterminacy” in modern Fourth Amendment jurisprudence).

88. *Kyllo*, 533 U.S. at 47 (Stevens, J., dissenting). Given the composition of the majority in *Kyllo* and subsequent changes in the Court’s membership, the dissenters’ rationale may prevail in any future case challenging gun scanners or radiation detectors. *Kyllo*, 533 U.S. at 29. Justice Antonin Scalia authored the majority opinion in *Kyllo*, joined by Justices David Souter, Clarence

as the technology does not give the police the equivalent experience of being inside a protected space, then “public officials should not have to avert their senses or their equipment from detecting emissions in the public domain such as excessive heat, traces of smoke, suspicious odors, odorless gases, airborne particulates, or radioactive emissions.”⁸⁹ The dissenters asserted that detecting such “hazards to the community” was an “entirely reasonable public service.”⁹⁰

Furthermore, the dissent pointed out a logical flaw in the *Kyllo* majority’s rule for permissible law enforcement technology: it contradicts the Court’s decision in *United States v. Place*, which held that a narcotics dog’s sniff was not a search under the Fourth Amendment because it “discloses only the presence or absence of narcotics.”⁹¹ Under this logic, the dissent concluded, “it must follow that sense-enhancing equipment that identifies nothing but illegal activity is not a search either.”⁹² Yet, under the majority’s holding, a drug-detection machine would be unconstitutional—unless somehow in “general use”—while a drug-sniffing dog would remain permissible.⁹³ The dissent expressed concern that the breadth of the Court’s holding in *Kyllo* would bar new detection devices that are limited in the same way as dog sniffs and could otherwise be deemed constitutional.⁹⁴

Thomas, Ruth Bader Ginsberg, and Stephen Breyer. *Id.* Justice John Paul Stevens dissented, joined by Chief Justice William H. Rehnquist and Justices Sandra Day O’Connor and Anthony Kennedy. *Id.* Interestingly, the lineup in the Court’s recent decision in *Jones* defied expectations, with Justice Samuel Alito, joined by Justices Ginsberg, Breyer, and Elena Kagan, concurring in judgment and strongly endorsing the *Katz* test. *Jones*, 132 S. Ct. at 957–58 (Alito, J., concurring) (arguing that the majority’s trespass-based approach counters current Fourth Amendment jurisprudence and instead favoring an expectation of privacy approach).

89. *Kyllo*, 533 U.S. at 45 (Stevens, J., dissenting).

90. *Id.* *Kyllo* was decided on June 11, 2001, three months before the 9/11 terrorist attacks. Since then, the Court has shown considerable deference to national security considerations. *See, e.g.*, *Holder v. Humanitarian Law Project*, 130 S. Ct. 2705 (2010) (upholding statutes broadly banning “material support” of terrorism against a First Amendment challenge). It is unclear whether the Court would be as deferential in the context of the Fourth Amendment, especially for radiation-scanning devices, even in the face of national security considerations.

91. *Kyllo*, 533 U.S. at 47–48 (Stevens, J., dissenting) (quoting *United States v. Place*, 462 U.S. 696, 707 (1983)); *see also* *United States v. Jacobsen*, 466 U.S. 109, 124 (1984) (“Here, as in *Place*, the likelihood that official conduct of the kind disclosed by the record will actually compromise any legitimate interest in privacy seems much too remote to characterize the testing as a search subject to the Fourth Amendment.”). *But see infra* notes 190–92 and accompanying text (describing the Court’s recent holdings involving narcotics dog sniffs, including Justice Scalia’s majority opinion in *Florida v. Jardines*, which held that a trespass occurred when law enforcement brought a drug-sniffing dog onto the front porch of a home, which police suspected housed a marijuana-growing operation, and the unanimous decision in *Florida v. Harris*, which held that a canine sniff of a car during a traffic stop did not violate the Fourth Amendment and also provided probable cause for a subsequent search of the vehicle for narcotics).

92. *Kyllo*, 533 U.S. at 47–48 (Stevens, J., dissenting).

93. *See id.* (noting that the category of sense-enhancing technology was extremely broad).

94. *Id.* at 48 (“Nevertheless, the use of such a device would be unconstitutional under the Court’s rule, as would the use of other new devices that might detect the odor of deadly bacteria or chemicals for making a new type of high explosive, even if the devices (like the dog sniffs) are

C. Checkpoints and the “Special Needs” Doctrine

In certain limited cases, the Court has authorized temporary seizures by the police, without a requirement for a search warrant or reasonable suspicion. In 1979, the Court noted in *Brown v. Texas*, albeit in dicta, that the Fourth Amendment allows for seizures “carried out pursuant to a plan embodying explicit, neutral limitations on the conduct of individual officers.”⁹⁵ Three years before *Brown*, in *United States v. Martinez-Fuerte*, the Court upheld internal checkpoints for illegal immigrants on California and Texas highways located at least sixty miles from the Mexican border, as long as the checkpoints were “routinely conducted.”⁹⁶

Eleven years after *Brown*, the Court expansively applied the *Brown* “neutral limitations” rule to uphold police sobriety checkpoints in *Michigan Department of State Police v. Sitz*.⁹⁷ Citing the “slight” inconvenience of a police checkpoint and a checkpoint’s effectiveness at reducing the number of intoxicated drivers, the Court upheld the sobriety checkpoints against a Fourth Amendment challenge.⁹⁸ Notably, *Sitz* found that the “fear and surprise” generated by a checkpoint search was less than that of a random stop—a key factor in the Court’s determination.⁹⁹

In *City of Indianapolis v. Edmond*, however, the Court restricted the use of checkpoints, reining in the reach of *Sitz* by invoking the special needs doctrine.¹⁰⁰ Although *Sitz* cited the special needs doctrine and proceeded to ignore it, *Edmond* approvingly cited cases allowing suspicionless searches only where the government could claim “special needs, beyond the normal need for

‘so limited both in the manner in which’ they obtain information and ‘in the content of the information’ they reveal.” (quoting *Place*, 462 U.S. at 707)).

95. *Brown v. Texas*, 443 U.S. 47, 51 (1979) (citing *United States v. Martinez-Fuerte*, 428 U.S. 543, 558–62 (1976)).

96. *Martinez-Fuerte*, 428 U.S. at 566 (“[W]e hold that stops for brief questioning routinely conducted at permanent checkpoints are consistent with the Fourth Amendment and need not be authorized by warrant.”). However, *Martinez-Fuerte* cautioned that “our holding today is limited to the type of stops described in this opinion.” *Id.* at 567.

97. *Mich. Dep’t of State Police v. Sitz*, 496 U.S. 444, 448–49 (1990) (citing *Brown*, 443 U.S. at 50–51).

98. *Id.* at 451, 455 (“In sum, the balance of the State’s interest in preventing drunken driving, the extent to which this system can reasonably be said to advance that interest, and the degree of intrusion upon individual motorists who are briefly stopped, weighs in favor of the state program.”).

99. *Id.* at 452–53.

100. *City of Indianapolis v. Edmond*, 531 U.S. 32, 37 (2000). Under this doctrine, “‘special needs’ beyond normal law enforcement . . . may justify departures from the usual warrant and probable-cause requirements.” *Skinner v. Ry. Labor Execs.’ Ass’n*, 489 U.S. 602, 620 (1989) (quoting *Griffin v. Wisconsin*, 483 U.S. 868, 873–74 (1987)). Although the special needs doctrine can justify warrantless searches, the Court in *Edmond* used the doctrine instead to rein in the use of checkpoints by the police. See *infra* notes 101–06 and accompanying text.

law enforcement.”¹⁰¹ Based on the revived special needs doctrine, the *Edmond* Court held that checkpoints for narcotics violated the Fourth Amendment.¹⁰² The Court distinguished its prior cases based on three factors.¹⁰³ First, checkpoints may not be used “to detect evidence of ordinary criminal wrongdoing” or serve the “general interest in crime control.”¹⁰⁴ Second, the threat that law enforcement is responding to must pose an “immediate hazard” and have an “obvious connection . . . [to] the law enforcement practice at issue.”¹⁰⁵ Finally, the “gravity” of the problem the government is trying to address “weighed heavily” in the Court’s constitutional analysis.¹⁰⁶

Understandably, the majority in *Edmond* was concerned with line drawing. Without a clear limiting principle, the Court feared that “there would be little check on the ability of the authorities to construct roadblocks for almost any conceivable law enforcement purpose.”¹⁰⁷ Although the *Edmond* Court ruled out narcotics interdiction as a sufficient justification for a checkpoint, it did not per se foreclose other possible uses, if the justification met the three aforementioned criteria.¹⁰⁸

Since *Edmond*, the Court has slightly relaxed its view of checkpoints, perhaps indicating a warming to their other potential uses.¹⁰⁹ In *Illinois v. Lidster*, the Court upheld the constitutionality of a police checkpoint that stopped motorists to ask about a fatal hit-and-run accident that occurred one week earlier.¹¹⁰ Rejecting an “*Edmond*-type rule of automatic unconstitutionality,”¹¹¹ the Court cited the three-part balancing test articulated in *Brown v. Texas*.¹¹² The Court held that that constitutionality of a checkpoint depends on “the gravity of the public concerns served by the seizure, the degree to which the seizure advances the public interest, and the severity of the interference with individual liberty.”¹¹³

101. See *Edmond*, 531 U.S. at 37 (listing cases applying the special needs doctrine); see also *Sitz*, 496 U.S. at 450 (refusing to apply the special needs doctrine).

102. *Edmond*, 531 U.S. at 47–48.

103. See *infra* text accompanying notes 104–06.

104. *Edmond*, 531 U.S. at 38, 41 (internal citations omitted).

105. *Id.* at 39 (asserting that drunk-driving checkpoints constitute protection against an “immediate” threat).

106. *Id.*

107. *Id.* at 42.

108. *Id.* at 44 (finding narcotics checkpoints indistinguishable from generalized crime control).

109. See *Illinois v. Lidster*, 540 U.S. 419, 423 (2004) (distinguishing *Edmond*).

110. *Id.* at 421–23.

111. *Id.* at 424.

112. *Id.* at 426–27.

113. *Id.* at 427 (quoting *Brown v. Texas*, 443 U.S. 47, 51 (1979)).

III. PERMISSIBLE USES OF GUN SCANNERS?

Applying the patchwork of Fourth Amendment doctrine to a new case has proven difficult, even for the Supreme Court. Justice Scalia has said that he “just hate[s] Fourth Amendment cases” because their fact-specific nature inevitably leads to “variation 3,542” on the doctrine of unreasonable searches and seizures.¹¹⁴ Presuming, however, that the NYPD and DOD develop a deployable gun scanner, the constitutionality of this technology will be immediately challenged, with near-certain review by the Supreme Court. This Part applies the Court’s current Fourth Amendment doctrine, as outlined above, and examines several legal arguments to determine when, if ever, police may constitutionally use gun scanners. Part IV offers a unique argument for a new, clearer rule that would allow police use of gun scanners in limited circumstances while adequately protecting privacy.

A. Post-Arrest and Terry Stop Weapons Searches

The constitutional authorization for police to search an individual for weapons after an arrest or during a *Terry* stop is clearly defined.¹¹⁵ Thus, police use of gun scanners to detect weapons on an individual who is lawfully arrested or stopped is unobjectionable because these practices would “simply substitute a gun scan for an already legally permissible physical search.”¹¹⁶ Indeed, because the NYPD gun scanners in development use entirely passive technology and do not reveal anatomical details, they would be far less intrusive than a traditional *Terry* frisk.¹¹⁷ So long as the police possess the requisite probable cause to arrest or reasonable suspicion that an individual possesses a weapon to conduct a stop, replacing a frisk with a gun scanner should not raise Fourth Amendment concerns.¹¹⁸

In the case of *Terry* stops, police could conduct a “virtual” *Terry* stop rather than physically stopping an individual. After learning information about an individual that would create reasonable suspicion, police officers could scan that person for weapons from a safe distance. Under this scenario, the

114. Orin S. Kerr, *An Equilibrium-Adjustment Theory of the Fourth Amendment*, 125 HARV. L. REV. 476, 480 (2011) (citing Interview by Susan Swain with Antonin Scalia, Associate Justice of the U.S. Supreme Court, in Washington, D.C. (June 19, 2009), available at <http://supremecourt.c-span.org/assets/pdf/AScalia.pdf>).

115. See *Terry v. Ohio*, 392 U.S. 1, 30–31 (1968) (*Terry* stop); see also *Draper v. United States*, 358 U.S. 307, 314 (1959) (arrest); *supra* notes 58–66 and accompanying text.

116. Vernick et al., *supra* note 17, at 567 (noting also that consent searches and “fixed administrative searches at high-risk places such as entrances to airports or public buildings” would be constitutionally unassailable).

117. See *Baker*, *supra* note 14 (noting that NYPD gun scanners only detect objects that block the scanner’s rays).

118. Other constitutional issues, such as Due Process and evidentiary claims about the reliability of the technology, may be relevant but are beyond the scope of this Article. See, e.g., FED. R. EVID. 702 (expert witness testimony); *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993) (outlining rules for the admissibility of scientific evidence).

individual would not have to interact with the police, and officers would face less danger. The “virtual” *Terry* stop could produce a major improvement in community relations by replacing physically confrontational stop-and-frisks with scans from a passing police vehicle, resulting in nearly 700,000 fewer such “stops” in New York City alone.¹¹⁹ Admittedly, the ease of scanning that this technology provides could allow the police to perform more *Terry* stops overall—albeit virtually. Nevertheless, the actual number of physical street confrontations with the police would plummet.

Doctrinally, this conclusion seems unobjectionable. But, in practice, the use of gun scanners during arrests and *Terry* stops could pose serious questions about police credibility—raising the dreaded specter of “testilying”¹²⁰ in a whole new context. Dishonest police officers could claim that they used a gun scanner *after* developing an independent basis of probable cause or reasonable suspicion to arrest or stop someone, when, in actuality, they used the gun scanner before any existence of probable cause or reasonable suspicion.¹²¹ For arrests on an existing indictment or complaint, or based on witness identification, the likelihood of lying about gun scanner use would be minimal to non-existent.¹²² On the other hand, for “pick-up” arrests, which often occur after a *Terry* stop, only the officer operating the device and perhaps his or her partner would know if reasonable suspicion existed to stop the individual

119. Legally speaking, an officer using a gun scanner would have virtually stopped and frisked an individual. But, in terms of the public’s perception, there would be no recognition that a “stop” had occurred. This outcome may be worrisome to some, but gun scanners’ ability to reduce physical encounters with citizens is undeniable, even to civil liberties advocates. See Wagstaff, *supra* note 29 (quoting the Executive Director of the New York Civil Liberties Union).

120. In the wake of several corruption scandals in the NYPD in the early 1990s, an independent commission, headed by former New York State Appellate Division Judge Milton Mollen, was tasked to investigate the problem. MILTON MOLLEN ET AL., COMMISSION REPORT: COMMISSION TO INVESTIGATE ALLEGATIONS OF POLICE CORRUPTION AND THE ANTI-CORRUPTION PROCEDURES OF THE POLICE DEPARTMENT 36 (1994), available at http://www.parc.info/client_files/Special%20Reports/4%20-%20Mollen%20Commission%20-%20NYPD.pdf. The Mollen Commission determined that, although the actual number of corrupt officers was quite small, the NYPD lacked systematic safeguards to detect such corruption. *Id.* at 36–37. Mollen also identified the phenomenon of “testilying,” a term used by corrupt officers for lying in court to cover up unlawful searches and other improper investigative practices. *Id.* at 36. For an academic discussion of “testilying,” see generally Christopher Slobogin, *Testilying: Police Perjury and What to Do About It*, 67 U. COLO. L. REV. 1037 (1996).

121. Of course, suspicionless scanning may be perfectly acceptable. See *infra* Parts III.B, IV.B. However, if the Court limits the use of gun scanners to only *Terry* stops and arrests, it may unwittingly create a powerful incentive for lying by dishonest law enforcement officers.

122. If police have independent probable cause to arrest, there would be no incentive for officers to lie about using a gun scanner, because a full search is permissible incident to a lawful arrest. See *Draper v. United States*, 358 U.S. 307, 314 (1959) (holding a search incident to a lawful arrest constitutional under the Fourth Amendment).

before using the gun scanner. This may create a situation in which a dishonest officer could lie about his or her use of the gun scanner.

Concerns about police lying to justify a *Terry* stop are not novel. Long before gun-scanning technology was imagined, Supreme Court Justices and law review commentators debated the same issue.¹²³ In *Adams v. Williams*, Justice William Brennan objected to expanding the *Terry* doctrine to cover possessory offenses largely because of the danger of fabricated evidence.¹²⁴ In *Adams*, after receiving an anonymous tip, a police officer frisked an individual and recovered a firearm,¹²⁵ Justice Brennan worried that using unnamed informers as the basis for a *Terry* stop was problematic because it “readily [could] have been manufactured by the officer after the event.”¹²⁶

Similarly, in *Florida v. J.L.*, the Court unanimously held that an anonymous, uncorroborated 911 call cannot create reasonable suspicion to stop and frisk someone for a firearm.¹²⁷ This holding was largely a prophylactic rule to remove incentives for false 911 calls.¹²⁸ Although the Court never explicitly mentioned potential police misconduct in its opinion in *J.L.*, the risk is obvious: if anonymous 911 calls could justify a stop-and-frisk, then dishonest police officers could simply call 911 and falsely report a person with a gun, then stop and frisk that individual. At oral argument for *J.L.*, Justice Scalia raised this concern:

Indeed, we distrust policemen enough that we have the exclusionary rule in order to deter them from conducting unreasonable searches and seizures, but I guess it would be pretty neat for the tipster to be

123. See *infra* text accompanying notes 124–34.

124. See *Adams v. Williams*, 407 U.S. 143, 151 (1972) (Brennan, J., dissenting) (“To begin, I have the gravest hesitancy in extending *Terry v. Ohio* to crimes like the possession of narcotics There is too much danger that, instead of the stop being the object and the protective frisk an incident thereto, the reverse will be true.” (quoting *Williams v. Adams*, 436 F.2d 30, 38 (2d Cir. 1970) (Friendly, J., dissenting) (citation omitted))).

125. *Id.* at 144–45 (majority opinion).

126. *Id.* at 152 (Brennan, J., dissenting).

127. *Florida v. J.L.*, 529 U.S. 266, 274 (2000) (“[W]e hold that an anonymous tip lacking indicia of reliability of the kind contemplated in *Adams* and *White* does not justify a stop and frisk whenever and however it alleges the illegal possession of a firearm.”).

128. See *id.* at 272 (attempting to prevent “any person seeking to harass another to set in motion an intrusive, embarrassing police search of the targeted person simply by placing an anonymous call falsely reporting the target’s unlawful carriage of a gun”); see also Peter Erlinder, *Florida v. J.L.—Withdrawing Permission to “Lie with Impunity”: The Demise of “Truly Anonymous” Informants and the Resurrection of the Aguilar/Spinelli Test for Probable Cause*, 4 U. PA. J. CONST. L. 1, 65 (2001) (arguing that, because the Court “[made] clear that ‘truly anonymous’ informants can never be found reliable, . . . any future case that is based on the use of a ‘truly anonymous’ informant . . . will run afoul of the reasoning in *Florida v. J.L.*”); Edward W. Krippendorf, *Florida v. J.L.: To Frisk or Not to Frisk; The Supreme Court Sheds Light on the Use of Anonymous Tipsters as a Predicate for Reasonable Suspicion*, 28 NEW ENG. J. ON CRIM. & CIV. CONFINEMENT 161, 190 (2002) (“[I]t is clear that although the Court appeared to stress the predictive nature of the tip, the true concern lies with the caller’s reliability.”).

another policeman. All you have to do is allege that the person has a gun, and it will permit a search . . . a body search, which may not uncover a gun, but may well uncover marijuana, cocaine, or some other unlawful contraband.¹²⁹

In addition to Justice Scalia's comments, the defendant in *J.L.* cited evidence that police fabrication was "a major problem in New York, Los Angeles, Atlanta, New Orleans, Detroit, Minneapolis and Philadelphia."¹³⁰

The Court is unlikely to address the "testilying" issue with a broad rule prohibiting gun-scanner evidence because such a ruling would necessarily call *Terry* itself into question.¹³¹ Although gun-scanning technology may tempt officers to use the devices even when they lack reasonable suspicion to stop an individual, the potential for lying is not greater than in any other context.¹³² The solution will likely be the same for gun-scanner evidence as it currently stands for traditional police observations leading to a *Terry* stop: evaluation of the officer's credibility at an exclusionary hearing pursuant to a defense motion in limine.¹³³ Although many academics have castigated judges for allowing into evidence what they regard as obviously perjured police testimony,¹³⁴

129. Oral Argument at 48:08, *Florida v. J.L.*, 529 U.S. 266 (No. 98-1993), available at http://www.oyez.org/cases/1990-1999/1999/1999_98_1993.

130. Brief for Respondent at 17 n.9, *J.L.*, 529 U.S. 266 (No. 98-1993), 2000 WL 140926, at *17. The defense cited several law review articles discussing police perjury generally, and one specifically discussing fabricated tips. *Id.* (citing Joe Metcalfe, *Anonymous Tips, Investigatory Stops and Inarticulate Hunches—Alabama v. White*, 110 S. Ct. 2412 (1990), 26 HARV. C.R.-C.L. L. REV. 219, 237 (1991)).

131. Only in the case of police lineups conducted after formal criminal proceedings have begun (and without a defendant's attorney present) has the Court banned evidence obtained as presumptively unreliable. *See United States v. Wade*, 388 U.S. 218, 236 (1967) (citing the "grave potential for prejudice" by the police). Justice Byron White dissented: "I do not share this pervasive distrust of all official investigations. None of the materials the Court relies upon supports it." *Id.* at 252 (White, J., dissenting). The holding in *Wade*, however, hinged on the formalist distinction of the defendant's Sixth Amendment right to counsel "attaching" after formal proceedings have commenced. *Id.* at 223-27 (majority opinion). As such, the Court did not extend this per se exclusionary rule to identifications of defendants before the start of formal proceedings, in which the Sixth Amendment does not apply. *See Kirby v. Illinois*, 406 U.S. 682, 690 (1972) (declining to implement a per se rule).

132. Descriptions, such as observing "furtive movements," a bulge in someone's clothing, or suspicious behavior, are all commonly used to articulate reasonable suspicion for a *Terry* stop. *See, e.g., United States v. Nosworthy*, 475 Fed. App'x 347, 350-51 (2d Cir. 2012) ("The court also found that [the police officer's] testimony that [the defendant] made furtive movements towards his rear pocket was credible, and therefore concluded that the search of [the defendant's] person was lawful.").

133. *See J.L.*, 529 U.S. at 274 (Kennedy, J., concurring) ("When a police officer testifies that a suspect aroused the officer's suspicion, and so justifies a stop and frisk, the courts can weigh the officer's credibility and admit evidence seized pursuant to the frisk."). By contrast, an anonymous caller can "lie with impunity." *Id.* at 275.

134. *See Gabriel J. Chin & Scott C. Wells, The "Blue Wall of Silence" as Evidence of Bias and Motive to Lie: A New Approach to Police Perjury*, 59 U. PITT. L. REV. 233, 255 (1998) (quoting Prof. Alan Dershowitz's anecdotes of hearing "bogus testimony" by police and seeing

judges in New York City, in both state and federal courts, have suppressed evidence because of officers' disingenuous testimony.¹³⁵ Realistically, civil liberties groups seeking a blanket prohibition on the use of gun scanners would have to lobby legislators for a statutory ban, while in individual cases, defendants can attack the arresting officers' credibility in suppression hearings.

B. Suspicionless Scanning

Although the law surrounding the use of gun scanners for arrests and *Terry* stops is relatively straightforward, the constitutionality of police use of gun-scanning technology without any reasonable suspicion is unclear.¹³⁶ On the one hand, there is potential to reduce thousands of intrusive stop-and-frisks with a non-invasive scan that would only reveal weapons—far less than what people now routinely expose themselves to at airports.¹³⁷ Conversely, it seems to strain the English language to argue that discovering what is underneath a person's clothing does not constitute a "search."

Any inquiry about the permissibility of "sense-enhancing technology," such as gun scanners, must begin with *Kyllo*.¹³⁸ Although the facts of *Kyllo* were limited to a thermal scan of a defendant's home, its holding may also be applicable to searches of one's person.¹³⁹ The four dissenters in *Kyllo* noted that it would be illogical not to extend *Kyllo*'s rule to searches of individuals,¹⁴⁰ and Justice Scalia has consistently advocated greater fidelity to

how "the judge shakes his head in knowing frustration, but accepts the officers' account as credible"); David N. Dorfman, *Proving the Lie: Litigating Police Credibility*, 26 AM. J. CRIM. L. 455, 464 (1999) ("Judges should encourage a much deeper exploration of the issue of police credibility than presently occurs in our criminal courts."); Alan M. Dershowitz, Op-Ed., *Controlling the Cops: Accomplices to Perjury*, N.Y. TIMES, May 2, 1994, at A17 ("Officers know that in many courtrooms they can get away with the most blatant perjury without judicial rebuke or prosecution.").

135. See Benjamin Weiser, *Police in Gun Searches Face Disbelief in Court, but Few Consequences*, N.Y. TIMES, May 12, 2008, <http://www.nytimes.com/2008/05/12/nyregion/12guns.html> (claiming that some officer testimony is "patently incredible").

136. See *supra* note 117 any accompanying text.

137. See *supra* note 117 any accompanying text.

138. *Kyllo v. United States*, 533 U.S. 27, 34 (2001) ("To withdraw protection of this minimum expectation would be to permit police technology to erode the privacy guaranteed by the Fourth Amendment.").

139. See *supra* notes 74–90. But see Vernick et al., *supra* note 17, at 573 (arguing that "there is abundant language in *Kyllo* suggesting that its rule will likely be limited to searches of homes").

140. *Kyllo*, 533 U.S. at 48 (Stevens, J., dissenting) ("Clearly, a rule that is designed to protect individuals from the overly intrusive use of sense-enhancing equipment should not be limited to a home."). The Court has also endorsed this logic in other cases. See, e.g., *Mincey v. Arizona*, 437 U.S. 385, 393–94 (1978) ("[W]arrants are generally required to search a person's home or his person unless 'the exigencies of the situation' make the needs of law enforcement so compelling that the warrantless search is objectively reasonable under the Fourth Amendment." (emphasis

the text and original meaning of the Fourth Amendment.¹⁴¹ Additionally, although *Kyllo* does stress that the house is constitutionally special, the opinion never states that a lower level of Fourth Amendment protection applies to searches of one's person.¹⁴²

Under *Kyllo*'s holding, suspicionless use of the NYPD's prototype gun scanners would likely violate the Fourth Amendment because gun scanners are a "sense-enhancing technology" "not in general public use" that provides police with "information . . . that could not otherwise have been obtained without physical intrusion into a constitutionally protected area."¹⁴³ Thus, the use of gun scanners would constitute a "search" that is "presumptively unreasonable without a warrant."¹⁴⁴

This application of *Kyllo* seems to foreclose any suspicionless use of gun scanners. But given the tremendous public safety benefits that such devices could provide, there will undoubtedly be pressure to find a permissible use.¹⁴⁵ Although a new rule is proposed in Part IV, under the current doctrinal framework, upholding gun scanners' constitutionality requires making one of three arguments: (1) overturn *Kyllo*; (2) limit *Kyllo* to homes and apply the general rule from *Katz* instead; or (3) find a Fourth Amendment exception for unobtrusive searches that only reveal contraband.

1. Overturn *Kyllo*

Kyllo has been alternately criticized as being both overinclusive and underinclusive.¹⁴⁶ The most frequent criticism has been the limitation of *Kyllo*'s holding to technology that is "in general public use."¹⁴⁷ According to the dissent:

added) (citing *McDonald v. United States*, 335 U.S. 451, 456 (1948); *Johnson v. United States*, 333 U.S. 10, 14–15 (1948)).

141. U.S. CONST. amend IV; see also *Kyllo*, 533 U.S. at 40 ("[W]e must take the long view, from the original meaning of the Fourth Amendment forward.")

142. See *supra* notes 76–81 and accompanying text (citing language of the Supreme Court that suggests *Kyllo* is not limited to searches of a home).

143. Cf. *Kyllo*, 533 U.S. at 34 (internal quotation marks omitted) (citing *Silverman v. United States*, 365 U.S. 505, 512 (1961)).

144. Cf. *id.* at 40.

145. See *supra* note 4 and accompanying text (noting statistics on the number of national shooting victims).

146. See, e.g., Jeffrey W. Childers, Comment, *Kyllo v. United States: A Temporary Reprieve from Technology-Enhanced Surveillance of the Home*, 81 N.C. L. REV. 728, 731–33 (2003) (arguing that, despite hope that *Kyllo* would be applied to other types of technology, its scope has been limited to surveillance of private homes, and only when the device is "not in general public use"); Kerr, *supra* note 87, at 832, 835–37 (describing *Kyllo* as suggestive of "broad and even creative" interpretation of the Fourth Amendment, yet actually limited to a specific fact pattern).

147. *Kyllo*, 533 U.S. at 34; see also Childers, *supra* note 146, at 759–61 (criticizing *Kyllo* for allowing a gradual erosion of Fourth Amendment protection as certain technology becomes widely used).

[T]he contours of [the majority's] new rule are uncertain because its protection apparently dissipates as soon as the relevant technology is "in general public use." Yet how much use is general public use is not even hinted at by the Court's opinion, which makes the somewhat doubtful assumption that the thermal imager used in this case does not satisfy that criterion.¹⁴⁸

This critique, however, does not address the root flaw of *Kyllo*. Indeed, it is logical to reduce Fourth Amendment protections if a particular sense-enhancing technology were truly in widespread use: if civilians use the technology frequently, why limit the government from using it for law enforcement purposes?¹⁴⁹ Rather, the problem with the majority's holding in *Kyllo* is its blanket prohibition on obtaining "any information" from inside a home.¹⁵⁰ As this Article argues, certain information simply does not have Fourth Amendment value and should not be protected.

However, even overturning *Kyllo* may not permit the suspicionless use of gun scanners during police investigations.¹⁵¹ Although *Kyllo*'s rule would restrict gun scanners, the constitutionality of this technology under the dissent's proposed holding is still unclear. The dissent would bar the warrantless use of technology that "provide[s] its user with the functional equivalent of access to a private place."¹⁵² The issue, then, is whether the gun scanner's output (a blurry outline of a gun on a small computer monitor, with no intimate anatomical details) qualifies as the "functional equivalent of access to a private place."¹⁵³ Literally speaking, the area under one's clothing is certainly a "private place," but, technologically speaking, the outline of a firearm detected by a gun scanner is based on radiation emanating from the

148. *Kyllo*, 533 U.S. at 47 (Stevens, J., dissenting) (internal citation omitted).

149. For example, if public use of see-through wall technology became widespread, it would seem strange to allow neighbors or total strangers to look through the walls of one's home, yet prohibit the police from doing the same on the basis that it violates privacy. Although such a world hopefully will not come to pass, a ready (and less disturbing) historical example does exist: binoculars. If you know that strangers can see you on a rooftop using binoculars, it would be unreasonable to restrict the police from doing the same. Thus, the "in general public use" requirement of *Kyllo* ultimately collapses into *Katz*'s "reasonable expectation of privacy" test. Compare *id.* at 34 (majority opinion) (noting the importance of recognizing a "minimal expectation of privacy"), with *Katz v. United States*, 389 U.S. 347, 360–61 (1967) (Harlan, J., concurring) (describing how a court must determine whether one's expectation of privacy is reasonable).

150. *Kyllo*, 533 U.S. at 34 (emphasis added). The dissenters in *Kyllo* also critique this part of the majority's holding, arguing that police detection of abnormal heat radiating from the walls of one's home is not the kind of information that the Fourth Amendment protects. *Id.* at 43 (Stevens, J., dissenting). The dissent argues that the police could have detected this abnormal heat through non-technological means, such as observing that snow melted faster on that part of the roof. *Id.*

151. See *infra* Part IV.C (proposing such a rule to fix this shortcoming).

152. *Kyllo*, 533 U.S. at 49 (Stevens, J., dissenting).

153. *Id.*

gun itself.¹⁵⁴ This is indistinguishable from the example of heat emanating off of the house in *Kyllo*, which the dissent found unobjectionable.¹⁵⁵ The dissenters would likely object to technology that showed intimate details of the home or rebroadcast people's conversations, but whether that rationale would extend to gun scanners is uncertain. However, potential objections could be reduced if gun scanners simply notified officers that a gun was present via an audible alarm or generic diagram, rather than showing an image of the person scanned.¹⁵⁶

2. Limit *Kyllo* to the Home and Apply *Katz*

If *Kyllo* is limited to the home, then the constitutionality of suspicionless use of gun scanners would be determined under *Katz*.¹⁵⁷ Specifically, *Katz* answers the question of whether a search has occurred through Justice Harlan's two-part test.¹⁵⁸ Applied to the hypothetical situation of an individual stopped after police detected a firearm using a gun scanner, it is likely that the individual would have "exhibited an actual (subjective) expectation of privacy" by concealing the weapon.¹⁵⁹ However, the outcome under the second part of the *Katz* test is debatable: is this expectation of privacy "one that society is prepared to recognize as reasonable?"¹⁶⁰ As always, how this question is framed is critical, if not outcome determinative. Although it is doubtful that "society" would find an individual's desire to carry a concealed, illegal firearm to be "reasonable," it is more plausible that "society" would recognize an interest in being free from technology that "looks" under one's clothes.

Attempting to resolve this question empirically, Professor Jon S. Vernick and several other researchers conducted a study of Americans' attitudes toward

154. See *supra* Part I.A.

155. See *Kyllo*, 533 U.S. at 42–43 (Stevens, J., dissenting) (reasoning that, because the technology only measured the heat emanating from the home's exterior, there was no unlawful gathering of details of the inside of the home).

156. The TSA has realized that the less personal an image looks, the less objectionable the public will find it. *AIT: Privacy*, TRANSP. SEC. ADMIN., <http://www.tsa.gov/ait-privacy> (last updated Feb. 26, 2013). Future airport scanners will not show anatomical details of passengers, but instead will only flag potential weapons detected on a generic computer-generated figure. *Id.*

157. As discussed above, some of the Justices disfavor the *Katz* test. See *supra* notes 82–86 and accompanying text. Nevertheless, as *Jones* makes clear, *Katz* is still good law: "For unlike [Justice Alito's] concurrence, which would make *Katz* the exclusive test, we do not make trespass the exclusive test. Situations involving merely the transmission of electronic signals without trespass would remain subject to *Katz* analysis." *United States v. Jones*, 132 S. Ct. 945, 953 (2012). Justice Sonia Sotomayor's concurring opinion also emphasized the need to adhere to *Katz* in cases that do not involve a physical trespass. *Id.* at 954–55 (Sotomayor, J., concurring).

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

159. See *id.*; Vernick et al., *supra* note 17, at 570 ("By choosing to carry the firearm in a concealed fashion, one is clearly evidencing a subjective expectation of privacy.").

160. *Katz*, 389 U.S. at 361 (Harlan, J., concurring). The second part of the *Katz* test could also overlap considerably with the "in general use" requirement stated in *Kyllo*. See *supra* note 149.

gun scanners and concluded that “society does not recognize a reasonable expectation of privacy regarding gun scanners.”¹⁶¹ However, the study framed the questions in a way that the Court would likely find impermissibly skewed. For example, the question garnering the most support for gun scanners was: “Overall, do you favor or oppose police using new weapon detection devices in high crime areas?”¹⁶² But, if one applies the *Katz* test based on the legality of a private action, it is hard to imagine society approving of a dangerous illegal practice.

Instead, one should look to the Court’s general advice from *Oliver v. United States* when applying the second phase of the *Katz* test: “In pursuing this inquiry, we must keep in mind that ‘[t]he test of legitimacy is not whether the individual chooses to conceal assertedly “private” activity,’ but instead ‘whether the government’s intrusion infringes upon the personal and societal values protected by the Fourth Amendment.’”¹⁶³ Merely attempting to keep something private does not mean that the Fourth Amendment will protect the activity; rather, a particular private activity must have some “value” that the Court deems worthy of Fourth Amendment protection.¹⁶⁴ At times, the Court has been generous in its protections of privacy,¹⁶⁵ whereas in other cases, it has been much more circumspect in assessing whether a privacy interest is reasonable.¹⁶⁶ The one consistent take-away, however, is that part two of the *Katz* test cannot hinge on the legality of *what* a person is concealing; rather, it turns on *how* the person concealed it and whether that privacy interest has social value.¹⁶⁷

161. Vernick et al., *supra* note 17, at 570 (citing “overwhelming general support” for allowing police officers to use gun scanners”).

162. *Id.* Eighty-six percent of the 1,232 respondents in Vernick’s study favored such police-scanning technology. *Id.* However, the public’s approval dropped to only forty-nine percent when questioners “prompted” study participants about the potential loss of privacy posed by the use of gun scanners. *Id.*

163. *California v. Ciraolo*, 476 U.S. 207, 212 (1986) (quoting *Oliver v. United States*, 466 U.S. 170, 181–83 (1984)) (applying the *Oliver* Court’s interpretation of the reasonable expectation test to the aerial observation of a yard). In *Jacobsen*, the Supreme Court noted that these expectations work in both directions: “The concept of an interest in privacy that society is prepared to recognize as reasonable is, by its very nature, critically different from the mere expectation, however well justified, that certain facts will not come to the attention of the authorities.” *United States v. Jacobsen*, 466 U.S. 109, 122 (1984).

164. *Ciraolo*, 476 U.S. at 212 (quoting *Oliver*, 466 U.S. at 181–83).

165. *See, e.g., Minnesota v. Olson*, 495 U.S. 91, 96–97 (1990) (“Olson’s status as an overnight guest is alone enough to show that he had an expectation of privacy in the home that society is prepared to recognize as reasonable.”).

166. *Smith v. Maryland*, 442 U.S. 735, 742–44 (1979) (holding that, even without a warrant, police may obtain records of the telephone numbers dialed by an individual because he or she voluntarily released that information to the phone company when making the calls).

167. *See Ciraolo*, 476 U.S. at 213–14 (applying the *Katz* test to evaluate the reasonableness of the police flying in public airspace over defendant’s home to observe marijuana plants in the defendant’s backyard, which was surrounded by a ten-foot fence). The Court’s Fourth Amendment analysis did not ask whether society approves of backyard marijuana farms, but

Gun scanners, therefore, cannot be examined under *Katz* by asking whether society approves of people concealing their illegal guns. Rather, *Katz* demands questioning whether a scan that reveals large metal objects under one's clothes, but no anatomical details, is unreasonable. In the wake of 9/11, society has a higher tolerance for government searches. For example, the TSA's airport scanners initially produced a strong backlash, but are now commonplace.¹⁶⁸ Further, the precipitous increase in the number of *Terry* stops by the NYPD has only attracted major attention recently.¹⁶⁹

Based on the tone of the Court's recent opinion in *Jones*, the Justices seem uneasy with the erosion of privacy caused by technology.¹⁷⁰ Notably, Justice Sotomayor's concurrence in *Jones* flagged the need for a re-evaluation of Fourth Amendment principles in light of twenty-first century technology.¹⁷¹ However, *Jones* dealt with police GPS tracking of a suspect's non-criminal movements.¹⁷² Although gun scanners could target only illegal activity,¹⁷³ it remains unclear whether this distinction, and the attendant public safety benefits, would assuage the Court's concerns. Therefore, the outcome of

whether it was reasonable to expect that no one would look into a private yard from an aircraft flying overhead. *Id.*

168. See *supra* note 27 and accompanying text. To be clear, the legal rationale justifying airport scans and searches is different. Although the Supreme Court has not definitively ruled on the question, circuit courts (which once viewed airport searches as based on consent) now uphold them as reasonable administrative searches. See, e.g., *United States v. Aukai*, 497 F.3d 955, 962 (9th Cir. 2007); *United States v. Hartwell*, 436 F.3d 174, 178 (3d Cir. 2006); see also *Chandler v. Miller*, 520 U.S. 305, 323 (1997) (noting in dicta that "blanket suspicionless searches . . . now routine at airports" would likely be acceptable under the Fourth Amendment). Nonetheless, this comparison to airport searches is mentioned because it offers insight into what people generally perceive as "reasonable," especially when public safety may be at risk.

169. See Al Baker, *Judge Grants Class-Action Status to Stop-And-Frisk Suit*, N.Y. TIMES, May 17, 2012, at A2 (reporting that a lawsuit in the Southern District of New York, alleging illegal police stops, was recently granted class action status by Judge Shira Scheindlin, who called the City's attitude towards the stops "cavalier"). The case has attracted considerable attention, including an announcement from Commissioner Kelly that NYPD officers will receive additional training on how to conduct proper *Terry* stops. See Sally Goldenberg et al., *Kelly Announces Changes to 'Stop and Frisk' Policies*, N.Y. POST (May 18, 2012, 9:01 AM), http://www.nypost.com/p/news/local/stop_think_91BuU3AVd3EQFJPftYipJK.

170. See *United States v. Jones*, 132 S. Ct. 945, 949–51 (2012) (stressing that the facts showed that the government had "physically occupied private property for the purpose of obtaining information" and this "physical intrusion" constituted a search).

171. *Id.* at 955 (Sotomayor, J., concurring) ("[T]echnological advances . . . will also affect the *Katz* test by shaping the evolution of societal privacy expectations."). In dicta, Justice Sotomayor also raised concern that many Fourth Amendment rules might be "ill suited to the digital age." *Id.* at 957 (critiquing "the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties").

172. *Id.* at 955.

173. This conclusion would only apply in jurisdictions such as New York City, where obtaining a concealed firearm permit is extremely rare. See *infra* note 185 and accompanying text.

suspicionless gun-scanning under the *Katz* test is still uncertain, highlighting the need for a new rule, as proposed in Part IV.

3. Exceptions to the *Katz* Rule

Although the *Katz* test generally applies to all Fourth Amendment searches, the Court carved out one notable exception in *United States v. Place*: a “canine sniff” by a “trained narcotics detection dog” “in a public place” does not qualify as a “search” under the Fourth Amendment.¹⁷⁴ In reaching this holding, the Court relied on several factors that make a canine sniff “*sui generis*” and, thus, constitutionally permissible.¹⁷⁵ The Court reasoned that the procedure “does not require opening the luggage,” “is much less intrusive than a typical search,” does not “expose noncontraband items that otherwise would remain hidden from public view,” and “discloses only the presence or absence of narcotics, a contraband item.”¹⁷⁶ Overall, the Court’s biggest concern in *Place* seemed to be with the level of intrusiveness of police practices:

[D]espite the fact that the sniff tells the authorities something about the contents of the luggage, the information obtained is limited. This limited disclosure also ensures that the owner of the property is not subjected to the embarrassment and inconvenience entailed in less discriminate and more intrusive investigative methods. . . . In these respects, the canine sniff is *sui generis*. We are aware of no other investigative procedure that is so limited both in the manner in which the information is obtained and in the content of the information revealed by the procedure.¹⁷⁷

All of the factors on which the *Place* Court relied in upholding canine sniffs in public spaces could also apply to gun scanners, *if* the technology can be perfected to ensure that it reveals only the presence of guns.¹⁷⁸ Gun scanners involve no physical touching, are “much less intrusive” than frisks, and are arguably less invasive than a narcotics dog sniffing one’s belongings or person.¹⁷⁹ The viability of the comparison between gun scanners and dog

174. *United States v. Place*, 462 U.S. 696, 707 (1983).

175. *Id.*; see also *infra* text accompanying note 176.

176. *Place*, 462 U.S. at 707 (noting that a dog sniff ensures that individuals are not subjected to the humiliation of more intrusive measures).

177. *Id.*

178. See Vernick et al., *supra* note 17, at 571–72 (discussing the application of the *Place* dog-sniff rationale to gun scanners).

179. A 1999 case from the Ninth Circuit found that a canine drug sniff of a person for narcotics was impermissible and violative of the Fourth Amendment. See *B.C. v. Plumas Unified Sch. Dist.*, 192 F.3d 1260, 1266 (9th Cir. 1999) (finding that “the random and suspicionless dog sniff search” of the plaintiff was unreasonable under the circumstances (citing *United States v. Beale*, 736 F.2d 1289, 1291–92 (9th Cir. 1984))). However, other circuits have not followed this ruling. See, e.g., *United States v. Reyes*, 349 F.3d 219, 223 (5th Cir. 2003) (holding that a dog sniff conducted four-to-five feet from passengers exiting a bus is minimally intrusive and does not violate the Fourth Amendment).

sniffs depends on two factors: 1) reliability of the search process employed (i.e., gun scan versus dog sniff) and 2) the legality of what the search process detects (i.e., firearms versus narcotics).

First, if gun scanners produce false-positive results, in turn causing unnecessary stop-and-frisks, the entire *Place* rationale fails. The dog sniffs at issue in *Place* were not “searches” because they were “much less intrusive” and devoid of “the embarrassment and inconvenience” that other search processes entail.¹⁸⁰ Similarly, to survive a Fourth Amendment challenge, gun scanners must be highly accurate in detecting firearms; otherwise more innocent people would be stopped, which would render gun scanners more intrusive than current *Terry* stop procedures. Because *Terry* stops can be just as demeaning as a search of one’s luggage, reliability of the search is essential to the *Place* exception.¹⁸¹

Second, *Place* requires that the procedure “does not expose noncontraband items that otherwise would remain hidden from public view.”¹⁸² For gun scanners, this is a two-part challenge: (1) the technology must alert only to firearms and (2) the firearms found must be carried illegally. The first challenge requires a technological solution: gun scanners must be able to distinguish the shape of firearms from other metal objects that people may carry, such as cellphones or keys. This technological problem, however, is of constitutional importance because of *Place*; thus, any operational use of the devices must wait until this problem is fixed, because gun scanners currently work from only several feet away.¹⁸³ The second issue, whether guns are contraband, will vary from jurisdiction to jurisdiction.¹⁸⁴ In places like New

180. *Place*, 462 U.S. at 707. Although the *Place* Court did not explicitly rely on the accuracy of a canine sniff, the case implicitly turns on the reliability of the search and the rate of false-positives, because if a canine sniff or gun scanner is inaccurate, then there will be more unnecessary stops.

181. *See id.* at 703–07. The reliability of a sniff by narcotics detection canines has been questioned recently by the media. *See* Radley Balko, *Illinois State Police Drug Dog Unit Analysis Shows Error Rate Between 28 and 74 Percent*, HUFFINGTON POST (Mar. 31, 2012), http://www.huffingtonpost.com/2012/03/31/drug-dog-illinois-state-police_n_1376091.html; *see also* Rebecca Leung, *Does the Nose Know*, CBS NEWS (Feb. 11, 2009), http://www.cbsnews.com/2100-18560_162-591477.html.

182. *Place*, 462 U.S. at 707.

183. *See supra* note 30 and accompanying text.

184. *See* Vernick et al., *supra* note 17, at 573–74 (discussing how the permissibility of gun scanners could vary depending on the permissiveness of a particular jurisdiction’s concealed firearm licensing laws and whether a state’s requirement to produce a gun permit upon request would affect the analysis). This Article focuses on jurisdictions where *Terry* stops for firearms are frequent, which are almost always also jurisdictions with restrictive concealed firearm laws, such as New York City. *See, e.g.*, Second Supplemental Report of Jeffrey Fagan, Ph.D. at 9, *Floyd v. City of New York*, No. 08 Civ. 01034 (SAS) (S.D.N.Y. argued Mar. 18, 2013), available at <http://ccrjustice.org/files/FaganSecondSupplementalReport.pdf> (noting that, between 2004 and the first six months of 2012, over 4.43 million stop and frisks were conducted in New York City); *Permits: Handgun Licensing Information*, CITY N.Y., <http://www.nyc.gov/html/nypd/html>

York City, however, where it is nearly impossible for civilians to obtain concealed firearm permits, it would be reasonable for officers to conclude that a weapon detected using a gun scanner is presumptively illegal, warranting a physical *Terry* stop.¹⁸⁵ Given that courts routinely uphold *Terry* stops based on reasonable suspicion that an individual is carrying a firearm in states like New York,¹⁸⁶ implicit in those decisions is the assumption that handguns are presumptively illegal in places with restrictive gun laws, and their possession creates reasonable suspicion to stop an individual.

Gun scanners seem to fit the exception in *Place* for dog sniffs,¹⁸⁷ because they too are “so limited both in the manner in which the information is obtained and in the content of the information revealed.”¹⁸⁸ However, the dissenters in *Kyllo* believed that the holding in that case was entirely at odds with *Place*, while the majority never even mentioned *Place* in its opinion.¹⁸⁹ In the 2012 term, the Court addressed whether a canine sniff of the outside of an individual’s home—specifically, the front porch—constitutes a search in *Florida v. Jardines*.¹⁹⁰ Drawing on the Court’s recent decision in *Jones*, Justice Scalia, writing for the majority, held that the case was an “easy” example of police action violative of the “Fourth Amendment’s property-rights baseline,” thus rendering the *Katz* reasonable expectation of privacy analysis unnecessary.¹⁹¹ However, in the related 2012 case of *Florida v. Harris*, the

/permits/handgun_licensing_information.shtml#license_types (last visited Mar. 19, 2013) (stating that New York City offers five types of handgun licenses).

185. Restrictive concealed firearm carry permit laws in states like New York may change in the aftermath of *McDonald v. Chicago*, 130 S. Ct. 3020, 3050 (2010) (holding that “the Due Process Clause of the Fourteenth Amendment incorporates the Second Amendment right recognized in [*District of Columbia v. Heller*]”).

186. See, e.g., *United States v. Padilla*, No. 06-CR-824, 2007 WL 1958894 (E.D.N.Y. June 29, 2007), *aff’d*, 548 F.3d 179 (2d Cir. 2008). But see *United States v. Doughty*, No. 08-CR-375, 2008 WL 4308123 (S.D.N.Y. Sept. 19, 2008) (finding no reasonable suspicion for a *Terry* stop during which a firearm was recovered).

187. Justice Brennan, in his *Jacobsen* dissent, believed that the holding of *Place* clearly required that such devices would be constitutional “if a device were developed that, when aimed at a person, would detect instantaneously whether the person is carrying cocaine, there would be no Fourth Amendment bar, under the Court’s approach, to the police setting up such a device on a street corner and scanning all passersby.” *United States v. Jacobsen*, 466 U.S. 109, 138 (1984) (Brennan, J., dissenting). The logical connection from *Place* to a cocaine scanner and a gun scanner is clear, as both are designed to detect one specifically prohibited item. See Vernick et al., *supra* note 17, at 572–73 (acknowledging the analogy between dog sniffs and contraband scanners).

188. *United States v. Place*, 462 U.S. 696, 707 (1983).

189. See *Kyllo v. United States*, 533 U.S. 27, 47–48 (2001) (Stevens, J., dissenting).

190. *Florida v. Jardines*, 133 S. Ct. 1409, 1413–14 (2013) (“We consider whether using a drug-sniffing dog on a homeowner’s porch to investigate the contents of the home is a ‘search’ within the meaning of the Fourth Amendment.”).

191. *Id.* at 1417 (“The *Katz* reasonable-expectations test ‘has been added to, not substituted for,’ the traditional property-based understanding of the Fourth Amendment, and so is

Court unanimously held that a canine sniff of a car during a traffic stop did not violate the Fourth Amendment, and it provided probable cause for a police officer's subsequent search of the vehicle for narcotics.¹⁹² Given the *Harris* decision, it appears that—at least beyond the scope of the home and surrounding curtilage—a canine sniff does not implicate the Fourth Amendment, lending strong support for the constitutionality of gun scanners under the *Place* rationale.

C. Virtual Gun “Checkpoints”

A virtual gun checkpoint would not physically stop anyone, unless the scanner indicated that a particular individual was carrying a firearm. Rather, an effective virtual gun checkpoint would operate more like the closed circuit television (CCTV) camera networks that are already in widespread use by law enforcement.¹⁹³ The police would identify an area with high levels of gun violence, potentially in conjunction with elected officials or other community leaders, and deploy gun scanners to that intersection or street.¹⁹⁴ Proper signs would be placed on the street, warning all individuals in the vicinity that they are subject to police gun scanners.¹⁹⁵

The legal basis for virtual gun-scanner checkpoints would be derived from the Supreme Court's cases on drunk-driving checkpoints.¹⁹⁶ The Court's comfort level with such checkpoints has varied, ranging from a general

unnecessary to consider when the government gains evidence by physically intruding on constitutionally protected areas.” (quoting *United States v. Jones*, 132 S. Ct. 945, 952 (2012))).

192. *Florida v. Harris*, 133 S. Ct. 1050, 1058 (2013) (“A sniff is up to snuff when it meets that test [of probable cause].”).

193. See Press Release, N.Y.C. Police Dep't, Midtown Manhattan Security Initiative (Sept. 20, 2010), http://www.nyc.gov/html/nypd/html/pr/pr_2010_midtown_security_initiative.shtml (discussing plans to employ approximately 3,000 CCTV cameras, from the 1,159 public and private sector cameras already in operation in 2010 by the NYPD in Manhattan).

194. See Steven Salvador Flores, *Gun Detector Technology and the Special Needs Exception*, 25 RUTGERS COMPUTER & TECH. L.J. 135, 152–53 (1999) (arguing that gun detectors could satisfy the “special needs” doctrine because of the benefit to officer safety and the extraordinary improvement in community relations from reducing stop, question, and frisks).

195. For an image of a sign the NYPD currently uses to alert the public to the presence of CCTV cameras, see Pranav Bhatt, *NYPD Security Camera Sign*, Apr. 10, 2011, <http://www.flickr.com/photos/pranavbhatt/5721461445>. Although some readers might think that announcing the presence of CCTV cameras (and similarly, gun scanners) would negate police ability to catch individuals committing crimes, the NYPD's experience with CCTV cameras has proven otherwise. See Marcus Baram, *Eye on the City: Do Cameras Reduce Crime?*, ABC NEWS (July 9, 2007), <http://abcnews.go.com/US/story?id=3360287&page=1#.T7rj517ekxU> (quoting researchers who indicate that cameras set up across the country in New York City, Chicago, and Los Angeles have been especially effective when they remain in the same place for at least 180 days). For further discussion on the possible deterrent effect of warning the public of gun scanners, see *infra* notes 206–07 and accompanying text.

196. See *supra* notes 95–113 and accompanying text.

endorsement in *Brown*¹⁹⁷ to fear of a slippery slope in *Edmond*.¹⁹⁸ Overall, taking the Court's holding in *Edmond* and its most recent case on checkpoints, *Lidster*,¹⁹⁹ the constitutionality of a virtual gun-scanner checkpoint depends on several factors, including: "the gravity of the public concerns served by the seizure, the degree to which the seizure advances the public interest, and the severity of the interference with individual liberty."²⁰⁰ There must also be an "immediate hazard," and the checkpoint may *not* serve a "general interest in crime control."²⁰¹

In light of the Court's more permissive tone in *Lidster*, an evaluation of these factors shows that virtual gun checkpoints could be constitutional. First, the "gravity of the public concerns" regarding gun violence is just as high as, if not higher than, drunk driving, for which the Court has approved police checkpoints.²⁰² Second, gun scanners would "advance the public interest" by removing thousands of illegal guns (just as *Terry* stops do) without the inconvenience of stopping many innocent civilians.²⁰³ Third, the "severity of the interference with individual liberty" is far less with a gun scanner virtual checkpoint than with a DUI vehicle checkpoint. Individuals walking through a gun-scanning checkpoint would experience no delays and would not be required to speak with or see police unless the gun scanner indicated that they were carrying a firearm. Fourth, there is an "immediate hazard" from individuals carrying illegal firearms, which is similar to the imminent danger of a drunk driver (*Sitz*), and unlike the more attenuated harm of narcotics

197. *Brown v. Texas*, 443 U.S. 47, 51–52 (1979) (noting that the Fourth Amendment allows for seizures "carried out pursuant to a plan embodying explicit, neutral limitations on the conduct of individual officers").

198. *City of Indianapolis v. Edmond*, 531 U.S. 32, 42 (2000) (arguing that without a limiting principle "there would be little check on the ability of the authorities to construct roadblocks for almost any conceivable law enforcement purpose").

199. *Illinois v. Lidster*, 540 U.S. 419, 427–28 (2004) (holding a checkpoint stop constitutional because police actions only minimally interfered with Fourth Amendment liberties against unreasonable seizures, and the police contact was a simple request for information and distribution of a flyer).

200. *Id.* (quoting *Brown*, 443 U.S. at 51).

201. *Edmond*, 531 U.S. at 39 (pointing out that the "immediate hazard" was the danger posed by drunk drivers on highways). The prohibition against generalized crime control, the seemingly more restrictive factor, was not repeated by the *Lidster* Court.

202. *Mich. Dep't of State Police v. Sitz*, 496 U.S. 444, 457 (1990) (Brennan, J., dissenting) (quoting *Brown*, 443 U.S. at 51). The Court in *Sitz* concluded that an annual death toll of more than 25,000 people from drunk driving was more than enough to justify police DUI checkpoints. *Id.* at 451 (majority opinion). In 2010, of the nearly 13,000 murders reported, over two-thirds involved firearms. FED. BUREAU OF INVESTIGATION, *supra* note 4, at tbl. 8.

203. In New York City, Police Commissioner Kelly credits stop, question, and frisk practices as being "one of the tactics and strategies that helped us reduce murders by 51 percent . . . from the decade before." Joel Rose, *NYPD's Stop-And-Frisk Tactics Targeted by Critics*, NPR (Apr. 5, 2012), <http://www.npr.org/2012/04/05/150059728/lawmakers-target-the-new-york-city-stop-and-frisk>. *But see* Lamberth, *supra* note 13, at 2 (stating that crediting the stop, question, and frisk tactics as being primarily responsible for the drop in that city's murder rate is "too simple").

traffickers (*Edmond*). Although the drug trade is undoubtedly a root cause of much violence, including gun violence,²⁰⁴ carrying narcotics creates less direct, imminent danger than carrying illegal firearms or driving under the influence. Finally, gun-scanning checkpoints—with clear signage warning individuals of the scanner’s presence—do not merely serve the “general interest in crime control,” but rather address an “immediate . . . threat to life and limb.”²⁰⁵ By placing signs to warn people that gun scanners are in use, the police may deter individuals carrying illegal firearms from entering that area.²⁰⁶ If gun scanners are used in areas with histories of violence, reducing shootings—either by arresting individuals or by deterring armed criminals from showing up—would be a victory, proving that law enforcement officials’ primary interest is in public safety and not just in making arrests or “crime control,” as *Edmond* prohibits.²⁰⁷

A virtual gun-scanning checkpoint would address a public safety problem equally as dangerous as drunk driving, cause no inconvenience for innocent civilians, and be unbiased in its operation.²⁰⁸ Admittedly, the Court has cautioned, “the gravity of the threat alone cannot be dispositive” regarding checkpoints,²⁰⁹ and “the mere fact that law enforcement may be made more

204. See *Lidster*, 540 U.S. at 427 (quoting *Brown*, 443 U.S. at 41); see also James C. Howell & Scott H. Decker, *The Youth Gangs, Drugs, and Violence Connection*, JUV. JUST. BULL., Jan. 2009, at 2, available at <https://www.ncjrs.gov/pdffiles1/93920.pdf> (explaining an apparent correlation between a rise in gang violence and gang involvement in the drug trade during the 1980s).

205. *Edmond*, 531 U.S. at 43.

206. Critics might contend that law enforcement’s true motive would be to increase arrests because of the need to generate favorable statistics, rather than focusing primarily on deterring individuals from carrying guns. However, although law enforcement undoubtedly has become a statistics-driven profession, lowering shooting or murder statistics would be a far greater boon to a police commander than recording more firearm possession arrests. See WILLIAM BRATTON & PETER KNOBLER, *THE TURNAROUND: HOW AMERICA’S TOP COP REVERSED THE CRIME EPIDEMIC* 271–72 (1998) (discussing the role of statistics in the police profession); see also James J. Willis, Stephen D. Mastrofski & David Weisburd, *Making Sense of COMPSTAT: A Theory-Based Analysis of Organizational Change in Three Police Departments*, 41 *LAW & SOC’Y REV.* 147, 171–72 (2007) (noting that crime is most effectively reduced through active policing).

207. But see Vernick et al., *supra* note 17, at 575 (arguing that courts “will likely conclude that [gun scanners’] primary purpose is to deter crime”). However, this assessment ignores the weight that *Edmond* places on the immediacy of the threat. See *Edmond*, 531 U.S. at 43 (narrowing the scope of the “immediate hazard” factor). Although the drug trade undoubtedly leads to violence, that danger is far more attenuated than illegal firearms, which create an immediate threat to public safety.

208. Admittedly, bias could emerge in the locations chosen for checkpoints. However, basing checkpoint locations on shooting statistics or likely terrorist targets could be an easily implemented neutral metric. See Bernard E. Harcourt & Tracey L. Meares, *Randomization and the Fourth Amendment*, 78 *U. CHI. L. REV.* 809, 876 (2011) (proposing the placement of checkpoints searches based on the detection of crime achieved at a particular spot and regularly evaluated).

209. *Edmond*, 531 U.S. at 42.

efficient can never by itself justify disregard of the Fourth Amendment.”²¹⁰ But given the Court’s direction in *Lidster*, which upheld a highway checkpoint where motorists were stopped and questioned about a week-old hit-and-run accident, virtual gun-scanning checkpoints seem far easier to justify; the danger to be stopped is greater, and the inconvenience is essentially non-existent.²¹¹

IV. PROBLEMS WITH *KYLLO*

Many may be satisfied with the likely disposition of gun scanners under the current *Kyllo* rule, namely, that police cannot scan for guns indiscriminately on public streets, but must only use the scanners during arrests or *Terry* stops based on independent suspicion, and perhaps also at limited checkpoints. As the argument goes, this is the proper balance between Fourth Amendment rights and public safety,²¹² and the only way to avoid the “Orwellian world” about which Justice Brennan warned.²¹³ Reasonable minds can disagree about gun scanners, and although some believe there are strong arguments under the existing law, the use of gun scanners in suspicionless scans or checkpoints is a close question under *Kyllo*. However, the desirability of the *Kyllo* rule for gun scanners looks far less appealing when the same analysis is applied to law enforcement use of radiation detectors.²¹⁴ After making the comparison between gun scanners and radiation detectors in Part IV.A, the shortcomings of the *Kyllo* rule will become clear. Then, Part IV.B discusses the Fourth Amendment’s role in protecting privacy in a world of constantly evolving technology. Finally, Part IV.C proposes a reformulated Fourth Amendment

210. *Mincey v. Arizona*, 437 U.S. 385, 393 (1978).

211. *Illinois v. Lidster*, 540 U.S. 419, 427 (2004). Although some may argue that there is a “metaphysical” harm of knowing one is under a camera, see Adam Liptak, *In the Name of Security, Privacy for Me, Not Thee*, N.Y. TIMES, Nov. 24, 2002, at C1, the death toll from gun violence must outweigh this burden. Indeed, because CCTV cameras already constantly record the public, most people probably would likely agree that having one’s face on video is far more personal than the blurry outline produced by gun scanners.

212. See, e.g., George Dery III, *Remote Frisking down to the Skin: Government Searching Technology Powerful Enough to Locate Holes in Fourth Amendment Fundamentals*, 30 CREIGHTON L. REV. 353, 392 (1997) (warning that gun-detection technology could undermine the warrant requirement and even the probable cause standard); David A. Harris, *Superman’s X-Ray Vision and the Fourth Amendment: The New Gun Detection Technology*, 69 TEMP. L. REV. 1, 55 (1996) (arguing that gun detectors should only be used when police already have “some reasonable suspicion”); Roberto Iraola, *New Detection Technologies and the Fourth Amendment*, 47 S.D. L. REV. 8, 24–27 (2002) (concluding that the use of gun scanners would probably be unconstitutional under *Terry*, *Place*, or the special needs doctrine); Ric Simmons, *From Katz to Kyllo: A Blueprint for Adapting the Fourth Amendment to Twenty-First Century Technologies*, 53 HASTINGS L.J. 1303, 1327 (2002) (cautioning that, as technology allows for less invasive searches, the Court may become more permissive to their use, thereby eroding privacy rights).

213. *United States v. Jacobsen*, 466 U.S. 109, 138 (1984) (Brennan, J., dissenting).

214. See *supra* text accompanying notes 36–54.

doctrine that sensibly balances the evolution of law-enforcement technology with individuals' privacy concerns.

A. Radiation Detectors Under *Kyllo*

Under *Kyllo*, the warrantless use of radiation detectors appears to be unconstitutional, except during a valid arrest or *Terry* stop: radiation detectors use “sense-enhancing technology” that is “not in general public use” to give police “information . . . that could not otherwise have been obtained without physical intrusion into a constitutionally protected area.”²¹⁵ Thus, their use would constitute a “search” that is “presumptively unreasonable without a warrant.”²¹⁶

Some may conclude that perhaps both gun scanners and radiation detectors should be unconstitutional. Although this would be a doctrinally consistent and legally plausible argument, it would likely be politically unsustainable for the Court to ban radiation detectors in a post-9/11 world. Indeed, even before the 9/11 attacks, the dissenters in *Kyllo* concluded that police detection of “radioactive emissions” would be “an entirely reasonable public service.”²¹⁷

An initial reaction to this application of *Kyllo*, however, might be to distinguish radiation detectors from gun scanners on two grounds: (1) the danger of radiological weapons is far greater than the danger from guns, and (2) radiation detectors always detect illegal materials, while many guns are legally carried. Both of these objections, while intuitively appealing and seemingly valid at first glance, are incorrect.

To distinguish radiation detectors from gun scanners, one could argue that the danger of nuclear terrorism is a bona fide “special need” that would not be prohibited under *Edmond*.²¹⁸ Admittedly, the potential death toll and damage from a nuclear attack with an IND would dwarf even the carnage illegal guns cause.²¹⁹ Nevertheless, although the potential harm from an IND attack would

215. *Kyllo v. United States*, 533 U.S. 27, 34 (2001) (quoting *Silverman v. United States*, 365 U.S. 505, 512 (1961)). As discussed in detail *supra*, this argument assumes that *Kyllo* would be applicable to radiation scans of one's person as well as one's home. See *supra* text accompanying notes 78–81. Some might disagree with this comparison and argue that radiation, unlike guns, has long been detectable without a search of one's person. However, this argument is self-defeating. If technology sets the limits on what searches may occur, then there cannot be any objection to gun scanners (at least once they are perfected).

216. *Kyllo*, 533 U.S. at 40.

217. *Id.* at 45 (Stevens, J., dissenting) (stating an acceptance of “drawing useful conclusions” from emissions monitoring).

218. *City of Indianapolis v. Edmond*, 531 U.S. 32, 37 (2000). Alternatively, one could argue that radiation-detection devices are equivalent to the sniff by a narcotics dog upheld in *Place*, because, unlike gun scanners, it always identifies contraband. *United States v. Place*, 462 U.S. 696, 707 (1983). However, this argument fails for the same reason as the “special needs” doctrine fails. See *infra* notes 222–26 and accompanying text.

219. Dan Farber, *Nuclear Attack a Ticking Time Bomb, Experts Warn*, CBS NEWS (May 3, 2010), http://www.cbsnews.com/8301-503543_162-20003954-503543.html (quoting Matthew

be far greater, the likelihood of such an attack is much more remote.²²⁰ In contrast, gun violence exacts a predictable death toll of almost 10,000 citizens each year and an economic harm estimated at more than \$100 billion annually.²²¹ Although posing a lesser danger than that of a nuclear attack, the harm caused by gun violence could still qualify under the Court's special needs doctrine.²²²

Concededly, one could then draw a line between gun scanners and radiation detectors looking for INDs due to the potential for mass casualties. However, there are two problems with this distinction. First, the radiation detectors used by the NYPD and other law enforcement agencies do not distinguish between the radioactive materials used in INDs and those used in "dirty bombs" (RDDs).²²³ Second, experts in nuclear terrorism agree that RDD threats must be just as vigilantly guarded against, because they are far more likely to occur than INDs.²²⁴ Therefore, anyone who is serious about preventing nuclear terrorism would need to address both IND and RDD threats.

RDDs would produce a lower death toll than INDs, with most of the casualties caused by the conventional explosive at the heart of the bomb, rather than the dispersed radioactive material (known as the "dirty" components). Although the public fear of radiation from an RDD plus the cost and time involved in decontaminating the blast area still make RDDs a serious terrorist threat,²²⁵ there would likely be fewer lives lost than the annual death count from illegal firearms.

Alternatively, to try and maintain a distinction between the constitutionality of gun scanners and radiation detectors, one might argue that radiation detectors only reveal serious risks because any radiation alarm creates a life or death situation for an entire city or region. But, this argument is also incorrect.

Bunn, a Professor at Harvard University's John F. Kennedy School of Government and an expert on nuclear proliferation and terrorism, who estimates that "a 10-kiloton bomb (equivalent explosive power to 10,000 tons of TNT and modestly smaller than the Hiroshima bomb) detonated in midtown Manhattan in the middle of a workday could kill half a million people and cause \$1 trillion in direct economic damage").

220. *Id.*

221. COOK & LUDWIG, *supra* note 5, at 11; *see also* Philip J. Cook et al., *The Medical Costs of Gunshot Injuries in the United States*, 281 J. AM. MED. ASS'N 447, 449 (1999) (estimating the cost to taxpayers for the medical care of uninsured gunshot victims).

222. The Court has, however, been reluctant to delineate exactly what qualifies as a "special need." Although it approved suspicionless testing of public high school athletes for drugs in *Vernonia School District 47J v. Acton*, 515 U.S. 646, 664–65 (1995), the Court found suspicionless drug testing of pregnant women in public health facilities unconstitutional in *Ferguson v. City of Charleston*, 532 U.S. 67, 84 (2001).

223. *See supra* notes 48–53 and accompanying text.

224. Miles O'Brien, *How Tough Is it to Build a Dirty Bomb?*, PBS NEWS HOUR (Feb. 8, 2011), http://www.pbs.org/newshour/bb/science/jan-june11/dirtybombs_02-08.html (noting that a dirty bomb is not as difficult to construct as an atomic weapon).

225. *Id.* (calling a dirty bomb a "weapon of mass *disruption* versus a weapon of mass *destruction*" (emphasis added)).

To date, the only people stopped because of radiation-detector alarms have been nuclear medicine patients.²²⁶ These individuals must explain to a law enforcement officer why they set off a radiation detector, requiring them to divulge medical information that most people would consider to be at the very core of privacy—an acknowledgement that the individual is undergoing cancer treatment, or has taken a diagnostic test for a serious, unknown ailment.²²⁷ Such conversations will occur on a public street, perhaps within earshot of family, employers, or total strangers. In contrast, gun scanners, if the technology can be perfected and if operated only in areas with restrictive handgun laws, will only identify illegal activity.

But, if detecting RDDs qualifies as a “special need,” then the distinction does not hinge on the total number of deaths, but rather on the public fear of a terrorist attack. Although clean-up costs might be higher with RDDs, terrorist use of gun violence could easily exact a death toll just as high and cause equal amounts of public panic. The 2008 terrorist attacks in Mumbai, India, used guns and small explosives to kill 174 people in an area of the city popular with tourists.²²⁸ The fear generated by these gun attacks—referred to as “Mumbai’s 9/11”—severely hurt the city’s tourist industry.²²⁹ Under this logic, if radiation detectors can be deployed to guard against RDDs, then gun scanners should be permissible in areas where an “active shooter” terrorist attack, like those in Mumbai, might occur.²³⁰

Thus, the current *Kyllo* doctrine leads to a troubling outcome. Radiation detectors for INDs and RDDs seem permissible under the “special needs” doctrine, as do gun scanners, in potential terrorist target locations. This means that the Fourth Amendment would only prohibit the police from using gun scanners to prevent shootings in the not-so-nice parts of town, essentially

226. Another group of people improperly stopped are individuals carrying legitimate industrial devices. See Hennesly, *supra* note 53.

227. See *supra* notes 50–54 and accompanying text.

228. Delnaaz Irani, *Surviving Mumbai Gunman Convicted over Attacks*, BBC NEWS (May 3, 2010), http://news.bbc.co.uk/2/hi/south_asia/8657642.stm (describing the destruction and loss in Mumbai).

229. Saikat Chatterjee, *Mumbai Terror Attacks Hit India Tourism at Start of Peak Season*, BLOOMBERG (Nov. 28, 2008), <http://www.bloomberg.com/apps/news?pid=newsarchive&refer=home&sid=a3U1oH1zXjJM>; Zoe Wood et al., *India Counts the Cost of Global Terrorism*, GUARDIAN (Nov. 29, 2008), <http://www.guardian.co.uk/business/2008/nov/30/india-mumbai-terrorist-recovery-economics>.

230. The NYPD considers an active shooter attack to be a serious threat. To prepare for such an attack, the NYPD has given specialized training to its own officers and held training sessions to educate security personnel in buildings in New York. See Sean Gardiner, *NYPD’s Lessons Learned from Tucson-Style Shootings*, WALL ST. J. (Jan 20, 2011, 5:46 PM), <http://blogs.wsj.com/metropolis/2011/01/20/nypds-lessons-learned-from-tucson-style-shootings>. Additionally, the Department prepared a 200-page manual outlining best practices for responding to an active-shooter attack. N.Y.C. POLICE DEP’T, ACTIVE SHOOTER: RECOMMENDATIONS AND ANALYSIS FOR RISK MITIGATION (2011), available at <http://www.nypdshield.org/public/SiteFiles/documents/Activeshooter.pdf>.

constitutionalizing second-class policing of neighborhoods with high gun violence. Yet *Terry* stops, which engender community disenchantment with police and government, could continue unabated. Tourists get scanned without harassment and inner-city residents get stopped and frisked. This unavoidable conclusion strikes one as a deeply uncomfortable outcome under the current doctrine, revealing the flaws in applying *Kyllo* to emerging weapons-detection technology.

B. The Fourth Amendment's Purpose in the Twenty-First Century

The permissibility of gun scanners ultimately depends on one's interpretation of the Fourth Amendment's purpose. To the Founders, "the Fourth Amendment was designed in part, indeed perhaps primarily, to outlaw [] general warrants" that authorized blanket searches of one's home.²³¹ Yet, the Fourth Amendment is not a blanket protection of privacy, as *Jacobsen* notes: "The concept of an interest in privacy that society is prepared to recognize as reasonable is, by its very nature, critically different from the mere expectation, however well justified, that certain facts will not come to the attention of the authorities."²³² The text of the Fourth Amendment recognizes this inherent tension between the desire to ban "unreasonable searches," and the need for effective law enforcement.²³³

Compared to the home, which has more robust warrant requirements, frisks for weapons on one's person have long been permitted on a much lower showing of reasonable suspicion.²³⁴ The Court accepted these privacy infringements because the danger is grave and the government could at least point to some suspicion of criminality to justify a brief *Terry* stop.²³⁵ But, when the police stop innocent individuals, resentment can build. After all, "[b]y the Bill of Rights the founders of this country subordinated police action to legal restraints, not in order to convenience the guilty but to protect the innocent."²³⁶

Provided that gun scanners can be improved to near-perfect accuracy,²³⁷ the technology does not implicate the core concerns of the Fourth Amendment because the scanners require no physical intrusion, reveal no personal details, and detect only contraband. This raises the question: what is constitutionally

231. *Harris v. United States*, 331 U.S. 145, 191 (1947) (Murphy, J., dissenting).

232. *United States v. Jacobsen*, 466 U.S. 109, 122 (1984).

233. U.S. CONST. amend. IV ("The right of the people to be secure . . . against unreasonable searches and seizures, shall not be violated.")

234. See *Terry v. Ohio*, 392 U.S. 1, 25–27 (1968) (permitting a brief detainment and frisk for weapons on the basis of reasonable suspicion).

235. *Id.* at 22.

236. *United States v. Rabinowitz*, 339 U.S. 56, 82 (1950) (Frankfurter, J., dissenting), *overruled in part on other grounds by Chimel v. California*, 395 U.S. 752 (1969).

237. This accuracy requirement is critical, without which one could readily concede that the suspicionless use of gun scanners would be impermissible.

“unreasonable” about such a device? Some critics will respond with concerns about innocent individuals who are exposed to gun scanners. Is this not a modern version of the “general search” that the Framers hated? The answer is no: the effect on an individual subjected to a gun scanner is essentially non-existent because all that the police will see is a blurry outline of an individual’s body without any distinguishable anatomical details.²³⁸ By comparison, a search of one’s home or the use of a wiretap reveals intimate details, and a *Terry* stop leads to a physically invasive frisk. Effectively, the law-abiding citizen walking by a gun scanner is in no worse a position than the law-abiding citizen walking by a commonplace CCTV camera. Indeed, gun scanners invade individuals’ privacy to a lesser extent than surveillance cameras because they do not capture any identifying features.

Society should be far more comfortable with passive gun scanners than with the risks and resentment created by millions of *Terry* stops each year. Courts justify police stop-and-frisks at gunpoint because of “furtive movements,”²³⁹ issue search warrants based solely on an informant’s tip,²⁴⁰ and hold that individuals have no privacy interest in the numbers they dial on their telephones.²⁴¹ By comparison, then, it seems strange to rule that neutral, detached gun-scanning technology would somehow be “unreasonable.” As Americans dutifully take off their shoes and subject themselves to revealing body-image scans at airports, society must ask whether an individual’s need for some kind of “metaphysical”²⁴² privacy on the sidewalk is worth the cost of millions of *Terry* stops each year.

The Fourth Amendment has adjusted to advances in technology while maintaining a proper balance between society’s dual interests in law enforcement and privacy. Undoubtedly, technology changes what is acceptable under the Fourth Amendment. Even Justice Scalia, the Court’s most dedicated originalist, conceded this point in *Kyllo*:

238. See *NYPD Tests Technology*, *supra* note 23 (picturing a blurry outline of one’s body with a highlighted outline of the concealed weapon).

239. See, e.g., *United States v. Pughe*, 441 F. App’x 776, 778 (2d Cir. 2011) (holding that a federal agent’s testimony about the defendant’s “furtive movements” contributed to the agent’s probable cause to search); *United States v. Paulino*, 850 F.2d 93, 98 (2d Cir. 1988) (noting that “furtive movement[s] provide[] a legal basis for [a] protective search”); *People v. Mundo*, 780 N.E.2d 522, 523 (N.Y. 2002) (affirming the lower court’s finding that the “furtive movements of defendant prior to the stop when coupled with evasive actions of the automobile warranted a limited search of the vehicle”).

240. See *Illinois v. Gates*, 462 U.S. 213, 245–46 (1983) (holding that a credible, reliable—but anonymous—tip to police could amount to probable cause to obtain a search warrant).

241. See *Smith v. Maryland*, 442 U.S. 735, 735–36 (1979) (holding that, even without a warrant, police may obtain records of the telephone numbers dialed by an individual because “[the defendant] assumed the risk that the company would reveal the information” that he “voluntarily conveyed . . . to the phone company” when making phone calls).

242. Vernick et al., *supra* note 17, at 571 (“At bottom, privacy may be about an almost metaphysical sense of vulnerability, akin to the fear in some cultures of having one’s picture [sic] taken.” (quoting Liptak, *supra* note 211, at C3)).

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. For example, as the cases discussed above [e.g., *California v. Ciraolo*] make clear, the technology enabling human flight has exposed to public view (and hence, we have said, to official observation) uncovered portions of the house and its curtilage that once were private.²⁴³

Justice Scalia's reference to *Ciraolo* is instructive because it shows how new technology appears to society when it arises, versus when it is no longer novel.²⁴⁴ Today, individuals know that their backyards can be seen by anyone flying overhead in a helicopter, but when airplane-surveillance technology was new, it certainly must have felt like an extremely intrusive government action. This evolution in society's attitudes towards technology shows that gun scanners are simply a modern application of *Katz*—not a radical departure.

C. A New Rule

Comparing radiation detectors to gun scanners highlights the problem with *Kyllo*'s holding that “any information” obtained using sense-enhancing technology that “is not in general public use” is unconstitutional.²⁴⁵ First, *Kyllo* fails to meaningfully engage what privacy values the Fourth Amendment is designed to protect. It is unlikely that individuals would care about a temperature reading of the outside of their home, but, on the other hand, most people would likely be shocked to learn that the Court has found no privacy interest in the phone numbers they dial. Second, *Kyllo* unnecessarily freezes society's expectations of privacy in time, when, in reality, society is constantly searching for an equilibrium with emerging technology. In 1789, it would have been horrifying to imagine flying constables inspecting the curtilage of one's home from the air, and even in 1989, it would have been laughable to suggest that over one billion people would post intimate details about their lives on a public Internet forum for inspection.²⁴⁶ Thanks to airplanes and Facebook, both of these situations have come to fruition and the Fourth Amendment has adjusted appropriately.²⁴⁷

243. *Kyllo v. United States*, 533 U.S. 27, 33–34 (2001) (citing *California v. Ciraolo*, 476 U.S. 207, 215 (1986)).

244. See *Ciraolo*, 476 U.S. at 215 (noting that “[i]n an age where private and commercial flight . . . are routine, it is unreasonable to have an expectation of privacy in airspace”).

245. *Kyllo*, 533 U.S. at 34 (emphasis added). Admittedly, the “at least if not in general public use” caveat in *Kyllo* could allow the doctrine to evolve as technology advances. See *supra* note 149 and accompanying text.

246. Geoffrey A. Fowler, *Facebook: One Billion and Counting*, WALL ST. J., Oct. 5, 2012, at B1 (noting the incredible popularity of Facebook).

247. See, e.g., *Ciraolo*, 476 U.S. at 209, 215 (upholding police helicopter surveillance of the defendant's backyard); *State v. Altajir*, 33 A.3d 193, 196–97, 205 (Conn. 2012) (allowing publicly viewable Facebook photos to be admitted in defendant's probation revocation hearing); see also Anthony Johnson, *Police Are Starting to Use Facebook to Catch Criminals*, ABC 7

Just as *Katz* decoupled Fourth Amendment jurisprudence from its rigid trespass-based origins,²⁴⁸ the Court must similarly free itself from *Kyllo*'s rigid rule.²⁴⁹ Alongside technology's ability to reveal to law enforcement more about private activities, comes the attendant benefit that such intrusions could be far more accurate and limited only to contraband.²⁵⁰ In a future case on the use of gun scanners, the Court could strike this proper balance by overturning *Kyllo* and holding: *A passive device, operating in a publicly accessible area, that detects only contraband,²⁵¹ and does so with near-perfect accuracy and without revealing other intimate, confidential, or embarrassing details, does not constitute a "search" under the Fourth Amendment.*²⁵²

ONLINE, <http://abclocal.go.com/wabc/video?id=8166978> (last viewed Mar. 10, 2013). Indeed, one could argue that gun scanners are simply the new "plain view," revealing previously hidden information, just like helicopters in *Ciraolo*. *But see* Melissa Arbus, Note, *A Legal U-Turn: The Rehnquist Court Changes Direction and Steers back to the Privacy Norms of the Warren Era*, 89 VA. L. REV. 1729, 1764 (2003) (arguing that *Kyllo* "reined in the public exposure doctrine").

248. *Compare* *Katz v. United States*, 389 U.S. 347, 353 (1967), with *Olmstead v. United States*, 277 U.S. 438, 455–56, 563–64, 466 (1928) (holding that wiretapping does "not amount to a search or seizure within the meaning of the Fourth Amendment").

249. For a different proposed revision of the *Katz-Kyllo* syllogism for Fourth Amendment searches, see Casey Holland, Note, *Neither Big Brother nor Dead Brother: The Need for a New Fourth Amendment Standard Applying to Emerging Technologies*, 94 KY. L.J. 393, 414 (2006) (proposing a sliding scale "merged standard" depending on how new and unexpected the police technology is).

250. The seeds of this idea come from Justice Breyer's concurrence in *Minnesota v. Carter*, where he argued that a police officer looking in the window of a suspect's home, although technically a "search," was not "unreasonable." 525 U.S. 83, 104–06 (1998) (Breyer, J., concurring). In fact, this course of action was preferable to obtaining a search warrant that, although it was based on probable cause, could easily have targeted the wrong homeowner: "But [the officer's] chosen method . . . more likely have saved an innocent apartment dweller from a physically intrusive, though warrant-based, search if the constitutionally permissible observation revealed no illegal activity." *Id.* at 105–06 (Breyer, J., concurring).

251. Other authors have agreed that technology that accurately detects only contraband alters the constitutional analysis and may be permissible. *See* Sam Kamin, *Law and Technology: The Case for a Smart Gun Detector*, 59 LAW & CONTEMP. PROBS. 221, 222 (1996) ("[W]hat is needed is a device that can reliably separate those carrying weapons from those who are not, without providing any other information about the individuals being screened. This hypothetical 'smart detector' would not constitute a search under the Fourth Amendment and could provide law enforcement with probable cause to make a more invasive search."); *see also* Christopher Slobogin, *Technologically-Assisted Physical Surveillance: The American Bar Association's Tentative Draft Standards*, 10 HARV. J.L. & TECH. 383, 449–50 (1997) (summarizing the ABA's guidelines on weapons-detection technology, which recommend allowing scanning procedures "when weapons are in fact contraband (as in airports or in jurisdictions that make carrying a concealed weapon a crime)").

252. Alternatively, one could conceive of the distinction based on whether the information detected is "natural." For example, the scent of cocaine and gamma rays from radioactive material are clearly "unnatural," and, therefore, *should be* subject to police-detection equipment. Conversely, body heat and brainwaves are generated by everyone, are natural, and, thus, *should not be* subject to police-detection equipment, perhaps with the possible exception of unusually high body heat, which a suicide bomber, for example, might emanate. Applying this distinction, gun scanners use the terahertz radiation emitted by a firearm to detect the outline of weapons, and

This rule would also apply to detection of indirect evidence of contraband, such as the heat emissions from the house in *Kyllo*—as long as the detection occurred in a public area without compromising other privacy interests.²⁵³ Under this proposed rule, the actual thermal scan in *Kyllo* would be permissible, as would the use of gun scanners and radiation detectors. Warrantless thermal scanning, however, showing “at what hour each night the lady of the house takes her daily sauna and bath,”²⁵⁴ as well as warrantless wiretaps, voice amplification devices, hidden cameras in a suspect’s home, or a scan of the emails on individual’s cell phone in their pocket would remain unconstitutional.²⁵⁵ Notably, in the case of gun scanners, this rule could only apply in jurisdictions like New York City where concealed firearms are almost always illegal.²⁵⁶

Such a rule would not chill any protected activities and would not be a slippery slope to an “Orwellian world.” Instead, it draws a very clear exception for devices that can accurately detect contraband without invading other privacy interests.²⁵⁷ This rule intrudes far less into individuals’ privacy rights than airport security checkpoints, backyard aerial surveillance, or collections of dialed phoned numbers. This rule remains faithful to *Katz*, yet modernizes it for the technological innovations facing law enforcement.

V. CONCLUSION

Gun scanners may provide both costs and benefits for society. Concerns, including infringement of privacy rights and the possibility of discriminatory

would thus be permissible. A holding based on this reasoning, however, might prove unpredictable because it is contingent on the evolution of technology.

253. As *Jones* demonstrates, technology is forcing a re-evaluation of Fourth Amendment concepts. *Jones* adds a new consideration to the Plain View Doctrine by barring GPS data from a suspect’s car, even though the vehicle was traveling in plain view on public roads at all times. *United States v. Jones*, 132 S. Ct. 945, 948–49, 954 (2012) (implementing the trespass rationale for its holding that police action was unconstitutional).

254. See *Kyllo v. United States*, 533 U.S. 27, 38 (2001) (referencing Justice Scalia’s hypothetical).

255. To be clear, “contraband” includes any substance that would form a valid basis for a *Terry* stop (or arrest) because it is typically illegal (e.g., firearms in a jurisdiction with strict laws, such as New York City). This would also include radioactive materials that, despite having some legitimate civilian uses, pose such a grave danger as to justify a *Terry* stop. In contrast, a hypothetical “Swiss Army Knife Detector” would not be valid because it would detect an object with primarily legitimate civilian uses, although such knives could also be used for criminal purposes.

256. See *supra* notes 184–85 and accompanying text.

257. Because gun scanners do not reveal anatomical details or facial features, they would be far less intrusive than either the ubiquitous CCTV cameras or the TSA’s airport scanners. Gun scanners only detect large metal objects carried under clothing and do not detect metal surgical implants under skin, thus, the scanners would not reveal private or potentially embarrassing possessions to the police. Understandably, seeing one’s image on a screen naturally prompts privacy concerns, but, if one looks at the actual images displayed by gun scanners, see *NYPD Tests Technology*, *supra* note 23, most people’s concerns would be alleviated.

uses of the technology, are valid; however, the benefits of reducing gun violence, enhancing police officer safety, and decreasing the number of *Terry* stops that cause resentment for innocent individuals far outweigh the costs. Regardless of their benefit, once gun scanners are in widespread use, their constitutionality is sure to be questioned. Current Supreme Court precedent in *Katz*, *Kyllo*, *Terry*, and *Place* create an uncertain future for gun-scanning technology. This is particularly true in instances of suspicionless use, given *Kyllo*'s holding. Because of this confusion, the Court should adopt a new rule that a passive device that only detects contraband with near-perfect accuracy and without revealing intimate details of one's person, does not constitute a search under the Fourth Amendment.

Ultimately, society must collectively ask why it instinctively finds technology designed to stop terrorism (including airport scanners and radiation detectors) "reasonable," while also holding onto the *Kyllo* rule that likely restricts the use of gun-scanning technology. The threat of terrorism certainly looms large in everyone's mind, but so too should the constant toll that illegal gun violence exacts in America.