ii. Environmental Streamline

The environmental tests and requirements are vital. Not only do they protect the community, but they can also generate neighborhood trust and support. The FAA must work with the Council on Environmental Quality to streamline the review process while maintaining both its integrity and its reliability. The agency should implement transparent ongoing requirements that will keep the community apprised of assessment reports and allow for updates based on the development of new technologies and safety measures.

iii. Coordinated Tax and Insurance Benefits

The federal government can subsidize local spaceports by offering federal tax breaks or credits and insurance benefits. The Director of the Office of Spaceport Operations should carefully assess the cost-benefit analysis of the credits and benefits offered to other transportation modes and seek to replicate the most successful. These benefits should work in parallel to any credits or subsidies given to commercial launch service providers, with the optimum benefits distributed to US launch service providers and payloads who utilize – preferably on a wholesale platform – US spaceports.

iv. Bilateral Agreements

One of the key forward-looking benefits of a spaceport is the potential for point-to-point travel. The Director of the Office of Spaceport Operations must assist the growth of the industry by working with the Department of State and reaching out to foreign States and non-US spaceports to promote bilateral agreements for future point-to-point suborbital travel. It is recommended, too, that the AST commence a rulemaking process that will address national security issues that may arise from joint venture agreements, anticipate the needs of point-to-point passengers in respect of customs and immigration. This type of outreach has the added benefit of starting to create a set of international standards to regulate spaceport standards. The FAA must be clear that US spaceports will not be permitted to operate flights to or from air and spaceports that do not meet the exacting standards of US regulations – including US environmental regulations. In this respect, too, the Director of the Office of Spaceport Operations will have to work closely with the

Department of Defense and intelligence organizations in order to create protocols that will streamline national security reviews.

v. Space Traffic Management

As the cost of launches continues to decline, the number of launches increases. The promulgation of efficient, reasonable and international space traffic management guidelines is a vital prerequisite to a sustainable space economy. The problem embraces a broad swath of distinct issues from sharing the skies with traditional air transport to the tracking of satellites on-orbit to the mitigation of orbital debris. The Office of Spaceport Operations will be uniquely posed to assist in management efforts as spaceport operators must also take responsibility for any items their facility helps to place in orbit. The new Director must coordinate with the Federal Communications Commission, the Department of Commerce and the Department of Defense to help implement and enforce regulations that will – hopefully – prevent a future on-orbit disaster.

vi. Independent Agency

These recommendations demonstrate the tremendous responsibility being placed on the FAA, its AST and its newly formed Office of Spaceport Operations. While Congressional recognition of the importance of spaceport infrastructure development is welcome, it is just a baby step in the right direction. Safe and sustainable access to space is a fundamental requirement for our human existence. Simply maintaining our status quo inarguably relies upon a continuing presence in low Earth orbit. Attempting to harness space resources, and achieving the utopian dream of moving heavy industry off Earth and into space, will require continued and increased access to orbit and beyond. Balancing safety, public health, environmental protection, national security concerns, diplomacy, and both air and space traffic is a responsibility that should not be spread across multiple departments and agencies. The AST must be treated and funded as an independent agency, and a precursor to a cabinet-level Department of Space.

V. CONCLUSION

When Green River City introduced its Intergalactic Spaceport in 1994, it straddled the line between science and science fiction. Today the idea of a spaceport, while *intra*galactic rather than *inter*-galactic, is not just science, it is reality. It is not a trend, it is the future. Naysayers and fiscal conservatives may argue that the proliferation of spaceports today is excessive, and can point to the Oklahoma Spaceport and Spaceport America as indications of failure. There are, however, many more stories of success. The commercial space industry is still in its infancy but evolving swiftly. And the US Congress has demonstrated its interest in providing federal support for spaceport development and maintenance. Communities that want to remain connected should think seriously about embracing the spaceport trend and take advantage of the newly-formed Office of Spaceport Operations to obtain guidance and advice. Spaceports are the foundation of our new space ecosystem. And, as President Reagan said, "[o]pportunities and jobs will multiply as we cross new thresholds of knowledge and reach deeper into the unknown."[203]

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[203] Reagan SOTU, *supra* note 17.

THE TIMES WE LIVE IN – REMOTE SENSING AND THE EVOLUTION OF THE NATIONAL SECURITY SEARCH EXCEPTION

Christian J. Robison[*]

ABSTRACT

The national security exception to the Fourth Amendment allows a warrantless search for the sake of national security if the primary purpose is to purely gather foreign intelligence. Though this exception has been exclusively applied in the context of wiretaps, current concerns regarding national security have many courts and legal scholars to deem national security a part of the special needs doctrine of the Fourth Amendment, and thus have allowed for other search methods within the national security context. The advancement of remote sensing technologies in outer space may also continue to broaden the scope of the national security exception in light of the special needs doctrine. Therefore, this Article will explore whether the advancement of remote sensing technologies and the changing societal norms regarding privacy and security may erode the foundations of the national security exception based upon the "pure intelligence rule" and push the national security exception to special needs. This Article will also discuss the implications of this potential shift in the development of the national security exception within the context of remote sensing.

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I. INTRODUCTION

In the United States, the topic of national security is subject to constant debate. Many times, the debate of national security has been contained within the context of foreign affairs, revolving around military spending or deployment. But in the days after the events of September 11th, the debate of national security has made a monumental shift towards the domestic sphere.[1] Headline after headline has discussed how American intelligence agencies and law enforcement have used a variety of methods to conduct warrantless searches and seizures in the name of national security, much to the chagrin of many Americans. For example, the Transportation Security Administration has gradually increased its use of more invasive screening methods at American airports[2] while the National Security Administration (NSA) has long been scrutinized for hacking into the devices of ordinary American citizens.[3] In short, the current debate involving national security in the domestic context is squarely centered upon the delicate balance between maintaining national security and protecting individual privacy.

At the same time, new and advanced technologies that could aid government agencies and law enforcement in the preservation of national security have become much more prevalent. In particular, government entities such as the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), and the Department of Defense have launched remote sensing satellites into outer space in order to

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[1] *See, e.g., Creation of the Department of Homeland Security*, HOMELAND SEC., https://www.dhs.gov/creation-department-homeland-security (last visited May 7, 2017) (noting the Department of Homeland Security was not created until after the events of September 11th).

[2] *See, e.g.*, Charisse Jones & Thomas Frank, *Backlash Grows Over Pat-Downs, Scanners*, USA TODAY, Nov. 18, 2010, at 1A (acknowledging that the general public has deemed such security measures to be unreasonable and a gross intrusion upon individual privacy); *see also* Elec. Privacy Info. Ctr. v. U.S. Dep't of Homeland Sec., 653 F.3d 1, 3-4 (D.C. Cir. 2011) (describing how airport scanners use "advanced imaging technology" to "produce a crude image of an unclothed person" in order to detect security threats).

[3] *See, e.g., In-house Newsletters by NSA Published from Snowden Leak*, CBS NEWS (May 17, 2016), http://www.cbsnews.com/news/in-house-newsletters-by-nsa-published-from-snowden-leak/ (describing various documents leaked by the infamous hack of the NSA conducted by former government contractor Edward Snowden). For more detail regarding the NSA's domestic surveillance program, see *NSA Surveillance Exposed*, CBS NEWS, http://www.cbsnews.com/feature/nsa-surveillance-exposed/ (last visited May 7, 2017).

carry out a variety of objectives.[4] Remote sensing in outer space is not a new phenomenon. In fact, the ability of satellites to sense the Earth's surface via aerial photography or radar from miles away in orbit has existed for quite some time.[5] However, the amount of remote sensing satellites in orbit and the various capabilities of such satellites have increased in an age of great technological progress.[6] Ultimately, the debate of national security at home coincides with rapidly progressing remote sensing technology and intersects at a crucial point within the context of Fourth Amendment jurisprudence.

The Fourth Amendment protects against unreasonable searches and seizures and thus often requires government entities to obtain a warrant before conducting a search. But, as almost any student or practitioner of the law would know, this foundational aspect of the Fourth Amendment is subject to a number of exceptions. One such exception not often discussed is known as the national security exception. This particular search in years past has essentially allowed Federal intelligence agencies to collect "foreign intelligence" at home and abroad for the preservation of national security. However, this exception has only been narrowly applied in the context of wiretaps used to detect foreign espionage.[7] And, because of the intrusive nature of wiretapping, the limited number of judicial opinions and executive correspondence regarding the exception have held that such a search is reasonable, and thus constitutional, as the search is premised on maintaining national security.[8] This basic principle of the national security exception is known to some legal scholars as "the pure intelligence rule."[9]

But as alluded to above, the nature, and maybe even the exact definition, of national security is rapidly changing in the face of shifting attitudes towards privacy and the emergence of new technology. Consequently, the national security exception has the potential to be unfettered by the constraints of the pure intelligence rule that only allows for the collection of foreign intelligence. That

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[4] *See infra* notes 23-27 and accompanying text.

[5] *See infra* notes 15-17 and accompanying text.

[6] *See infra* notes 23-27 and accompanying text.

[7] *See infra* Part I.C.1.

[8] *See id.*

[9] *See* L. Rush Atkinson, *The Fourth Amendment's National Security Exception: Its History and Limits*, 66 VAND. L. REV. 1343 (2013).

is, despite many complaints that the methods employed by the government to protect national security are unreasonable,[10] many members of the public have been willing to sacrifice privacy for the sake of security in light of recent events.[11] The judiciary has even responded in kind by classifying national security as a "special need" within the context of the Fourth Amendment.[12]

Under the special needs doctrine, a court will evaluate the constitutionality of a warrantless search by balancing a special government interest apart from ordinary criminal wrongdoing against the degree of intrusion upon individual privacy. The special needs doctrine has justified a variety of special government searches such as border searches and DUI checkpoints, and with the changing attitudes towards privacy, may later justify warrantless searches in the name of national security.[13] With that said, the advancement of less intrusive remote sensing technologies in outer space alongside changing attitudes towards privacy may broaden the scope of the national security exception. Or more simply, this phenomenon may "push" the national security exception away from the confines of the pure intelligence rule and to the special needs doctrine in which the scope and application of the national security exception could drastically change.

Therefore, this Article will explore whether the advancement of remote sensing technologies and the change of societal norms regarding privacy and security may erode the foundations of the national security exception based upon the pure intelligence rule and push the national security exception to the special needs theory. This Article will also discuss the implications of this potential shift in the development of the national security exception within the context of remote sensing.

Part I of this Article will describe the evolution and development of remote sensing technologies, recount essential Fourth Amendment jurisprudence, and relay the history and development

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[10] *See supra* notes 2-3 and accompanying text.

[11] *See infra* notes 142-43 and accompanying text.

[12] *See infra* Part I.C.2.

[13] City of Indianapolis v. Edmond, 531 U.S. 32 (2000) (justifying DUI checkpoints by holding that maintaining the safety of mass transportation mediums such as trains, airplanes and highways is a special governmental need); United States v. Montoya de Hernandez, 473 U.S. 531, 537 (1985) (justifying searches at the border by classifying border security as an administrative special need).

of the national security exception under both the pure intelligence rule and the special needs doctrine. Part II will then describe how the capabilities of remote sensing alongside changing societal norms towards privacy and national security may allow the national security exception to further depart from the basic constructs of the pure intelligence rule. Essentially, this Part will also demonstrate how the foundations of the national security exception under the pure intelligence rule would be weakened by the advent of remote sensing and changing norms towards national security and expectations of privacy. Such discussion will lead us to Part III in which we will analyze how the pure intelligence rule and the special needs doctrine would limit or expand the use of remote sensing technologies to conduct warrantless searches for the sake national security.

II. THE HISTORY AND DEVELOPMENT OF REMOTE SENSING, THE FOURTH AMENDMENT, AND THE NATIONAL SECURITY EXCEPTION

A. Remote Sensing

Remote sensing is defined as the "science of obtaining information about objects or areas from a distance, typically from aircraft or satellites."[14] The science of remote sensing began with the invention of the camera in the mid-19th century and continued to develop with the progression of flight.[15] Remote sensing by the way of orbiting satellites began with the testing of V-2 rockets that were acquired from Nazi Germany after the Second World War.[16] Though these rockets did not reach orbit, the rockets "contained automated still or movie cameras that took pictures as the [rocket] ascended."[17]

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[14] *What is Remote Sensing?* NAT'L OCEAN SERV., http://oceanservice.noaa.gov/facts/remotesensing.html (last visited May 7, 2017); *see also* Robert A. Schowengerdt, REMOTE SENSING: MODELS AND METHODS FOR IMAGE PROCESSING 2 (3d ed. 2007) (remote sensing is "an attempt to measure something from a distance, rather than in situ").

[15] *Remote Sensing – Introduction and History*, NASA EARTH OBSERVATORY, https://earthobservatory.nasa.gov/Features/RemoteSensing/ (last visited May 7, 2017) ("[T]he idea and practice of looking down at the Earth's surface emerged in the 1840s when pictures were taken from cameras secured to tethered balloon for purposes of topographic mapping.").

[16] *Id.*

[17] *Id.*

Since that time, remote sensing capabilities have spanned much beyond mere aerial photography. Remote sensing satellites in outer space are able to gain information actively[18] through the use of lidar, radar, and sonar.[19] These same satellites are also able to collect information passively[20] through thermal imaging, and of course, through high resolution aerial photography.[21]

Much of the American public is well aware of the benefits that remote sensing technology can provide from outer space. From weather forecasts and GPS assistance[22] contained on portable electronic devices, the American public indirectly interacts with remote sensing on a daily basis.[23] But what many may forget to realize that remote sensing technology has steadily improved from its inception and has become more advanced than ever before. For example, NOAA and NASA's joint GOES-R satellite uses a near-infrared optical transient detector to map lightning strikes all over world in real time, all while orbiting miles above the Earth's surface;[24] cameras used on remote sensing satellites have such clear resolution that many national governments have used satellite imagery to collect information on unclaimed luxury tax items such as swimming

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[18] Active remote sensors use their own energy (i.e. provide its own source of illumination) in order to sense an object on the Earth's surface. *See Passive vs. Active Sensing*, NAT. RESOURCES CAN., http://www.nrcan.gc.ca/node/14639 (last visited May 7, 2017).

[19] David Camacho, Guest Lecturer, Univ. of Miss. School of Law, Remote Sensing Principles for Space Law (Feb. 1, 2017) (presentation on file with author). Lidar is "high resolution scanning using ultraviolet, visible or near infrared lasers to measure physical features" of the object being sensed. *Id.* Radar or "radio detection and ranging" uses particular bands of the electromagnetic spectrum to sense an object. Different bands are used for "different conditions and applications." *Id.*

[20] "Passive instruments detect natural energy that is reflected or emitted from the observed scene. Passive instruments sense only radiation emitted by the object being viewed or reflected by the object from a source other than the instrument. Reflected sunlight is the most common external source of radiation sensed by passive instruments." *Remote Sensing – Remote Sensing Methods*, NASA EARTH OBSERVATORY, https://earthobservatory.nasa.gov/Features/RemoteSensing/remote_08.php (last visited May 7, 2017).

[21] *See* Camancho, *supra* note 19.

[22] GPS is not necessarily classified as a remote sensing technology, but it is nonetheless closely related to remote sensing and also has the potential to influence Fourth Amendment jurisprudence when it comes to changing technology. *See infra* notes 182-85 and accompanying text.

[23] *See 100 Earth Shattering Remote Sensing Applications & Uses*, GIS GEOGRAPHY, http://gisgeography.com/100-earth-remote-sensing-applications-uses/ (Jan. 21, 2017) [hereinafter GIS].

[24] *Geostationary Lightning Mapper*, GOES R, http://www.goes-r.gov/spacesegment/glm.html (last visited May 7, 2017).

pools[25] and to detect crop insurance fraud;[26] commercial companies have even used satellite imagery to count cars in parking lots in order to predict earnings, conversion rates, and market shares for auto dealers and manufacturers.[27]

In terms of national security, many know that remote sensing is vital to its preservation. Even has far back as the American Civil War, primitive cameras attached to hot air balloons were used to spy on the enemy, and in modern times, remote sensing technology in outer space has utilized infrared and other thermal imaging technology to detect enemy bunkers hidden deep underground in foreign lands.[28] In the domestic context of national security, remote sensing satellites have been used to detect matters pertaining to homeland security such as illegal migration and narcotic trade routes.[29] Such methods used by intelligence agencies and law enforcement alike have been much more invasive than just high resolution aerial photography. For instance, government entities have used infrared and other mechanisms to detect illegal drug production and smuggling.[30] Such technology allows one to peer into buildings, households, and even moving vehicles that might be involved in the production or transportation of such substances.[31] Again, the American public may be aware of the technologies used to protect national security or to simply detect ordinary criminal wrongdoing, but still may be unaware of exactly how far these technologies have advanced in prevalence and precision.[32]

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[25] GIS, *supra* note 23.

[26] *See id.*

[27] *Id.*

[28] Alex Vissotzky, *Military Applications of Remote Sensing*, http://remotesensing.montana.edu/documents/lres-426/Vissotzky.pdf.

[29] Alice B. Kelly & Nina Maggi Kelly, *Validating the Remotely Sensed Geography of Crime: A Review of Emerging Issues* (ISSN 2072-4292), *available at* http://www.mdpi.com/2072-4292/6/12/12723/htm (discussing the vast capabilities of remote sensing technology to detect and prevent dangerous crime along the United States border with Mexico).

[30] *See id.*; *see also infra* notes 177-81 and accompanying text (discussing the Supreme Court's decision in *Kyllo v. United States*).

[31] *See* Kelly & Kelly, *supra* note 29.

[32] In fact, it has often been a policy of the Federal government to *not* reveal the capabilities of remote sensing satellites, especially when it comes to matters of reconnaissance. *See* R. Cargill Hall, *The Evolution of U.S. National Security Space Policy and Its Legal Foundations in the 20th Century*, 33 J. SPACE L. 1, 21 (2007) ("The U.S. should not, at this time, publicly disclose the status, extent, effectiveness or operational character of

B. The Fourth Amendment

The Fourth Amendment is of central importance to the American legal system, though its exact interpretation is the subject of incessant debate. The Fourth Amendment reads:

> 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.[33]

In strict accordance with the words of the Fourth Amendment, the Supreme Court formerly held that a search was unreasonable, and therefore unconstitutional, if there was some sort of "physical invasion" of the person's home or person.[34] Later on, the Supreme Court developed a doctrine of "constitutionally protected places" that could not be searched without a warrant based upon probable cause.[35]

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its reconnaissance program." (quoting space policy directives of President John. F. Kennedy)).

[33] U.S. CONST. amend. IV.

[34] Essentially, before the last third of the twentieth century, the right to be free from searches and seizures without a warrant was of little importance in English or early American jurisprudence. *See* THOMAS K. CLANCY, THE FOURTH AMENDMENT: ITS HISTORY AND INTERPRETATION 27-31 (2008) (providing a brief overview of the development of the Fourth Amendment). However, with the rising tensions that came with the English Crown's treatment of the American colonies in the first half of the eighteenth century, the Framers of the Constitution became much more concerned about suspicionless searches and seizures. *See id.* at 31. Suspicionless searches and seizures were often conducted through British military officers via "writs of search" in order to enforce customs regulations for the purposes of taxation. *See id.* at 32. The primary effect of such practice led the Framers to prevent suspicionless searches in seizures within the context of property law rights. *See id.* at 51. This notion is squarely rooted in the Supreme Court's first case concerning the Fourth Amendment, *Boyd v. United States* in which the Court ultimately held that production of private papers without a warrant supported by probable cause was an unreasonable search and seizure. *See* 116 U.S. 616, 634-35 (1886).

[35] *See* Olmstead v. United States, 277 U.S. 438 (1928). In this case, a man was convicted for crimes relating to the illegal sale of liquor after law enforcement were able to record several of the defendant's phone conversations. *Id.* at 455-56. The recordings were obtained without a warrant. *Id.* The Court held:

The [Fourth Amendment does not forbid [the wiretapping that] was done here. There was no searching. There was no seizure. The evidence was secured by the use of the sense of hearing and that only. There was no entry of the houses or office of the defendants. By

However, the progressive and transformative Warren Court of the mid-20th century greatly modernized Fourth Amendment jurisprudence.[36] This great modernization, and the subsequent foundational principles of current Fourth Amendment interpretation, began with the seminal case of *Katz v. United States*.[37] The Court in *Katz* essentially dispensed the former doctrines centered upon physical invasions and protected places and focused upon individual privacy by determining whether a particular law enforcement activity constituted a search.[38] "A 'search' takes place when (i) a person's subjective expectation of privacy is invaded, as long as (ii) society is prepared to recognize that expectation as reasonable."[39] Consequently, if the action taken by the government constitutes a search, it is presumed unreasonable unless it is accompanied by a warrant based upon probable cause.[40]

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the invention of the telephone fifty years ago, and its application for the purpose of extending communications, one can talk with another at a far distant place.

Id. at 464-65. With this holding, the Court basically established that there be a physical invasion of the home or person in order for a warrant to be required.

[36] "The professors who write for the law reviews are convinced that the Warren Court has gone further than any before it in altering the rules of American law and revolutionizing the traditional system of checks and balances among the Court, the Congress and the President . . . . Some like the result and some deplore it - but all are agreed that the Warren Court is making history and will profoundly affect the future of the U.S., for better or for worse, at least for many years to come and possibly forever." Justin Driver, *The Constitutional Conservatism of the Warren Court*, 100 CALIF. L. REV. 1101, 1102 (2012) (quoting Ernest Havemann, *Storm Center of Justice*, LIFE, May 22, 1964, at 108, 110 (internal quotations omitted)).

[37] 389 U.S. 347 (1967). In *Katz*, the defendant was convicted for transmitting gambling information via a payphone in violation of Federal law after the government introduced evidence of the defendant's telephone conversations that were collected by FBI wiretapping. *Id.* at 348.

[38] In short, the Supreme Court found that an individual has a reasonable expectation of privacy in telephone conversations, and therefore, such conversations are constitutionally protected by the Fourth Amendment. *Id.* at 352. Ultimately, the Court held that the FBI agents had violated the Fourth Amendment by not obtaining a warrant based upon probable cause. *Id.* at 357 ("[S]earches conducted outside the judicial process, without prior approval by judge or magistrate, are *per se* unreasonable under the Fourth Amendment—subject only to a few specifically established and well delineated exceptions.")

[39] Katherine Stein, Comment, *Search and Seizure at Cruising Altitude: An Analysis of the Re-Born Federal Air Marshals and Fourth Amendment Complications in the Twenty-First Century*, 70 J. AIR L. & COM. 673, 685 (2005) (citing *Katz*, 389 U.S. at 361 (Harlan, J., concurring)).

[40] *See* Illinois v. Gates, 462 U.S. 213 (1983); Payton v. New York, 445 U.S. 573 (1980); Mincey v. Arizona, 437 U.S. 385, 393-94 (1978) ("Warrants are generally required to search a person's home or his person unless the exigencies of the situation make the

As time has passed, this basic principle of the Fourth Amendment has been eroded by subsequent cases that have come before the Supreme Court. Essentially, there are many times in which a government activity indeed constitutes a search, but yet is constitutional because, as espoused in *Katz*, the constitutionality of a search hinges upon *reasonableness*.[41]

In *Smith v. Maryland*,[42] the Supreme Court made clear that reasonableness was based upon a case-by-case consideration of subjective and objective expectations of privacy.[43] With this foundation, the Supreme Court has gone on to analyze individual cases and determine whether a search was reasonable in light of the attendant circumstances. From dog sniffs of an automobile[44] to searches of a garbage can,[45] the Court has analyzed reasonableness in order to determine whether there was a search and thus a need for a warrant.[46]

In this determination of reasonableness, the Court has carved out clear and concise exceptions to the warrant requirement. These exceptions must meet certain requirements in order to make such a search constitutional without a warrant. There are a variety of well-defined search exceptions with very specific requirements known by simple names such as the border search exception,[47] the

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needs of law enforcement so compelling that the warrantless search is objectively reasonable under the Fourth Amendment." (internal quotations omitted)). Technology has a great impact on what constitutes a search under the Fourth Amendment. *See infra* notes 177-86 and accompanying text.

41 *See supra* notes 33, 39 and accompanying text.

42 44 U.S. 735 (1979).

43 *See id.* at 740.

44 *See* Rodriguez v. United States, 135 S. Ct. 1609 (2015) (holding that a dog sniff of an automobile after a traffic stop was reasonable as the officer observed evidence of drug use).

45 California v. Greenwood, 486 U.S. 35 (1988) (holding that a warrantless search of a garbage can was reasonable).

46 The Court has of course analyzed reasonableness within the context of new technologies that may enhance the government's ability to conduct a search. This particular aspect of law surrounding the Fourth Amendment will be reserved for analysis later in this Article as remote sensing in relation to reasonableness is of central importance. *See infra* Part III.A.

47 *See* United States v. Montoya de Hernandez, 473 U.S. 531, 537 (1985); United States v. Ramsey, 431 U.S. 606, 616 (1977).

automobile exception,[48] the administrative search exception,[49] and of course, the national security exception, the subject of this Article.

C. The National Security Exception

Unlike other Fourth Amendment search exceptions, the development of the national security exception mainly occurred outside the courtroom. Because of this unique development, the national security exception does not necessarily fall within the confines of the traditional exclusionary rule.[50] But nonetheless, the national security exception is indeed recognized as a legitimate and "well-delineated"[51] Fourth Amendment search exception,[52] despite the fact that the exception is not so-well defined in concrete application.[53] As alluded to above, this is due to the fact that the traditional notion of the exception based upon what is known as the pure intelligence rule is subject to recent developments regarding the special needs doctrine. Therefore, we will explore the development of the national security exception and its basic constructs by first discussing the traditional national security exception based upon the pure intelligence rule. We will then discuss the special needs doctrine and how such doctrine has been applied to matters regarding national security.

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[48] *See* Pennsylvania v. Labron, 518 U.S. 938 (1996).

[49] *See* Camara v. Municipal Court, 387 U.S. 523 (1967).

[50] The purpose of many definitive search exceptions is to ensure that evidence that may have been collected without a warrant may still be admissible at trial. *See* Weeks v. United States, 232 U.S. 383 (1914) (establishing the exclusionary rule in which unlawfully obtained evidence is inadmissible at trial). The national security exception not only allows for the admission of evidence, but can also justify national security investigations in themselves.

[51] Katz v. United States, 389 U.S. 347, 357 (1967) (citing Carroll v. United States, 267 U.S. 132, 153, 156; McDonald v. United States, 335 U.S. 451, 454-456; Brinegar v. United States, 338 U.S. 160, 174-177; Cooper v. California, 386 U.S. 58; Warden v. Hayden, 387 U.S. 294, 298-300).

[52] *See* United States v. U.S. District Court (Keith), 407 U.S. 297 (1972).

[53] *See* Christian J. Robison, *Not Up In The Air: A Federal Air Marshal's Administrative Search Privileges in Flight,* 84 MISS. L.J. 1375, 1391 ("While this exception is generally broad, it has been applied narrowly, mainly in cases involving warrantless wiretapping. This narrow application has led the national security exception to be largely undeveloped and undefined in other spheres.").

i. National Security and the Pure Intelligence Rule

As somewhat mentioned above, maintaining national security is not just done through participating in armed conflict. Rather, the modern method of maintaining national security is centered upon complex networks of international diplomacy and intelligence.[54] The United States is well known for collecting intelligence abroad, but it also known for collecting intelligence within its own borders via certain agencies like the Federal Bureau of Investigations ("FBI") that have both intelligence-gathering and law enforcement responsibilities.[55] These domestic intelligence agencies conduct "national security investigations" in order to detect particular threats to national security including but not limited to, "(1) international terrorism, (2) espionage and other intelligence activities, sabotage, or assassination, conducted by, for, or on behalf of foreign powers, organizations, or persons, and (3) foreign computer intrusions."[56]

As one can infer from this short list of potential threats to national security, "[national] security investigations are not necessarily premised on suspicion of criminal activity"[57] because the main goal of many security operations is to prevent threats from coming to harmful fruition. This is very much unlike the world of criminal justice in which ordinary criminal investigations conducted by law enforcement are premised upon collecting evidence for the purpose of subsequent prosecution.[58] But despite the main goals of national security investigations and ordinary criminal investigations, domestic investigations for the sake of national security are subject to Fourth Amendment limitations due to the fact that many national security investigations are (1) coordinated by government entities that are involved in law enforcement, (2) use investigation methods that are commonly employed in ordinary

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[54] *See* Katherine J. Strandburg, *Freedom of Association in a Networked World: First Amendment Regulation of Relational Surveillance*, 49 B.C. L. REV. 741, 749-50 (2008).

[55] *About*, FBI, https://www.fbi.gov/about (last visited May 7, 2017).

[56] Atkinson, *supra* note 9, at 1348 (quoting U.S. Dep't of Justice, The Attorney General's Guidelines for Domestic FBI Operations 7 (2008) (internal quotations omitted)).

[57] *Id.* at 1351.

[58] *See id.* at 1349 ("Law enforcement's ultimate goal . . . is almost always prosecution").

criminal investigations, and (3) at times, reveal evidence of ordinary criminal wrongdoing.[59]

This relationship between investigation and national security has led the Federal government to inadvertently create a Fourth Amendment search exception in order to conduct efficient and effective national security investigations unhampered by warrant requirements. Beginning with the Second World War, the FBI was given intelligence responsibilities and began to "bug" rooms and households used by suspected enemy spies.[60] With this search technique, the FBI utilized small microphones planted in private rooms to listen and record conversations in hopes of collecting evidence of espionage.[61] Such a practice ran afoul of Supreme Court doctrine created through important cases such as *Olmstead v. United States*[62] and *Goldman v. United States*[63] as bugging constituted a physical invasion of a constitutionally protected place.[64]

Upper echelons of the FBI recognized this dilemma early on but nonetheless persisted in the use of warrantless investigative techniques.[65] But ironically, the FBI and other intelligence agencies recognized that some compromise needed to be had after realizing that much of its evidence collected through warrantless searches were not admissible in court, therefore allowing dangerous individuals that were considered to still be threats to national security to

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[59] *See infra* notes 60, 64, 74-75 and accompanying text.

[60] Atkinson, *supra* note 9, at 1359.

[61] See Dalia v. United States, 441 U.S. 238, 240 n.1 (1979) (providing a description of the bugging search technique).

[62] 277 U.S. 438 (1928) (holding wiretapping to be unconstitutional unless accompanied by a warrant).

[63] 316 U.S. 129 (1942) (holding the use of a bugging device planted in a private office constituted an invasion of a constitutionally protected area).

[64] *See* Atkinson, *supra* note 9, at 1361. ("Alexander Holtzoff, Special Assistant to the Attorney General, wrote to Hoover about physical searches, explaining that 'the secret taking or abstraction of papers or other property from the premises without force is equivalent to an illegal search and seizure . . . . Consequently, such papers or other articles are inadmissible as against a person whose rights have been violated.'" (quoting Memorandum from Alexander Holtzoff, Special Assistant to Att'y Gen., U.S. Dep't of Justice, for J. Edgar Hoover, Dir., FBI (July 4, 1944) (quoted in S. Rep. No. 94-755, at 366-67))).

[65] *See id.* at 1632.

avoid conviction.[66] This prompted the FBI to enter into persistent negotiations with officials from the Department of Justice.[67]

In prior discussions with Justice officials, particular individuals such as then-Attorney General Howard McGrath made clear that FBI practices were strictly forbidden by the Fourth Amendment.[68] But after years of discussion, the FBI was finally able to find an ally in the Justice department during the Eisenhower administration.[69] Then-Attorney General Herbert Brownell strongly believed that agencies like the FBI would be unduly compromised if a warrant was required to conduct a fully effective investigation.[70] Therefore, after much discussion between the Justice Department and the FBI, Brownell explicitly stated in a memorandum to J. Edgar Hoover, "The Department [of Justice] should adopt that interpretation which will permit microphone coverage by the FBI in a manner most conducive to our national interest . . . . Considerations of internal security and the national safety are paramount and, therefore, may compel the unrestricted use of this technique in the national interest."[71]

Ultimately, Brownell justified his approach by deeming "trespassory bugging constitutionally permissible so long as it remained for purely intelligence matters."[72] With this reasoning, the pure intelligence rule underlying the national security exception was born. The pure intelligence rule as first envisioned by Brownell was ratified by successive Presidential administrations insomuch that each President allowed warrantless bugging and wiretapping by the FBI and other similar agencies as long as the search was premised upon national security, a non-prosecutorial purpose.[73]

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[66] *See id.* at 1632-34 (discussing the "Amerasia" trials and the prosecution of Joseph Weingberg, a graduate student who had worked with J. Robert Oppenheimer on the Manhattan Project).

[67] *See id.* at 1364.

[68] *See id.* at 1366 ("McGrath concluded that trespassory bugging, even in national security matters, violated the Fourth Amendment.").

[69] *Id.* at 1367. Coincidentally, this is the same era that marked the beginnings of the American space program.

[70] *See id.* at 1367-68.

[71] Memorandum from Attorney Gen. Herbert Brownell for J. Edgar Hoover, Dir., FBI 1 (May 20, 1954) (copy on file with Atkinson, *supra* note 9.).

[72] Atkinson, *supra* note 9, at 1369.

[73] *See id.* at 1371-74.

However, the national security exception under the pure intelligence rule did not gain judicial acknowledgement until former Solicitor General Thurgood Marshall composed supplemental government briefs in *Black v. United States*[74] and *Schipani v. United States*.[75] Though these cases did not involve issues of national security, these cases did involve warrantless wiretapping conducted by the FBI.[76] Within these supplemental briefs, Marshall clearly stated that "governmental practice . . . prohibits such electronic surveillance in all instances except those involving the collection of intelligence with respect to matters affecting national security."[77]

This clearer assertion of the pure intelligence rule found some support in the all-so-important *Katz* case via a footnote composed by Justice White who had pushed for a national security exception in other cases.[78] This footnote allowed the *Katz* Court to "expressly reserve[] the question of 'whether safeguards other than prior authorization by a magistrate would satisfy the Fourth Amendment in a situation involving the national security,'" despite the fact that the Court found that warrantless wiretapping was indeed unreasonable.[79] With the Court's small blessing in *Katz*, the FBI began to resume warrantless wiretapping and eventually found official approval in the Fifth Circuit in *United States v. Clay*[80] and later on in the D.C. Circuit in *United States v. Hoffman*.[81]

In both these cases, certain phone conversations collected by the way of warrantless wiretapping were admitted into evidence

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[74] 385 U.S. 26 (1966) (involving warrantless wiretap of individual suspected of tax evasion).

[75] 385 U.S. 372 (1966) (involving warrantless wiretap of individual suspected of tax evasion).

[76] *See supra* notes 74-75 and accompanying text.

[77] Supplemental Memorandum for the United States at 4, Schipani v. United States, 385 U.S. 372 (1966).

[78] *See* Berger v. New York, 388 U.S. 41 (1967) (case involving device used to record individual suspected of bribing state officials). In his dissent, Justice White argued that the Court's decision left no room for a "national security exemption" to the Fourth Amendment's warrant requirement. *Id.* at 115 (White, J., dissenting).

[79] Katz v. United States, 389 U.S. 347, 358 n.23 (1967).

[80] 430 F.2d 165, 170-71 (5th Cir. 1970). This case is of special notoriety as it was the prosecution of Muhammad Ali for refusing to enlist for the draft during the Vietnam War.

[81] 334 F. Supp. 504, 508 (D.D.C. 1971).

based upon the fact that the searches were conducted for the purposes of national security.[82] Essentially, the judges in both cases relied upon the opinion of Justice White in *Katz* by holding that evidence collected *on the premise* of national security derived from a reasonable search.[83]

The long history of the development of the national security exception based on the pure intelligence rule came to a critical point in *United States v. United States District Court*, commonly known as the *Keith* case.[84] In this case, three members of the White Panther Party were arrested for the bombing of a CIA office, and during discovery before trial, the Government conducted warrantless wiretaps of the defendants.[85] The government admitted that much of its evidence was collected from these recorded conversations, but blatantly argued that such evidence should be admissible under the national security search exception to the Fourth Amendment, signaling a clear departure from the pure intelligence paradigm.[86]

Recognizing that evidence discovered under the national security exception had been deemed admissible in prior cases, the Supreme Court chose to solidify the pure intelligence rule by holding that a "domestic security interest" is not covered by the national security exception.[87] Therefore, the national security exception was limited to warrantless surveillance for the purpose of gathering *foreign* intelligence or essentially, "security cases . . . where foreign powers were involved."[88] In short, the *Keith* Court greatly limited the national security exception to a pure *foreign* intelligence rule. The new limitation on the national security exception as espoused

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[82] *Hoffman*, 334 F. Supp. at 505; *Clay,* 430 F.2d at 166.

[83] *See Hoffman*, 334 F. Supp. at 507; *Clay,* 430 F.2d at 171. The judges in these cases did opine for a national security exception per se, but still nonetheless held that the searches conducted did not fall in line with such an exception.

[84] 407 U.S. 297 (1972).

[85] *Id.* at 299. The White Panther Party was a group of white individuals who desired to aid the cause of the Black Panther Party. *See* Kaya Burgess, *Obama's Inauguration Hailed by White Panther Founder John Sinclair*, THE TIMES (U.K.) (Jan. 21, 2009), https://www.thetimes.co.uk/article/obamas-inauguration-hailed-by-white-panther-founder-john-sinclair-rvkg3pjk5l9.

[86] *See id.* at 301.

[87] *See id.* at 321-22.

[88] *Id.*

in *Keith* was upheld by subsequent lower court decisions such as *United States v. Buck*[89] and *United States v. Butenko*.[90]

But in reaction to the *Keith* case, Congress decided to pass the all-important Foreign Intelligence Surveillance Act of 1978 ("FISA").[91] In essence, this particular piece of legislation encompasses the national security exception within the parameters of the pure intelligence rule by allowing electronic surveillance[92] of one that is suspected of being a foreign power or one of its agents.[93] However, there are some very important caveats to the underlying foundations of FISA.

First and foremost, there are really two types of national security investigations under FISA. The unamended, first iteration of FISA allows electronic surveillance of a suspected foreign power or agent via an "intelligence warrant" supported by probable cause[94] which is provided by a special court known as the Foreign Intelligence Surveillance Court.[95] By conducting a search with a warrant, Congress is able to allow evidence collected from such national security investigations to be used in subsequent criminal trials.[96] This important premise of FISA has of course been subject to extensive litigation.[97]

The second type of surveillance allows for certain types of *warrantless* searches of non-U.S. individuals located overseas.[98] This particular surveillance was allowed by the FISA Amendments Act of 2008 and has become widely known as "FISA Section 702."[99] This

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[89] 548 F.2d 871 (9th Cir. 1977).

[90] 494 F.2d 593 (3d Cir. 1974).

[91] 50 U.S.C. § 1801 *et seq.* (2012).

[92] See *id.* at § 1801(f) for an exact definition of what constitutes *electronic* surveillance under FISA.

[93] *See id.* at § 1802.

[94] *Id.* at § 1804.

[95] *Id.*

[96] *Id.* at § 1806(c).

[97] *See* Atkinson, *supra* note 9, at 1398 (citing United States v. Duka, 671 F.3d 329, 337 (3d Cir. 2011); United States v. El-Mezain, 664 F.3d 467, 563 (5th Cir. 2011); United States v. Abu-Jihad, 630 F.3d 102, 117 (2d Cir. 2010) (listing Fourth Amendment challenges); United States v. Stewart, 590 F.3d 93, 99 (2d Cir. 2009); United States v. Campa, 529 F.3d 980, 993 (11th Cir. 2008); United States v. Hammoud, 381 F.3d 316, 331 (4th Cir. 2004); United States v. Miller, 984 F.2d 1028, 1032 (9th Cir. 1993); United States v. Sarkissian, 841 F.2d 959, 964 (9th Cir. 1988); United States v. Badia, 827 F.2d 1458, 1462 (11th Cir. 1987)).

[98] 50 U.S.C. § 1881a (2012).

[99] Pub. L. No. 110-261 § 101, 122 Stat. 2436, 2437 (adding Section 702 to FISA).

section may ensure that U.S. citizens are not targeted by certain national security investigations, but it does not ensure the standard of probable cause.[100] Rather, Section 702 only requires a reasonable belief that the suspected individual is a non-U.S. person located outside the United States and the surveillance has a foreign intelligence purpose.[101]

Regardless of the level of suspicion required of national security investigations under FISA, the legislation in itself stays true to the foundations of the pure intelligence rule. But as briefly mentioned, FISA has been amended several times since 1978, most notably by the PATRIOT Act of 2001.[102] As we will discover later on, changes to FISA pose significant implications for the continued evolution of the national security exception.[103]

ii. National Security and the Special Needs Doctrine

Since the *Keith* case and the passage of FISA, the national security exception has been contained within the "foreign powers" parameters of the pure intelligence rule.[104] That is, as repeated several times over, a search conducted under the national security exception must be clearly based upon the collection of foreign intelligence and not premised on ordinary, domestic criminal wrongdoing.[105] However, some scholars,[106] and some judicial opinions,[107] have attempted to place national security as subcategory of what is known as special needs.

The special needs doctrine was first introduced in *New Jersey v. TLO* in which a high school student was subjected to a warrantless search by school administrators.[108] The Supreme Court held

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[100] § 1881a.

[101] *See id.*

[102] Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (US PATRIOT Act), Pub. L. No. 107-56, 115 Stat. 272 [hereinafter PATRIOT Act].

[103] *See infra* notes 192-96 and accompanying text.

[104] *See* Atkinson, *supra* note 9, at 1389.

[105] *See supra* Part I.C.1.

[106] *See, e.g.,* Ronald M. Gould & Simon Stern, *Catastrophic Threats and the Fourth Amendment*, 77 S. CAL. L. REV. 777 (2004) (arguing that national security fits within the special needs paradigm).

[107] *See infra* notes 119-26 and accompanying text.

[108] New Jersey v. *TLO*, 469 U.S. 325 (1985).

that the search was constitutional when it was "supported by reasonable suspicion" that it would yield "evidence of an infraction of school disciplinary rules or a violation of the law."[109] In holding that probable cause was not required, the Court reasoned that "the *special needs* of the school environment require assessment of searches against a standard less exacting than probable cause."[110] This particular rationale allowed the Court to assess the search based upon reasonableness per the Fourth Amendment.[111] In this instance, the Court found that determining reasonableness in the absence of a warrant required "balancing the [special] need of the search against the invasion which the search entails."[112] Justice Blackmun in his concurrence expanded the Court's reasoning beyond the school context by explaining that "only in those exceptional circumstances in which special needs, beyond the normal need for law enforcement, make the warrant and probable-cause requirement impracticable, is a court entitled to substitute its balancing of interest for that of the Framers."[113]

Justice Blackmun's concurrence has been the basis to justify a number of searches based upon special needs including, but not limited to, drug tests of student athletes[114] and government employees,[115] searches of probationers' homes,[116] and DUI checkpoints.[117] In sum, the special needs doctrine as solidified by several cases all involving different government interests allows a warrantless search if there is special need beyond the needs of law enforcement and the search is reasonable when balancing the government interest in furthering a special need against expectations of privacy.[118]

The national security exception has gained recognition as a special need in several lower court decisions. For prime example, in

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[109] *Id.* at 332 n.2.

[110] *Id.*

[111] *See id.* at 341.

[112] *Id.* at 337 (quoting Camara v. Municipal Court of S.F., 387 U.S. 523, 536-37 (1967) (establishing the foundations of the administrative search exception) (emphasis added)).

[113] *Id.* at 351 (Blackmun, J., concurring).

[114] *See* Vernonia Sch. Dist. 47J v. Acton, 515 U.S. 646 (1995)

[115] *See* Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656 (1989); O'Connor v. Ortega, 480 U.S. 709 (1987).

[116] *See* United States v. Knights, 534 U.S. 112 (2001); Griffin v. Wisconsin, 483 U.S. 868 (1987).

[117] *See supra* note 13.

[118] *See supra* notes 110-13 and accompanying text.

MacWade v. Kelly, the plaintiffs in the case challenged New York City's practice of inspecting containers for explosives before individuals could board trains at particular subway stations.[119] Though the City initiated this practice in reaction to train bombings in Madrid, Moscow, and London,[120] the plaintiffs nonetheless asserted that such a practice was unduly intrusive and therefore unconstitutional.[121] However, the court plainly held that preventing terrorist attacks on board mass transit "constitutes a special need that is distinct from ordinary post hoc criminal investigation."[122] The court justified this reasoning and allowed the special needs doctrine to encompass the broader category of national security by citing other cases where similar searches have been upheld for the same reasons.[123]

Consequently, the court found that "on balance," the City's container program was permissible.[124] The court determined that the need to prevent danger on the City's transit system was "immediate and substantial," passengers had a full expectation of privacy in their containers, the search was minimally intrusive, and the program was reasonably effective.[125] With such reasoning, the court ultimately found that the City's program was indeed constitutional.[126]

iii. Comparing Pure Intelligence and Special Needs

All things considered, it is necessary for us to briefly analyze the connection and the disconnection between the national security exception under the pure intelligence rule and the justification of searches based upon classifying national security as a special need. Under both theories of the national security exception, the search in itself is premised upon the preservation of national security and

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[119] MacWade v. Kelly, 460 F.3d 260 (2d Cir. 2006).

[120] *See id.* at 264.

[121] *See id.* at 263.

[122] *Id.* at 271.

[123] *See id.* ("Accordingly, preventing a terrorist from bombing the subways constitutes a special need that is distinct from ordinary post hoc criminal investigation." (citing United States v. Hartwell, 436 F.3d 174, 179 (3d Cir. 2006) (holding that preventing terrorist activity on airplanes is a special need beyond criminal wrongdoing)).

[124] *See id.* at 271-75.

[125] *See id.*

[126] *See id.* at 275.

not upon ordinary criminal wrongdoing. Though it is quite possible that evidence may be admitted regardless of the search's original intention,[127] it is undisputed that searches conducted in the name of national security are not based upon the need for prosecution unlike other Fourth Amendment search exceptions.[128] In sum, the pure intelligence rule and the special needs doctrine share the same foundation insomuch the search is based upon public safety and security.[129]

But as alluded to above, the main difference between the competing theories of searches justified upon the need of maintaining national security is clearly based upon scope and application.[130] The long history of the pure intelligence rule demonstrates that the national security exception in this respect is considered reasonable as it is extremely narrow. It has been only applied to wiretaps and it is deemed reasonable *only* when it is used to collect *foreign* intelligence.[131]

The special needs theory of the national security exception may at first glance seem just as narrow in scope and application as the search itself is premised upon the need to maintain national security and not upon detecting ordinary criminal wrongdoing. Therefore, it would appear that the degree of invasion upon privacy is a moot point.[132] But a key limitation of the national security exception under the pure intelligence rule is that there is *no domestic security interest*.[133] However, by placing the national security exception under the guise of special needs, domestic security interests would presumably be considered as seen in cases like *MacWade*.[134] This in turn would allow the degree of invasion upon privacy, or

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[127] *See supra* notes 80-83 and accompanying text.

[128] *See supra* notes 57-58 and accompanying text.

[129] *See* Chandler v. Miller, 520 U.S. 305 (1997). This case determined that suspicionless drug tests of candidates running for public office in Georgia was unconstitutional as there was no special need to be maintained. In its final holding, the Supreme Court stated, "that where the risk to public safety is substantial and real, blanket suspicionless searches calibrated to the risk may rank as 'reasonable' . . . .". *Id.* (citing Nat'l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 674-76).

[130] *See supra* Part I.C.1-2.

[131] *See supra* Part I.C.1.

[132] *See supra* notes 113, 125 and accompanying text.

[133] *See supra* notes 87-88 and accompanying text.

[134] *See supra* notes 119-26 and accompanying text.

reasonable expectations of privacy, to be considered and weighed against the government's interest in national security.[135]

The advancement of remote sensing in outer space and changing expectations of privacy have the potential to shift the national security exception away from the foundations of the pure intelligence rule and its traditional application, and more importantly, categorize national security as a special need. As will be demonstrated in the remainder of this Article, the advancement of remote sensing technologies and changing expectations of privacy have monumental implications for the future development of the national security exception.

III. CHANGING THE COURSE OF THE NATIONAL SECURITY EXCEPTION

To this point, we have recounted the current capabilities of remote sensing technology and basic Fourth Amendment jurisprudence, but more importantly, we have extensively discussed the development and current standing of national security investigations under both the pure intelligence rule and special needs paradigms. This Part will therefore demonstrate how the advancement of remote sensing when viewed alongside changing expectations of privacy and national security, endorsed by both society and the judiciary, have the potential to shift the national security exception away from the pure intelligence rule and to the special needs doctrine.

A. Allowing for a Domestic Security Interest

Neither the advancement of remote sensing technologies nor changing expectations of privacy in regards to national security is sufficient by themselves to push the national security exception away from the pure intelligence rule. Each particular phenomenon contributes to the national security exception's shift to the special needs doctrine. This is first demonstrated by the pure intelligence rule's most profound limitation - the requirement that the intelligence collected involve foreign powers or entities.[136] However, the changing order of world affairs and what constitutes a matter of national security has dramatically changed in the United States

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[135] *See* MacWade v. Kelly, 460 F.3d 260, 272-73 (2d Cir. 2006).

[136] *See supra* notes 87-88 and accompanying text.

since the days of September 11th. Unlike the period of the Cold War in which the FBI was apt on detecting Soviet agents or their collaborators, the twenty-first century has brought about new and unique challenges to the American security structure. [137]

A particular challenge that has direct implications for the "foreign" limitation is the increased potential for domestic terrorism on American soil. Again, the initial beginnings of the national security exception were mainly based upon the norms of the Cold War and more specifically, the fear of communist espionage.[138] With this context in mind, it is easy to see why the Supreme Court in *Keith* was unable to recognize a "domestic security interest" as the defendants committed a crime premised on their beliefs regarding American civil rights and not on a particular foreign ideology, much less an ideology associated with foreign powers.[139]

In that respect, numerous decisions from the Supreme Court demonstrate that "common sense" and general knowledge are taken into account when deciding matters critical to the Fourth Amendment.[140] In fact, this is a central tenet in determining reasonableness.[141] But such knowledge is not just reserved for determinations of privacy, but also for what constitutes a national security interest in the context of the Fourth Amendment.

To that end, it is with little question that homeland security has taken precedence in the minds of many Americans. A number of recent events have made American society mindful of potential threats to a large number of people that do not involve foreign powers or their agents. Aside from the tragedy of September 11th, the United States has suffered several large-scale domestic events such as mass shootings committed by American citizens that allegedly stemmed from motives associated with radical Islam.[142] Moreover,

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[137] *See, e.g.,* Alderman v. United States, 394 U.S. 165 (1969) (case regarding the prosecution of two suspected Soviet spies that were convicted after the admission of evidence collected by warrantless wiretaps conducted by the FBI).

[138] *See supra* notes 60-66 and accompanying text.

[139] *See supra* note 85 and accompanying text.

[140] *See* Peter Goldberger, *Consent, Expectations of Privacy, and the Meaning of Searches in the Fourth Amendment*, 75 J. CRIM. L. & CRIMINOLOGY 319, 333 (1984).

[141] CLANCY, *supra* note 34, at 466-68 (describing the complexity and importance of "reasonableness" contained within the Fourth Amendment).

[142] For example, in late 2015, two Muslim individuals fired upon an office holiday party killing fourteen and wounding twenty-two individuals. Investigators believed that such a crime was motivated by Islamic terrorism. *See Everything We Know About the*

the United States has also seen its allies in Europe like the United Kingdom and France suffer from similar incidents that many have blamed on the migrant crisis derived from the most recent wars engulfing the Middle East.[143] Regardless of whether such events were the result of a political motive or ordinary criminal intent, these occurrences have only fueled the debate surrounding domestic national security, and more importantly, have led to judicial reaction.

The *MacWade* example as cited above is a perfect example of how the judiciary has incorporated real world events into its decision making. As noted above, the subway search program implemented in New York City was directly correlated to the bombings of subways in Moscow, London, and Madrid.[144] Such events allowed the *MacWade* court to quickly reason that the New York subway search program was a measure implemented to protect national security, even though the search program did not necessarily involve foreign powers or agents.[145] Rather, it can be said that the court in *MacWade* based national security upon protecting public safety.[146] The need for public safety has indeed justified searches under the special needs doctrine,[147] and the court in *MacWade* was able to set a trend of sorts that allowed national security to become a *domestic* issue.

On that note, other courts have held that matters of national security fall squarely within the special needs framework even though these matters of national security do not necessarily involve

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San Bernardino Terror Attack Investigation So Far, LA TIMES (Dec. 14, 2015), http://www.latimes.com/local/california/la-me-san-bernardino-shooting-terror-investigation-htmlstory.html.

[143] In the spring of 2017, a Muslim British citizen mowed down dozens of civilians with a car on Westminster Bridge. The attack killed four pedestrians and injured fifty others. *See* Emily Allen & Barney Henderson, *Everything We Know So Far About the Events in London,* THE TELEGRAPH (Mar. 26, 2017), http://www.telegraph.co.uk/news/2017/03/22/westminster-terror-attack-everything-know-far/. In the summer of 2016, a Tunisian man drove through a large crowd gathered for Bastille Day celebrations in Nice, France. The attack left 86 people dead and several hundreds more injured. *See Nice Attack: What We Know About the Bastille Day Killings*, BBC (Aug. 19, 2016), http://www.bbc.com/news/world-europe-36801671.

[144] *See* MacWade v. Kelly, 460 F.3d 260, 264 (2d Cir. N.Y. 2006).

[145] *See id.* at 275.

[146] *See id.* at 272 (noting that the potential attack on board a subway train is a "risk to public safety [that] is substantial and real").

[147] *See, e.g.,* Chandler v. Miller, 520 U.S. 305, 322 (1997) (holding that blanket, suspicionless searches can be upheld as reasonable when "the risk to public safety is substantial and real").

foreign powers or agents. In fact, the *MacWade* court justified the New York City subway search program based upon several lower court decisions that justified airport screenings on the basis of special needs.[148] For example, the Third Circuit in *United States v. Hartwell*[149] clearly held that preventing terrorist attacks on board domestic aircraft is of "paramount importance."[150] The *Hartwell* court cited a vast number of cases in other Circuit courts that held that preventing terrorist attacks on board aircraft was a special need beyond the needs of law enforcement and that airport screenings, on balance, are reasonable in light of the attendant circumstances.[151]

Now at this point, we are not necessarily concerned about reasonableness of a national security investigation under the guise of special needs.[152] But nonetheless, cases like *MacWade* and *Hartwell*, along with the creation of various agencies (namely the Department of Homeland Security),[153] demonstrate that national security can now be seen within a domestic context in the eyes of the judiciary. This new perspective on national security in the lens of the Fourth Amendment is a clear departure from the *foreign* aspect of the pure intelligence rule. But more importantly, with such a departure comes a different analysis, hence a shift to special needs. But again, changing norms and expectations are not enough to push the national security exception away from the parameters of the pure intelligence rule. As will be demonstrated, remote sensing also contributes to such a monumental shift in Fourth Amendment jurisprudence.

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148 *See MacWade,* 460 F.3d at 270-71.

149 436 F.3d 174 (3d Cir. 2006).

150 *See id.* at 179.

151 *See id.* (citing United States v. Marquez, 410 F.3d 612, 618 (9th Cir. 2005) ("the potential damage and destruction from air terrorism is horrifically enormous"); United States v. Yang, 286 F.3d 940, 944 n.1 (7th Cir. 2002) ("the events of September 11, 2001, only emphasize the heightened need to conduct searches at this nation's international airports"); Singleton v. Commissioner, 606 F.2d 50, 52 (3d Cir. 1979) ("The government unquestionably has the most compelling reasons[—]the safety of hundreds of lives and millions of dollars [sic] worth of private property . . . for subjecting airline passengers to a search for weapons or explosives that could be used to hijack an airplane.")).

152 *See infra* Part III.A.

153 *See supra* note 1.

B. From Wiretapping to Remote Sensing

The national security exception was created in the very narrow context of wiretapping and has yet to be applied outside of this context.[154] As illustrated in earlier Fourth Amendment cases such as *Katz*, *Olmstead*, and *Goldman*, such investigative techniques are per se unreasonable and thus unconstitutional regardless of whether the practice trespasses upon a constitutionally protected place or intrudes upon reasonable expectations of privacy.[155] The Justice Department in the earliest days of FBI warrantless wiretapping held fast to this opinion even when the evidence collected from these unconstitutional searches would have been beneficial in the prosecution of those involved in foreign espionage.[156]

Since those days, many more techniques have been used in the collection of foreign intelligence and even in ordinary criminal investigations. In fact, wiretapping and bugging can be seen as almost ineffective when compared to data that can be collected through other advanced electronic means such as computer hacking, and of course, remote sensing.[157] Remote sensing has the ability to push the national security exception out of the pure intelligence parameters of the national security exception and to the special needs doctrine by the fact that the use of such technology is another investigative technique that must eventually be accounted for in the further development of the national security exception.

To that end, we must recall that the special needs doctrine developed over a number of years and has applied to a variety of situations.[158] But Justice Blackmun's concurrence in *TLO* ensured that for each situation, the government interest in maintaining a special need was balanced against expectations of privacy.[159] With this in mind, the use of remote sensing in national security operations forces us to analyze the national security exception under a different standard of reasonableness rather that the standard underlying the pure intelligence rule.

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[154] *See supra* note 90 and accompanying text.
[155] *See supra* note Part I.B.
[156] *See supra* note 66 and accompanying text.
[157] *See supra* notes 3, 23-27 and accompanying text.
[158] *See supra* notes 114-17 and accompanying text.
[159] *See supra* notes 113 and accompanying text.

Essentially, we know that the sheer invasiveness of wiretapping has deemed such search unreasonable by more than enough judicial opinions. In fact, the only reason why the Justice Department allowed the FBI to conduct warrantless wiretapping after the Brownell Memorandum was because the collection of such evidence would not be used for the purposes of prosecution.[160] Simply put, this limitation by itself allowed the national security investigations to be *reasonable*.[161]

But again, unlike wiretapping, remote sensing technology can retrieve valuable data from a far distance in a variety of different methods and thus could be considered less suspect than the traditional wiretap used for so many years.[162] Therefore, collection of evidence for the sake of national security by the way of remote sensing must be viewed under the balancing test that is the foundation of the special needs doctrine. As we will see below, the use of remote sensing not only has immense implications for the further development of the national security search exception, but also for Fourth Amendment jurisprudence as a whole.

IV. LEGAL IMPLICATIONS PRESENTED BY REMOTE SENSING AND THE EVOLUTION OF THE NATIONAL SECURITY EXCEPTION

As argued above, there are two particular phenomena that may erode the foundations of the traditional national security exception. First, changing attitudes towards national security in reaction to certain events have compromised the foreign limitation of the pure intelligence rule.[163] Second, the availability of remote sensing technology for security investigations brings the national security exception out of the narrow wiretap context thus calling for a different reasonableness analysis, specifically the balancing test as espoused by Justice Blackmun in his concurrence in *TLO*. Ultimately, we can see that the use of remote sensing in national security investigations allows the national security exception in itself to become a critical "subset" within the special needs doctrine. [164]

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[160] *See supra* note 72 and accompanying text.

[161] *See supra* notes 72-83 and accompanying text.

[162] *See supra* Part I.A.1.

[163] *See supra* Part II.A.

[164] Atkinson, *supra* note 9, at 1390 (citing Gould & Stern, *supra* note 106, at 777-78 (suggesting that suspicionless security investigations can be upheld by special needs)).

Therefore, this Part will discuss how remote sensing technologies may be employed in warrantless national security investigations under both the special needs doctrine and under the pure intelligence rule. Consequently, this Part will simultaneously evaluate various implications that the use of remote sensing in matters of national security would have on the further development of the national security exception.

A. The Balancing Act of Reasonableness

The searches conducted under the national security exception based upon the traditional foundations of the pure intelligence rule are considered reasonable solely on the fact that the search is premised on collecting foreign intelligence and not prosecution.[165] However, searches conducted under special needs are premised on both protecting public safety and allowing for the admission of evidence in subsequent prosecutions.[166] More importantly, because the special needs doctrine has been applied in a variety of circumstances, a balancing test of reasonableness must take place. The use of remote sensing to maintain national security is no exception.

While older technologies used in national security investigations implemented techniques that were per se unreasonable under the Fourth Amendment, remote sensing technology employs a variety of techniques that must be addressed on an individual basis. In other words, not only does remote sensing employ high-resolution aerial photography but also employs more detailed reports such as infrared scanning.[167] Though no court has addressed the use of remote sensing technology on the basis of national security, the Supreme Court has addressed the use of associated technologies in other scenarios.

The primary and most well-known cases in this respect are *California v. Ciraolo*[168] and *Florida v. Riley*.[169] In both cases, an aircraft was used to conduct an investigation of defendants who

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[165] *See supra* notes 72-83 and accompanying text.
[166] *See* United States v. Hartwell, 436 F.3d 174 (3d Cir. 2006).
[167] *See supra* notes 28-31 and accompanying text.
[168] 476 U.S. 207 (1986).
[169] 488 U.S. 445 (1989).

were suspected of being involved in the production of marijuana.[170] Though one could not see such production from the ground, the defendants in both cases did not have any sort of awning or cover that would shield their marijuana plants from being seen from the air.[171] After the Court analyzed a number of factors under the objective and subjective expectation of privacy analysis as initially created in *Katz*,[172] the Court ultimately held that investigations conducted from "navigable airspace" did not constitute a search and did not require a warrant under the Fourth Amendment.[173] The Court in both cases reasoned that there was no objective expectation of privacy from a public vantage point such as navigable airspace because such viewing is frequent and not at all intrusive.[174]

To that end, remote sensing in the pursuit of aerial photography would presumably be reasonable under both competing theories of the national security exception.[175] In respect to the pure intelligence rule, the standard of reasonableness contained therein only addresses the foreign intelligence aspect of the traditional form

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[170] *See Riley*, 488 U.S. at 448 (identified production through use of helicopter); *Ciraolo*, 476 U.S. at 209 (identified production through use of a plane).

[171] In *Ciraolo*, the defendant was growing marijuana in his backyard while in *Riley*, the defendant was growing marijuana in a greenhouse he had built on his rural Florida property. *See Riley*, 488 U.S. at 448; *Ciraolo*, 476 U.S. at 209.

[172] *See supra* notes 38-40 and accompanying text.

[173] *See Riley*, 488 U.S. at 450 ("Riley could not reasonably have expected the contents of his greenhouse to be immune from examination by an officer seated in a fixed-wing aircraft flying in *navigable airspace* at an altitude of 1,000 feet or, as the Florida Supreme Court seemed to recognize, at an altitude of 500 feet, the lower limit of the navigable airspace for such an aircraft. (emphasis added)); *Ciraolo*, 476 U.S. at 216-17 ("The Court rejects that contention, holding that respondent's expectation of privacy in the curtilage of his home, although reasonable as to intrusions on the ground, was unreasonable as to surveillance from the navigable airspace." (Powell, J., dissenting)).

[174] *See Riley*, 488 U.S. at 450 ("[P]rivate and commercial flight [by helicopter] in the public airways is routine in this country." (quoting *Ciraolo*, 476 U.S. at 215)); *Ciraolo*, 476 U.S. at 213 ("The observations by [the police officers] in this case took place within public navigable airspace, in a physically nonintrusive manner; from this point they were able to observe plants readily discernible to the naked eye as marijuana." (internal citations omitted)).

[175] In *Riley*, there was discussion as to what constituted navigable airspace. *See Riley*, 488 U.S. at 450 (citing Riley v. State, 511 So. 2d 282, 288 (Fla. 1987)). Of course, there is a question of whether outer space constitutes "navigable airspace." Considering that orbiting satellites is a common and frequent phenomenon much like aircraft flying overhead, it would be reasonable to infer that potential judicial opinions on this matter would yield that objects orbiting the Earth encompass a space very similar to "navigable airspace" as described by the Supreme Court in *Riley* and *Ciraolo*.

of the exception, and thus, it is unnecessary to further evaluate reasonableness under the typical *Katz* model.[176] On the other hand, the special needs doctrine not only requires the use of the *Katz* model to evaluate reasonableness, but balances this reasonableness against the government interest in maintaining this need. But again, because the Court has outright held that investigations from the air are fully reasonable under the *Katz* paradigm, it would be more than reasonable to infer that attempting to balance this evaluation of privacy expectations against the government interest in maintaining national security would be futile. In other words, the government interest in maintaining national security is almost fully aligned with expectations of privacy when it comes to aerial photography provided by remote sensing technologies in outer space.

However, this caveat is certainly not true for other capabilities of remote sensing. Another important case in the Supreme Court's evaluation of advancing technology within the context of the Fourth Amendment is *Kyllo v. United States*.[177] In this particular case, local law enforcement obtained evidence of marijuana production inside a home through the use of a thermal imaging device.[178] Like a remote sensing satellite, this particular device was able to gather information about heat emissions a distance away from the suspected residence.[179] Though the home was in a public vantage point like the residences in *Ciarolo* and *Riley*, the Court determined that the use of thermal imaging was unlike unaided views from the air.[180] The Court held that "[w]here . . . the Government uses a device that is not in general public use, to explore details of the home

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[176] *See supra* notes 38-40, 42-43 and accompanying text.

[177] 533 U.S. 27 (2001).

[178] *Id.* at 29.

[179] *Id.* at 30. "The scan of Kyllo's home took only a few minutes and was performed from the passenger seat of [a police] vehicle [parked] across the street from the front of [the defendant's] house and also from the street in back of the house. The scan showed that the roof over the garage and a side wall of [Kyllo's] home were relatively hot compared to the rest of the home . . . ." *Id.* Therefore, the police were able to conclude that the defendant was using high heat lamps to grow marijuana inside his home. *Id.*

[180] *See id.* at 34-39. In short, the Court reasoned that the use of the thermal imaging device was dissimilar from a plain view derived from a public vantage point. This was because the device essentially allowed the police to conduct "through-the-wall surveillance" by detecting heat emanating from the home, and of course, such heat cannot be seen with the naked eye. *See id.* at 35. The Court furthered reasoned that this is quite similar to the use of a microphone planted in the home. *See id.* Therefore, because such

that would previously have been unknowable without physical intrusion, the surveillance is a 'search' and is presumptively unreasonable without a warrant."[181]

Under the traditional notion of the national security exception, a search conducted by other capabilities of remote sensing such as radar or infrared is reasonable, regardless of the Court's holding in *Kyllo*, as long as the search is premised upon a national security interest that involves foreign powers or their agents. But if we placed national security within the context of special needs, then we must resort to the Blackmun balancing test.

Though the use of certain remote sensing technologies would be unreasonable without a warrant under *Kyllo*, an invocation of the balancing test of the special needs doctrine may hold otherwise. That is, the use of remote sensing technology may be considered reasonable as it is not as invasive or intrusive as bugging or wiretapping, and moreover, may be used for only a short duration. This particular position finds support in the Supreme Court's ruling in *Jones v. United States*[182] in which the Court held that a GPS device attached to a suspect's car constituted a search under the Fourth Amendment.[183] The Court may have ultimately held that the use of the device constituted an unlawful search, but the Court's reasoning revealed that a particular technology used for a short amount of time may be reasonable,[184] and more importantly, that the use of technology that does not constitute a "physical intrusion" may also be reasonable.[185] Although GPS technology is not exactly within the

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a technique is almost always unreasonable without a warrant, so would the use of a thermal imager that detects activity within the home.

[181] *Id.* at 40.

[182] 565 U.S. 400 (2012).

[183] *See id.* at 413.

[184] *See id.* at 430 (Alito, J., concurring) ("[R]elatively short-term monitoring of a person's movements on public streets accords with expectations of privacy that our society has recognized as reasonable. But the use of longer term GPS monitoring in investigations of most offenses impinges on expectations of privacy." (internal citations omitted))).

[185] The author of the *Jones* opinion, Justice Scalia, seems to have written the majority opinion in the context of the "constitutionally protected places" theory of Fourth Amendment jurisprudence as it was apparent that he was concerned with the physical attachment of the GPS device on the defendant's vehicle. *See id.* at 402, 404-05 ("It is important to be clear about what occurred in this case: The Government physically occupied private property for the purpose of obtaining information. We have no doubt that such a physical intrusion would have been considered a "search" within the meaning of the Fourth

realm of remote sensing, such a case demonstrates how the Court may have departed from the strict and narrow holding of *Kyllo* and to a more detailed analysis of reasonableness when it comes to evaluating the constitutionality of searches conducted by emerging technologies.[186]

As reiterated numerous times in the course of our discussion, we must still balance reasonableness against government interests when it comes to special needs. This balancing act is further complicated by the fact that the courts will account for subjective and objective expectations of privacy on a case-by-case basis. But if a court's analysis is deeply rooted in special needs precedent, it appears that the government interest in national security can almost always outweigh individual expectations of privacy.[187] This particular occurrence is only bolstered by changing societal norms towards privacy and national security in which courts may likely find that citizens have a lower expectation of privacy when it comes to national security.[188] As we have seen in cases like *MacWade* and *Hartwell*, the judiciary is quick to react to security concerns and

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Amendment when it was adopted."); *see also supra* note 35 and accompanying text (describing the "constitutionally protected places" theory of the Fourth Amendment). However, Justice Scalia remained true to the underlying *Katz* test and stated, "It may be that achieving the same result through electronic means, without an accompanying trespass, is an unconstitutional invasion of privacy, but the present case does not require us to answer that question." *Jones*, 565 U.S. at 412. Essentially, this particular statement allowed the Court to leave open the question of whether GPS data from wireless service providers or tracking services installed on phones or cars could be collected without a warrant.

[186] Though the Court may have carefully weighted reasonableness in *Kyllo*, the ultimate holding was indeed narrow when it came to emerging technologies. See *supra* note 181 and accompanying text. However, the "*Jones* decision reminded that the foundational underpinnings of the Fourth Amendment [i.e. (reasonableness)] cannot be ignored." Adam R. Pearlman & Erick S. Lee, *National Security, Narcissism, Voyeurism, and Kyllo: How Intelligence Programs and Social Norms Are Affecting the Fourth Amendment*, 2 TEX. A&M L. REV. 719, 742 (2015). Again, Justice Scalia did not attempt to apply a narrow rule on emerging technology but rather left the question of reasonableness for future discussion. *See supra* note 185.

[187] *See c.f.* Gould & Stern, *supra* note 106, at 830 ("But given the magnitude of the threatened harm, where there is any genuine hope of preventing disaster, even an invasive and suspicionless search would probably be viewed as reasonable.")

[188] *See* Robison, *supra* note 53, at 1399-1401 (arguing that airline passengers are deemed to have a lesser expectation of privacy considering that they are a highly regulated class of individuals as preventing terrorist attacks on board aircraft has been identified as a special need).