

LAW ENFORCEMENT AND TECHNOLOGY: REQUIRING TECHNOLOGICAL SHIELDS TO SERVE AND PROTECT CITIZEN RIGHTS

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ABSTRACT

An often revisited topic is the tension between law enforcement and the citizens they aim to protect. One side of this discussion seeks to mitigate the tension by explaining the hard decisions that law enforcement officers must make to protect citizens and themselves, while the other emphasizes the corruption that exists within police departments. Recently, this discussion has begun a critical examination of the role of technology within police departments to determine whether police officers are properly monitored and trained.

Both citizens and police forces alike should require that law enforcement officers utilize publicly available technologies that protect citizens' rights. Many of the technological shields that exist on the market today—which yield benefits for both citizens and police—have not been widely implemented throughout law enforcement agencies. This Article focuses on two emerging technologies: Faraday bags and police worn body cameras. By employing these technological shields, police officers can ensure that citizens obtain greater protection for their Fourth and Fifth Amendment rights. Simultaneously, the technology allows police officers to shield themselves from liability and vindicate themselves in the eyes of their community when their actions are questioned but justified. These technologies carry the potential to provide a protective buffer between citizens and police, lessening the tensions between the two by protecting those who act lawfully and punishing those who do not.

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I. INTRODUCTION

Law enforcement is no stranger to technology. Tasers, automatic license plate recognition, tracing devices, and wiretaps are but a few of the technologies at police disposal—most of which intrude on citizens' rights.¹ These examples are not mentioned to allege that police use of this technology is inherently suspect, but rather to demonstrate that police know how to voluntarily implement technology in the field as they serve and protect. Furthermore, police forces have implemented technology that protects citizens' rights and recognized the beneficial effects that such tools have on police departments.² Indeed, in a technological society, police cannot fully serve and protect citizens' rights without using certain technological shields.

Throughout the last sixty years, the Supreme Court of the United States has had numerous opportunities to assess new technologies that the police have used in investigating or responding to criminal activity. Although the Court has addressed technology in many different areas of the law, one of the most prevalent areas is Fourth Amendment search and seizure cases.³ Most of the cases involve police officers using technology to obtain information that would have been unattainable without entering a home or interrogating a suspect.⁴ Recent cases, however, indicate that the Court has adopted a new view of police and technology. Specifically, the Court has published two decisions that may

1. See Paul D. Schultz, *The Future is Here: Technology in Police Departments*, POLICE CHIEF (June 2008), http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=1527&issue_id=62062 (discussing various forms of technology that police departments can now utilize, including automatic license plate recognition); Jeff Strange, *A Primer on Wiretaps, Pen Registers, and Trap and Trace Devices*, PROSECUTOR (July–Aug. 2009), <http://www.tdcaa.com/node/4813> (discussing the utility of wiretapping and tracing devices).

2. See William A. Geller, *Videotaping Interrogations and Confessions*, 1993 NAT'L INST. JUST. 10, <https://www.ncjrs.gov/pdffiles1/Digitization/139962NCJRS.pdf> (noting how interrogation room recording equipment has overcome initial police reluctance).

3. See, e.g., *United States v. Jones*, 132 S. Ct. 945, 948 (2012); *Katz v. United States*, 389 U.S. 347, 348, 353 (1967); *Silverman v. United States*, 365 U.S. 505, 506–07, 511 (1961); *Olmstead v. United States*, 277 U.S. 438, 438, 456–57 (1928), *overruled by Katz*, 389 U.S. 347, and *Berger v. New York*, 388 U.S. 41 (1967).

4. See *Jones*, 132 S. Ct. at 948–49 (discussing the use of GPS tracking, a pen register, and wiretap of a suspect); *Katz*, 389 U.S. at 348, 353 (discussing the FBI's use of an electronic listening device to hear inside a public telephone booth).

greatly impact how police look at technology.⁵ In the first decision, *Kyllo v. United States*, the Court restricted police use of technology that intrudes on citizens' rights if that technology is not publicly available.⁶ In the second decision, *Riley v. California*, the Court suggested that police ought to use technology that may better protect citizens' rights.⁷

This Article seeks to synthesize the Court's recent jurisprudence on technology with the reality that technology plays a greater role in policing than ever before. To achieve this synthesis, this Article analyzes when the use of technology by police should be required as a matter of law. Specifically, this Article argues that police officers should be required, rather than simply permitted, to use publicly available technology that will protect citizens' rights. Existing executive programs are already in place to discover, maintain, and distribute a list of technological shields to police departments across the nation.

The argument proceeds as follows. Part II examines the Court's past responses to police technology and analyzes two technologies police already use—interrogation room recording equipment and dashboard cameras—to determine how they benefit citizens and police and at what cost. Part III discusses the practicability of requiring police departments to use publicly available technology by analyzing the cost and benefits of implementing Faraday bags and body cameras in five representative police departments. Part IV calculates the total cost of Faraday bags and body cameras and proposes the enactment of a rule requiring police departments and officers to implement publicly available technology that safeguards citizens' rights. This Article concludes by reemphasizing the need for the proposed requirement and discusses the logistics of how the rule may be implemented.

II. HISTORICAL BACKGROUND

This part offers the reader some historical background on two different trends relevant to this Article's discussion of

5. *Riley v. California*, 134 S. Ct. 2473 (2014); *Kyllo v. United States*, 523 U.S. 27 (2001).

6. *Kyllo*, 523 U.S. at 40.

7. *Riley*, 134 S. Ct. at 2487.

technology and policing. Section A explains how the Supreme Court has historically permitted and restricted police use of technology capable of intruding on citizens' rights. Section B analyzes law enforcement's implementation of interrogation room recording equipment and dashboard cameras to evaluate the benefits they provide to citizens' rights as well as police officers. This information is offered as a way to assess how a rule requiring police to use publicly available technology fits within Supreme Court precedent and complies with pre-existing police practices.

A. *The Court's Historical Response to Technology*

One of the earliest Supreme Court cases involving technology concerned wiretapping, a form of police eavesdropping on telephone calls.⁸ The police officers in *Olmstead v. United States* set up wiretaps along five different telephone wires, without physically trespassing upon any of the suspects' property, which allowed officers to listen in on any telephone conversations made in order to gather evidence pertaining to a large-scale liquor bootlegging operation.⁹ Upon review, the Court held that the use of wiretaps did not violate the Fourth Amendment's restriction against unreasonable searches because the Fourth Amendment only protects against physical intrusions into the home, not the placement of wires outside the home.¹⁰ Thus, the Court sanctioned the use of technology that did not require the police to trespass onto the suspect's property.¹¹

Trespass theory—determining the legality of police action by asking whether officers physically trespassed onto personal property—became the test for all new listening technologies for the next forty years. For example, in *Goldman v. United States*, the Court applied trespass theory to uphold a police officer's use of a detectaphone, a device capable of amplifying sounds heard through a partition wall, because it did not require a trespass.¹² Likewise, in *Silverman v. United States*, the Court used the trespass theory to ban the use of a spike mic—an electronic microphone

8. *Olmstead*, 277 U.S. at 456–57.

9. *Id.*

10. *Id.* at 466.

11. *See id.* at 465–66.

12. *Goldman v. United States*, 316 U.S. 129, 130–31, 134–35 (1942), *overruled by Katz v. United States*, 389 U.S. 347 (1967).

attached to a foot long spike that amplifies and transmits sounds into receiving headphones—because the device’s placement in the building’s heating duct constituted a trespass.¹³ Thus, from 1928 to 1961, the Court was able to determine the constitutionality of police use of technology by asking whether such technology physically penetrated the premises to constitute a search.

However, six years later in 1967, the Court temporarily abandoned the trespass theory, requiring instead a two-prong privacy test for analyzing “technological” investigative techniques.¹⁴ In *Katz v. United States*, the Court held that a police officer’s attachment of an electronic listening and recording device to a phone booth violated the Fourth Amendment because the defendant had an expectation of privacy while conversing in the phone booth.¹⁵ Overruling the trespass theory underlying *Olmstead* and *Goldman*, *Katz* established a new test to ban the use of any technology that would unreasonably violate privacy.¹⁶

For five decades, the Court has routinely applied the *Katz* test to determine whether police use of technology violates a subjective expectation of privacy recognized by society as reasonable. For example, the Court found constitutional the use of a tracking device placed in a barrel of chloroform prior to the defendants’ purchase.¹⁷ The Court reasoned that using the beeper did not amount to a search because there is no subjective or reasonable expectation of privacy in one’s publicly observable movements on a public thoroughfare.¹⁸

13. *Silverman v. United States*, 365 U.S. 505, 506–07, 511–12 (1961).

14. *See Katz*, 389 U.S. at 361 (Harlan, J., concurring). The trespass theory was later combined with the *Katz* test in *United States v. Jones*, finding that police action constitutes a search if it trespasses onto a suspect’s property or invades a suspect’s subjective expectation of privacy which society is prepared to recognize as reasonable. *United States v. Jones*, 132 S. Ct. 945, 948–49 (2012).

15. *Katz*, 389 U.S. at 348, 353 (majority opinion). It is interesting to note that the government argued the police relied on *Olmstead* and *Goldman*, showing that police agencies are fully aware of how the Court views their use of various technologies. *Id.* at 352–53.

16. *Katz*, 389 U.S. at 361 (Harlan, J., concurring); *see also Olmstead*, 277 U.S. at 466; *Goldman*, 316 U.S. at 134–35. While the majority only talked about a general privacy right, Justice Harlan’s concurrence set forth a two-fold requirement: (1) the person must have exhibited an actual, subjective expectation of privacy, which (2) society is prepared to recognize as reasonable. *Katz*, 389 U.S. at 361 (Harlan, J. concurring).

17. *United States v. Knotts*, 460 U.S. 276, 277, 285 (1983).

18. *Id.* at 281–82.

More recently, within the past fifteen years, the Court has authored two decisions directly pertaining to the use of technology by police: *Kyllo v. United States* and *Riley v. California*.¹⁹ In *Kyllo v. United States*, the Court considered the constitutionality of police use of thermal imaging devices and similar sense-enhancing technology capable of gathering information about the interior of the home.²⁰ Ultimately, the Court held that the use of the thermal imaging device was unconstitutional because it allowed the government to learn intimate details about the private interior of the home, details that would be otherwise unobtainable without an actual physical intrusion.²¹

The Court's qualification of the *Kyllo* holding is most important for the purposes of this discussion. Specifically, the Court stated that it is a violation of the Fourth Amendment for government investigators to use technology that is not in "general public use."²² The converse of this rule then is to allow police to use publicly available technology. The Court crafted this rule—prohibiting police use of technology until it becomes publicly available—in anticipation of future cases caused by rapid technological development.²³

If the Court is willing to recognize the negative implication of technology, should it recognize technology's benefits? Should the police be *required* to use publicly available technology that has a positive effect on citizens' rights? This question was answered recently in two consolidated cases *Riley v. California* and *United States v. Wurie*.²⁴

In *Riley*, an officer stopped a car for driving with expired registration tags, learned the driver's license was suspended, and ultimately impounded the car and conducted an inventory search of it.²⁵ This search uncovered concealed and loaded handguns

19. *Riley v. California*, 134 S. Ct. 2473, 2480 (2014); *Kyllo v. United States*, 523 U.S. 27, 29 (2001).

20. *Kyllo*, 523 U.S. at 29. The police used a thermal imaging device to detect if *Kyllo* used high-intensity heat lamps to grow marijuana at his home. *Id.* The thermal imaging device used detects infrared radiation invisible to the naked eye and converts that radiation into images based on the relative warmth from black (cool) to white (hot) with shades of gray in the middle. *Id.*

21. *Id.* at 40.

22. *Id.*

23. *Id.* at 51 (Stevens, J., dissenting).

24. *Riley*, 134 S. Ct. at 2480.

25. *Id.*

under the car's hood, which led to the driver's arrest.²⁶ During the search incident to arrest, the officer seized a smart phone from the driver's pocket, noticed a gang-related acronym on the phone's screen, and took the phone to the police station.²⁷ Two hours later, a detective conducted a warrantless search of the phone and uncovered photos and videos of gang activity, as well as a photo of the driver standing in front of a car that police suspected was involved in a previous shooting.²⁸ These images were then used to charge the driver with the earlier shooting.²⁹

In the companion case, *Wurie*, police witnessed a drug deal and arrested the drug dealer.³⁰ The officers took the dealer to the station for booking, which led to the discovery of two phones in his pocket.³¹ The officers noticed that one phone was receiving calls from a contact saved as "my house;" these officers then traced the incoming number back to an apartment building that contained the dealer's name on a mailbox.³² Afterwards, the police obtained a search warrant and seized drugs, weapons, ammunition, and cash that the government used to prosecute *Wurie*.³³

Considering these cases as companions, the Court held that a warrant is generally required before police search the digital information on a cell phone, even when the phone is seized incident to arrest.³⁴ The Court reasoned that the large quantity of private data found on modern cell phones—due to their extensive storage capabilities—justifies maintenance of the warrant requirement, but it upheld warrantless searches of the exterior of

26. *Id.*

27. *Id.* (stating the acronym was CK for Crip Killers, which is a common gang nickname for the Bloods).

28. *Id.* at 2480–81.

29. *Id.* at 2481.

30. *Id.*

31. *Id.* The main phone at issue in this case was a flip phone, not a smart phone. *Id.*

32. *Id.*

33. *Id.* at 2481–82. In *Riley*, the appellate court affirmed the conviction by relying on earlier case law that held that the Fourth Amendment permits warrantless searches of cell phone data incident to arrest if the cell phone was immediately associated with the arrestee's person. *Id.* at 2481. The appellate court in *United States v. Wurie*, however, reversed the denial of a motion to suppress the evidence by holding that "cell phones are distinct from other physical possessions that may be searched incident to arrest without a warrant, because of the amount of personal data cell phones contain and the negligible threat they pose to law enforcement interests." *Id.* at 2482.

34. *Id.* at 2493.

the phone to ensure officer safety.³⁵ More importantly to this Article, the Court reasoned that police officers have other means to protect the evidence on the phone from remote tampering.³⁶

In response to data tampering, the Court offered four potential methods of preserving evidence on a phone: (1) police may be able to search the phone under exigent circumstances if they believe there is risk of an immediate loss of data, (2) police can disable the phone's automatic-lock feature to prevent the phone from encrypting the data, (3) police can turn the phone off and remove the battery, or (4) police can use a Faraday bag, which is a "cheap, lightweight, and easy to use" aluminum bag capable of isolating the phone from radio waves and remote tampering.³⁷ By mentioning this fourth approach, the Court implicitly suggested that police should use technology to prevent tampering while simultaneously preserving citizens' privacy rights. By combining the holding in *Kyllo* with the *Riley* suggestion, this Article argues that police should be required to use publicly available technology in an effort to safeguard citizens' rights.

B. Commonly Used Technologies that Protect Citizens' Rights

This section addresses two different technological shields that are already widely used by law enforcement: interrogation room recording equipment and dashboard cameras. It begins by analyzing how interrogation room recording equipment functions, the jurisdictions that implement the technology, and the costs of using the technology. This three-part framework is then applied to dashboard cameras. Finally, it concludes by noting the benefits to citizens and police, as well as criticisms of such technology.

The first commonly used technology is interrogation room recording equipment. Interrogation room recording equipment can be defined as technology capable of recording audio and video that can be installed in police stations to record interrogations.³⁸ Despite the variability of interrogation room

35. *Id.* at 2485, 2495–96.

36. *Id.* at 2487.

37. *Id.*

38. See Matthew D. Thurlow, *Lights, Cameras, Actions: Video Cameras as Tools of Justice*, 23 J. MARSHALL J. COMPUTER & INFO. L. 771, 771 (2005).

recording equipment, two basic features of such equipment include a camera with a lens wide enough and positioned in a manner that captures an entire room, as well as a tabletop microphone positioned to capture every voice in the room.³⁹ The use of audiovisual recording equipment in interrogation rooms acts as a watchdog over police to prevent officers from violating citizens' *Miranda* rights or coercing false confessions.⁴⁰

Interrogation room recording equipment is commonly used by law enforcement. The Innocence Project reports that approximately one thousand jurisdictions in the United States use interrogation room recording equipment.⁴¹ At the federal level, the Department of Justice recently released a memo encouraging federal agents to record interrogations of suspects in federal custody unless a suspect refuses, the interrogation involves information pertinent to national security, or the head of the field office has cause to not record.⁴² At the state level, numerous states recognize the benefits of interrogation room recording equipment and require them by law.⁴³

The cost of interrogation room recording equipment can vary greatly depending on the type of equipment purchased, the cost of installation of the equipment, and the number of interrogation rooms within the police department. In fact, the New Jersey Supreme Court Special Committee reported that an interrogation room video system consisting of "a commercial grade video camera with a wide-angle lens to cover the

39. *Audiovisual Recording of Custodial Interrogations ~ Public Act 470 of 2012*, MICH. COMMISSION ON L. ENFORCEMENT STANDARDS, http://www.michigan.gov/mcoles/0,4607,7-229-41624_66657--,00.html (last visited Feb. 4, 2016); *see also* N.J. SUPREME COURT SPECIAL COMM., REPORT OF THE SUPREME COURT SPECIAL COMMISSION ON RECORDATION OF CUSTODIAL INTERROGATIONS 25 (2005) (explaining audiovisual equipment consists of a video camera with a wide-angle lens, a tabletop microphone, and audio mixer).

40. Thurlow, *supra* note 38, at 794.

41. *False Confessions & Recording of Interrogations*, INNOCENCE PROJECT (Aug. 12, 2015, 1:05 PM), <http://www.innocenceproject.org/free-innocent/improve-the-law/fact-sheets/false-confessions-recording-of-custodial-interrogations>; *see also Custodial Interrogation Recording Compendium By State*, NAT'L ASS'N CRIM. DEF. LAW., <http://www.nacdl.org/recordingmap> (last visited Feb. 6, 2016) (listing jurisdictions from all fifty states that record interrogations).

42. Carrie Johnson, *New DOJ Policy Urges Agents to Videotape Interrogations*, NPR (May 21, 2014, 5:04 PM), <http://www.npr.org/blogs/thetwo-way/2014/05/21/314616254/new-doj-policy-calls-for-videotaping-the-questioning-of-suspects>.

43. *See, e.g.*, 725 ILL. COMP. STAT. ANN. 5/103-2.1(b) (West 2014); N.M. STAT. ANN. § 29-1-16 (LexisNexis 2014); N.C. GEN. STAT. ANN. § 15A-211 (West 2009); OR. REV. STAT. § 133.400 (2015).

interrogation room, a tabletop microphone, and [an] audio mixer” can be purchased for under \$1000.⁴⁴ Police departments can mitigate this cost by buying a simple, cheap, mobile camcorder, which they can move from room to room and set up on a tripod.⁴⁵

Dashboard cameras, also known as dash cams, are cameras mounted on a vehicle dashboard by way of a suction cup or direct dash friction mounts; they can also be built in to a rear view mirror.⁴⁶ Dash cams can be powered either by batteries or a vehicle power port and are capable of recording video onto removable storage.⁴⁷ Most law enforcement dash cams begin recording when the police cruiser triggers its emergency lights or exceeds a certain speed.⁴⁸ While the dash cams can be turned on and off manually by officers, departments have specific policies as to when an officer can turn them off.⁴⁹

Dash cams are widely used by police departments. While the federal government does not appear to have a dash cam requirement, dash cams are being used by the Department of Homeland Security’s U.S. Customs and Border Protection

44. N.J. SUPREME COURT SPECIAL COMM., *supra* note 39, at 25. This estimation is accurate as there is recording equipment on the market that provide all the necessary self-install components for a wide range of prices. *See, e.g., Single-Room Audio/Video Surveillance System*, SUPER CIRCUITS, <https://web.archive.org/web/20141012005652/http://www.supercircuits.com/law-enforcement/interview-systems/single-room-audio-video-surveillance-system-avsi-6> (last visited Jan. 30, 2016) (pricing a high-quality 720 x 480 resolution recording system with a 500 GB hard drive capable of recording over 200 hours of hour-long files, a monitor, and microphone at \$899.99); *Single-Room Audio/Video Surveillance System with Louroe Mic*, SUPER CIRCUITS, <https://web.archive.org/web/20130609175255/http://www.supercircuits.com/law-enforcement/interview-systems/single-room-audio-video-surveillance-system-avsi-6l> (last visited Jan. 30, 2016) (pricing a system with the same qualifications with a more sophisticated audio recording system at \$1,555.99).

45. *Listing of a Sony HD Video Recording Camera*, AMAZON, http://www.amazon.com/Sony-HDRCX240-Video-Camera-2-7-Inch/dp/B014X23ATS/ref=sr_1_2?s=photo&ie=UTF8&qid=1454272976&sr=1-2&refinements=p_36%3A1253506011 (last visited Jan. 30, 2016) (showing Sony, among others, has high definition video recording devices available for under \$200).

46. Sean Cooper, *What You Need to Know About Dashboard-Mounted Car Cameras*, ENGADGET (Sept. 8, 2014, 11:30 AM), <http://www.engadget.com/2014/09/08/dash-cams-explainer>.

47. *Id.*

48. Mike Argento, *Police Say Dashboard Cameras a 'Vital' Tool When Assessing Misconduct Claims*, YORK DAILY REC. (Mar. 16, 2013, 8:49 PM), https://web.archive.org/web/20130320103229/http://www.ydr.com/ci_22806033/police-say-dashboard-cameras-vital-tool-when-assessing?source=most_viewed.

49. *Id.*

Agency.⁵⁰ Furthermore, the Department of Justice's Office of Community Oriented Policing Services created a dash cam incentive program to encourage local police forces to adopt dash cams; it has awarded over \$21 million in federal grants to purchase the equipment.⁵¹ This program led forty-seven states and the District of Columbia to purchase dash cams from 2000 to 2003.⁵² In 2007, the Department of Justice reported that 61% of local police departments use dash cams.⁵³

The cost of dash cams varies greatly. Consumers can purchase dash cams for under \$30, but police dash cams are much more expensive.⁵⁴ "Older dash cams have cost some law-enforcement agencies as much as \$7,000," but less expensive models are now sold from \$2,000 to \$5,000; this does not include the cost of software and data storage equipment.⁵⁵ Even this cost may be too large for smaller agencies.⁵⁶

While both interview room recording equipment and dash cams are expensive, they have yielded enormous benefits. Matthew D. Thurlow, a scholar on interrogation room equipment, notes two benefits that recording interrogations provides to suspects—it creates an objective record, and it protects constitutional rights—but these benefits also apply to dash cams.⁵⁷ The objective record provided by interrogation room recordings gives the trier of fact a better understanding of the nature of the interrogation, allowing the fact finder to verify the confession is not false by ensuring the

50. Dave Summers, *Dashboard Cameras Coming to U.S. Border Agent Trucks*, NBC 7 SAN DIEGO (Sep. 26, 2013, 8:56 AM), <http://www.nbcsandiego.com/news/local/Dashboard-Cameras-Coming-to-US-Border-Agent-Trucks-225356932.html>.

51. Lonnie J. Westphal, *The In-Car Camera: Value and Impact*, POLICE CHIEF (Aug. 2004), http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display&article_id=358.

52. *Id.*

53. BRIAN A. REAVES, U.S. DEP'T OF JUSTICE, LOCAL POLICE DEPARTMENTS, 2007, at 7 (2010), <http://www.bjs.gov/content/pub/pdf/lpd07.pdf>.

54. *Listing for HD Car Dashboard Camera*, AMAZON, <http://www.amazon.com/Dashboard-Camera-Accident-degree-Vision/dp/B00567H67C> (last visited Jan. 30, 2016) (advertising a high definition dash cam for \$24.33).

55. Walter Pacheco, *Dashboard Cameras Can Give Key Evidence, but Costs Limits Their Use*, ORLANDO SENTINEL (Jan. 15, 2011), http://articles.orlandosentinel.com/2011-01-15/news/os-dash-cams-20110107_1_dashboard-cameras-dash-cams-brandon-coates.

56. *Id.*

57. Thurlow, *supra* note 38, at 807–09.

suspect's due process and *Miranda* rights were honored.⁵⁸ This objective record serves to exonerate innocents and has done so in a number of cases.⁵⁹ Similarly, dash cams can protect citizens from false arrests and false charges and can be used to hold police accountable if they harass citizens or illegally detain them.⁶⁰ Dash cams and interrogation room recordings are also useful evidence in any civil or criminal suit that a suspect or the government brings against the officer for misconduct, such as excessive-force claims.⁶¹ Interrogation room cameras and police cruiser dash cams serve as watchdogs over police officers, ultimately reducing police use of tactics that are unacceptable and improving their treatment of the citizens they protect.⁶²

58. *Id.* at 807–08 (stating if a suspect's rights are not honored, the prosecution will not be able to use the videotaped confession in the case in chief).

59. Examples include Michael Crowe, who falsely confessed to the murder of his sister, and Chris Ochoa, who plead guilty to murder out of fear of the death penalty. *Cases: The Exonerated*, FALSECONFESSIONS.ORG, <http://www.falseconfessions.org/cases-the-exonerated> (last visited Feb. 14, 2016) (listing multiple examples of exonerations due to false confessions, including Michael Crowe); Maurice Possley, *Christopher Ochoa*, NAT'L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3511> (last visited Feb. 14, 2016) (telling the story of Chris Ochoa's exoneration); see also Saul M. Kassin et al., *Police-Induced Confessions: Risk Factors and Recommendations*, 34 LAW & HUM. BEHAVIOR 3, 4 (2010) (noting that 15%–20% of the approximately two hundred DNA exoneration cases involved involuntary confessions); *False Confessions or Admissions*, INNOCENCE PROJECT, <http://www.innocenceproject.org/fix/False-Confessions.php> (last visited Feb. 14, 2016) (“The electronic recording of interrogations, from beginning to end, is the single best reform available to prevent wrongful convictions caused by false confessions.”).

60. See Matthew Bultman, *Warren County Police Chiefs Say Dashboard Cameras a Useful Tool, Amid Debate on State Bill Requiring Them*, LEHIGH VALLEY LIVE (Dec. 26, 2013, 6:59 AM), http://www.lehighvalleylive.com/warren-county/express-times/index.ssf/2013/12/warren_county_police_chiefs_sa.html (explaining a bill sponsored by New Jersey legislator Paul Moriarty requiring all newly acquired New Jersey police cruisers to have dash cams after he was personally arrested after a road side stop on false drunk driving charges); Adan Salazar, *Dash Cam Footage Captures Cops' Panic Following Illegal Detainment*, INFOWARS.COM (Aug. 14, 2013), <http://www.infowars.com/dash-cam-footage-captures-cops-panic-after-illegal-detainment> (explaining dash cam video which captured police admitting illegal detainment).

61. Thurlow, *supra* note 38, at 809; see Harold Hayes, *Chase Suspect to File Civil Lawsuit, Use Dash Cam Video as Evidence*, CBS PITTSBURGH (June 13, 2014, 6:27 PM), <http://pittsburgh.cbslocal.com/2014/06/13/chase-suspect-to-file-civil-lawsuit-use-dash-cam-video-as-evidence> (discussing lawyer who plans to use dash cam video to sue officers for pistol whipping his client).

62. See Geller, *supra* note 2, at 3 (stating that videotaping suspect's statements help reduce doubts about voluntary confessions and counters defenses' criticism of police techniques); Thurlow, *supra* note 38, at 809 (“Videotapes can change police behavior on the street, behind the wheel and in the interrogation room.”); Stephanie Dazio & Michael

Interrogation room recording equipment and dash cams are also beneficial to police departments; they protect the officer from erroneous claims and provide tactical advantages that lead to increased convictions and reduced suppression claims.⁶³ Both interrogation room recording equipment and dash cams produce a higher quality of evidence by remedying the gaps in the memory of a testifying officer; moreover, juror retention of information improves because the jury watches a video of the interrogation rather than only hearing oral testimony.⁶⁴ Recording interactions results in more convictions, fewer suppression claims, and fewer appeals because citizens are less likely to challenge alleged police misconduct if they clearly waive their *Miranda* rights or resist arrest on camera.⁶⁵

Recorded interactions also aid law enforcement because they provide both a teaching mechanism and an oversight mechanism. Recording devices allow officers to observe interrogations and critique the techniques used, which is relevant to both the training and the disciplinary setting by allowing interrogating officers and others to review past interrogations and learn from the mistakes made and allowing internal affairs and supervisors to hold officers accountable for misconduct to stop them from repeating past mistakes.⁶⁶ Similarly, the greatest benefit of recording field interactions via dash cams is the increase in officer safety.⁶⁷ Increased safety stems from allowing officers to review encounters and make note of actions that impaired their safety—such as turning their backs on a potentially dangerous individual—and to deescalate confrontation situations by informing citizens that the dash cam is recording.⁶⁸ Despite these

Phillips, *Use of Cameras for Police Cars and Officers on the Rise in N.J.*, NORTHJERSEY.COM (Sept. 28, 2014, 10:36 PM), <http://www.northjersey.com/news/use-of-cameras-for-police-cars-and-officers-on-the-rise-in-n-j-1.1098028?page=all> (stating that proponents of police departments using cameras claim “recording police activity will make everyone behave better”).

63. Thurlow, *supra* note 38, at 810–12; *see also* Westphal, *supra* note 51 (“According to the responses of more than 3,000 officers completing the written survey, the statistical data indicates that 96.2 percent of the time, the recording of the event exonerated the officer of the allegation or complaint.”).

64. Thurlow, *supra* note 38, at 812.

65. *Id.* at 811–12.

66. *Id.* at 810–11.

67. Westphal, *supra* note 51.

68. *Id.*

benefits, there have been four principal issues raised: a potential chilling effect, privacy implications, improper manipulation of the recordings or equipment, and equipment malfunction.

The major criticism of interrogation room equipment, which can be conceivably applied to dash cams, is the chilling effect that it may have on interrogations or field questionings.⁶⁹ The fear is that a suspect may refuse to speak if he knows he is being recorded, resulting in fewer confessions,⁷⁰ but a study by William A. Geller, Associate Director of the Police Executive Research Forum for the National Institute of Justice, largely debunks this fear.⁷¹ As for privacy concerns and police tampering with equipment, they interrelate and can be discussed together. While it is true that stress levels may be higher during monitored interactions and interrogations, causing police to be tempted to tamper with cameras⁷² to obtain a moment of relaxation or to censure behavior they believe is inappropriate or illegal, Thurlow notes that these concerns can be remedied by creating strong department recording policies providing officers with some tactical discretion.⁷³ In terms of protecting citizen privacy, interrogation and dash cam recordings may have to be redacted to exclude certain inadmissible portions.⁷⁴

As for equipment malfunction, the camera and microphone may fail to record everything, or the suspect might move out of view of the stationary dash cam.⁷⁵ Equipment

69. Thurlow, *supra* note 38, at 800–01.

70. *Id.* at 800.

71. Geller, *supra* note 2. The study provides some evidence of the chilling effect, noting that 8.6% of the recording agencies experienced suspects who were less willing to talk when being recorded. *Id.* at 6. However, this reduction was offset by findings that that 28.3% of agencies reported an increased willingness to talk and 61.3% reported no change. *Id.*

72. For example, some dash cams will not activate unless the officer turns on his emergency lights, which creates the chance that the officer bypasses the camera purposefully or finds himself in an immediate emergency where he does not have time to go back to his car and turn on the lights. Nick Wing, *Police Officer Who Killed Black Teen in Missouri Had Been Issued Body Camera, Wasn't Using It*, HUFFINGTON POST (Dec. 24, 2014, 11:50 AM), http://www.huffingtonpost.com/2014/12/24/antonio-martin-body-camera_n_6377626.html.

73. Thurlow, *supra* note 38, at 801–02.

74. *Id.* at 802.

75. *Id.*; Erika Anguilar, *LAPD Finds That Patrol Car Dash Cameras are No Panacea*, 89.3 KPCC (Dec. 5, 2014), <http://www.scpr.org/news/2014/12/05/48504/lapd-finds-that-patrol-car-dash-cameras-are-no-pan>.

malfunction is always a concern and can only be remedied by testing the equipment both before and periodically during police interactions or interrogations.⁷⁶ Furthermore, police officers can be tactically trained to park patrol cars in ways that minimize the possibility of a citizen avoiding the dash cam's view.⁷⁷ If the microphone or camera in the interrogation room or patrol car fails to pick up part of the interview, witnesses and police officers can supplement these gaps through testimony.

As shown, police have already implemented technologies that both help protect citizens' rights and benefit police departments. Because some departments are already in the practice of implementing technological shields, requiring law enforcement agencies to be proactive about using new technology should not be seen as burdensome. What publicly available technological devices capable of preserving citizens' rights are currently on the market but have not been widely implemented?⁷⁸ Part II answers this question by analyzing Faraday bags and body cameras.

III. PUBLICLY AVAILABLE TECHNOLOGY CAPABLE OF PRESERVING CITIZENS' RIGHTS

This part focuses on two publicly available technologies that police would find useful in preserving citizens' rights: Faraday bags and body cameras. The analysis treats each piece of technology individually in an effort to provide a comprehensive understanding of why the technology is a practical technological shield. Each technology segment gives an overview of the technology, examines the jurisdictions that have implemented the technology to determine if the implementation is optional or required, and concludes by analyzing the costs and benefits of the technology.

76. See Anguilar, *supra* note 75 (explaining that checking dash cam equipment should be as important as checking whether officers' guns are loaded).

77. *Id.*

78. This analysis hopes to show that not only will citizens benefit from police use of technology, but also the courts, the municipalities, and the police officers themselves.

A. Faraday Bags: A Solution to Warrantless Cell Phone Searches

Faraday bags, also known as Faraday cages, are “essentially sandwich bags made of aluminum foil: cheap, lightweight, and easy to use,” and capable of isolating cell phones from radio waves.⁷⁹ Professor Adam Gershowitz describes Faraday bags as aluminum structures—such as the microwave oven in most homes—designed to keep radio waves from reaching the other side of the structure.⁸⁰ By placing a cell phone into the bag, an officer cuts off a phone’s communication with the outside world, effectively preventing citizens or co-conspirators from remote wiping or remote tampering with its data.⁸¹ Thus, by placing a citizen’s cell phone into a Faraday bag, a police officer can secure digital evidence long enough to obtain a warrant and perform a legal search of the phone.⁸² These bags are specifically manufactured for law enforcement and can be easily made by police officers themselves,⁸³ but in the absence of a Faraday bag, a police officer can wrap the phone in layers of aluminum foil.⁸⁴ Faraday bags are often described as an easy, cost-effective, portable solution to warrantless cell phone searches.⁸⁵

79. *Riley v. California*, 134 S. Ct. 2473, 2487 (2014).

80. Adam M. Gershowitz, *Seizing a Cell Phone Incident to Arrest: Data Extraction Devices, Faraday Bags, or Aluminum Foil as a Solution to the Warrantless Cell Phone Search Problem*, 22 WM. & MARY BILL RTS. J. 601, 607 (2013).

81. *Id.*

82. Brief of Amici Curiae Criminal Law Professors in Support of Petitioner Riley and Respondent Wurie at 3, *Riley v. California*, 134 S. Ct. 2473 (2014) (No. 13-132, 13-212), 2014 WL 931832, at *3–6.

83. Gershowitz, *supra* note 80, at 607, 609.

84. *Id.* at 609.

85. *See Riley v. California*, 134 S. Ct. 2473, 2487 (2014); *United States v. Smith*, No. S1-4:11CR288 RWS, 2012 WL 1309249, at *13 (E.D. Mo. Mar. 13, 2012) (concluding the agent’s use of a Faraday Bag to preserve evidence was not improper); Brief of Amici Curiae Criminal Law Professors, *supra* note 82, at 3–6; Patrick Brown, *Search of Cell Phones Incident to Arrest: Overview of the Law as it Stands and a New Path Forward*, 27 HARV. J.L. & TECH. 563, 583 (2014) (describing it as a small, light, cheap, reusable pouch that blocks signals to and from a phone and can be carried on an officers belt); Kevin Wempe, Article, *United States v. Flores-Lopez: Protecting Privacy Rights in Cell Phone Searches Incident to Arrest*, 62 U. KAN. L. REV. 195, 211–12 (2013) (noting that Faraday bags are cheap, can be used easily with very little training, and can fit in the glove compartment of a police cruiser unlike the majority of equipment already found in police vehicles). *But see United States v. Flores-Lopez*, 670 F.3d 803, 810 (7th Cir. 2012) (concerning the burden on “police of having to traipse about with Faraday bags . . . and having to be instructed in the use of these methods for preventing remote wiping or rendering it ineffectual”).

The benefits of a Faraday bag are well known to law enforcement. In 2006, *Law Officer Magazine* published an article advising readers on ways to protect evidence on mobile phones.⁸⁶ The authors assert that the first step in protecting the evidence is placing a cell phone on airplane mode and dropping it in a Faraday bag.⁸⁷ The same article lists paint cans and aluminum foil as less secure forms of Faraday bags.⁸⁸ In April 2001, the Department of Justice's National Institute of Justice released a special report identifying Faraday bags as a tool that federal first responders should include as part of a packing procedure when collecting digital evidence.⁸⁹ While the report does not make the use of Faraday bags mandatory for federal agents, it strongly encourages their use.⁹⁰ State forensic agencies have released similar guidelines recommending the use of Faraday bags when collecting digital evidence.⁹¹

Since *Riley* was decided, a number of states—including Florida, Arizona, Idaho, Massachusetts, Washington, and Virginia—have each encouraged police officers to employ Faraday Bags when securing wireless devices.⁹² For example, West Virginia

86. Karl Dunnagan & Amber Schroader, *Dialing for Evidence*, LAW OFFICER MAG. (Feb. 1, 2006), <http://lawofficer.com/2006/02/01/dialing-for-evidence>.

87. *Id.*

88. *Id.*

89. NAT'L INST. OF JUSTICE, SPECIAL REPORT, NCJ 219941, ELECTRONIC CRIME SCENE INVESTIGATION: A GUIDE FOR FIRST RESPONDERS 14, 31 (Apr. 8, 2001); see *Smith*, 2012 WL 1309249, at *13 (showing that a federal agent carried and utilized Faraday bags).

90. See NAT'L INST. OF JUSTICE, *supra* note 89, at 14, 32.

91. See, e.g., CAL. DEP'T OF JUSTICE, PHYSICAL EVIDENCE BULLETIN 18, DIGITAL EVIDENCE COLLECTION—MOBILE DEVICES 3 (2011), http://oag.ca.gov/sites/all/files/agweb/pdfs/ci/reference/peb_18.pdf (suggesting the use of Faraday bags to block wireless signals from a phone); VA. DEP'T OF FORENSIC SCI., EVIDENCE HANDLING & LABORATORY CAPABILITIES GUIDE, at III-6 (2012), http://www.crime-scene-investigator.net/EvidenceGuide_VA.pdf (noting that it is of the utmost importance to protect cellphones from receiving signals when collecting them, which can be done by placing them in a shielded bag).

92. See MUNICIPAL POLICE TRAINING COMM., 2015–2016 LEGAL ISSUES STUDENT GUIDE 65–67 (Sept. 2015), <http://www.mass.gov/eopss/docs/mptc/student-guide-2015-2016-final.pdf> (outlining the *Riley* decision and its discussion of Faraday bags, referring police to the Massachusetts department's legal advisor or supervisor for guidance on how to apply the case law); Becky Herrin, *Weekly Wrap Up: Legal Update September 2013*, MONROE CTY. SHERIFF'S OFF. (Sept. 13, 2013), http://www.keyssso.net/employees/weekly_wrap_up/2013/09132013.pdf (showing a Florida county recommending the use of Faraday bags to secure phones until a search warrant is obtained); Shannon Inglis, *Law Enforcement Digest*, WASH. ST. CRIM. JUST. TRAINING COMMISSION (Aug. 2014), <https://fort>

codified the use of Faraday bags as one of two required solutions for police to use when taking a phone into evidence.⁹³ Where states have not encouraged the use of Faraday bags as a statewide policy, some localities in those states have nonetheless taken action on their own. Examples include Gaston County, North Carolina;⁹⁴ Savannah, Georgia;⁹⁵ and Greenville, Massachusetts.⁹⁶

When jurisdictions voluntarily require or recommend their officers use Faraday bags, the police department bears the cost of implementing such technology. This cost would include both the price of the Faraday bags as well as the cost of training, though the training cost would be minimal due to the simplicity of Faraday bags; training has been limited to one hour for the purposes of this discussion. As with all technology, the price of the actual bag varies greatly.⁹⁷ Digital forensic equipment retailers, such as the company EDEC, sell basic windowless Faraday bags for \$32, larger

ress.wa.gov/cjtc/www/images/August%202014%20LED.pdf (releasing a state wide article highlighting the *Riley* decision, specifically the discussion of how Faraday bags can be used to prevent remote wiping); Chenda Ngak, *LulzSec Takes on Arizona Law Enforcement*, CBS NEWS (Aug. 29, 2011, 3:18 PM), <http://www.cbsnews.com/news/lulzsec-takes-on-arizona-law-enforcement> (mentioning a leak of Arizona Department of Public Safety files, including a memo recommending law enforcement seizing iPhones to place the phones in Faraday bags or other similar storage containers as soon as possible); Noah Shachtman, *Fighting Crimes with Cellphones' Clues*, N.Y. TIMES (May 3, 2006), http://www.nytimes.com/2006/05/03/technology/techspecial3/03cops.html?_r=0 (noting that Boise Police Department's cellphone recovery specialist places all mobile phones in Faraday bags when arriving to the scene).

93. W. VA. CODE § 149-7-6.4.6.3.F.1(a) (2015).

94. Graham Kuzia, *Handling Cell Phones and Their Digital Evidence*, POLICE: LAW ENFORCEMENT MAG. (Apr. 18, 2013), <http://www.policemag.com/blog/technology/story/2013/04/cell-phone-seizures.aspx> (recommending the use of a Faraday bag to prevent alteration or destruction of cell phone evidence by Kuzia, a reserve police officer for Gaston County, N.C., and a digital forensics program developer for a forensic academy in Charlotte).

95. John Bennett, *Don't Forget the Cell Phone*, 1 ARMSTRONG POLICE 3 (July/Aug. 2013), <http://archive.armstrong.edu/images/police/cfdnewsletter.pdf> (outlining how university police department aids local law enforcement in cyber forensics and instructs to use a Faraday bag, paint cans, or aluminum foil to increase chances at recovering information from a cell phone).

96. George Graham, *Greenfield Police Turn to Microwave Ovens as Improvised Faraday Cages as Department Adjusts to U.S. Supreme Court Ruling Requiring Warrants for Cell Phone Searches*, MASS LIVE (July 11, 2014, 1:19 PM), http://www.masslive.com/news/index.ssf/2014/07/greenfield_police_turn_to_micr.html (noting the use of Faraday bags as a method of complying with *Riley*, but requested donations of microwave ovens out of cost concerns).

97. See Search for "faraday bags," AMAZON, http://www.amazon.com/s/ref=nb_sb_noss?url=search-alias%3Daps&field-keywords=faraday+bags (last visited Feb. 12, 2016).

and more sophisticated windowed bags for \$195 and Faraday duffel bags for \$259.⁹⁸ Other stores sell Faraday bags from \$8.95 to \$37.97,⁹⁹ and sources on Amazon sells them anywhere from \$3 to \$649.¹⁰⁰ Although some believe the *Riley* ruling “has the potential to strain police department budgets because the commercial Faraday bags cost upwards of \$50 each, just to shield a single phone,”¹⁰¹ Gershowitz claims “[a]nyone can purchase a Faraday Bag for as little as thirty dollars, and police departments would likely get a better price if they bought in bulk.”¹⁰² As Faraday bags come into greater use, their price will probably drop; but, for the purposes of this cost and benefit discussion, this Article shall assume police use the EDEC Faraday bag Standard Non-Window (\$32) and the EDEC Faraday bag with Window (\$58).¹⁰³

To calculate costs, one must know the size of the implementing police force. At the time of writing, police forces range from the one sworn officer in Gaines Township, Michigan, to the forty thousand sworn officers in the New York City Police Department.¹⁰⁴ To consider the total cost of Faraday Bags for a

98. *Faraday Bag Standard*, EDEC, <https://www.edecdf.com/product/black-hole-faraday-bag-standard-non-window> (last visited Feb. 6, 2016); *Faraday Bag XL Window*, EDEC, <https://www.edecdf.com/product/black-hole-faraday-bag-xl-window> (last visited Feb. 6, 2016); *Faraday Duffel Bag*, EDEC, <https://www.edecdf.com/product/black-hole-faraday-duffel-bag> (last visited Feb. 6, 2016).

99. *Faraday EMP Bags*, WND SUPERSTORE, <http://superstore.wnd.com/Faraday-EMP-Bags> (last visited Jan. 29, 2016).

100. Search for “Faraday bag,” AMAZON, http://www.amazon.com/s/ref=sr_pg_1?rh=i%3Aaps%2Ck%3AFaraday+bag&keywords=Faraday+bag&ie=UTF8&qid=1412731772 (last visited Feb. 6, 2016).

101. Graham, *supra* note 96.

102. Gershowitz, *supra* note 80, at 607.

103. *Faraday Bag Standard*, *supra* note 98; *Faraday Bag With Window*, EDEC, <https://www.edecdf.com/product/black-hole-faraday-bag-standard-window> (last visited Feb. 6, 2016). These two bags were chosen because they are both the standard bag that an actual forensic evidence retailer sells—one with a window so you cannot see any outside interaction on the phone and one with a window so you can see any outside interaction with the phone—and it seems to mirror what Gershowitz considers cost-effective as well as Graham’s potential burden. Gershowitz, *supra* note 80, at 607; Graham, *supra* note 96.

104. *America’s Largest Police Departments*, LAWENFORCEMENTEDU.NET (Mar. 27, 2014), <http://www.lawenforcementedu.net/2014/03/americas-largest-police-departments>; John Carlisle, *One-Man Police Force Protects Small Mich. Town*, USA TODAY (May 5, 2013, 2:39 AM), <http://www.usatoday.com/story/news/nation/2013/05/05/one-man-police-force/2135569>. The next three largest police departments, at the time of writing, are the Chicago Police Department with twelve thousand sworn officers, the Los Angeles Police Department with just over ten thousand sworn officers, the Philadelphia Police

department, five representative cities have been chosen: New York, Chicago, Atlanta, Pittsburgh, and Knoxville. The tables below represent the costs for each department to equip and train officers in the use of Faraday Bags.

Police Department	Number of Sworn Officers¹⁰⁵	Cost of EDEC Faraday Bag Standard Non-Window (\$32.00)	Cost of EDEC Faraday Bag with Window (\$58.00)
<i>New York</i>	44,000 ¹⁰⁶	\$1,408,000	\$2,552,000
<i>Chicago</i>	12,000 ¹⁰⁷	\$384,000	\$696,000
<i>Atlanta</i>	2,000 ¹⁰⁸	\$64,000	\$116,000
<i>Pittsburgh</i>	900 ¹⁰⁹	\$28,800	\$52,200
<i>Knoxville</i>	400 ¹¹⁰	\$12,800	\$23,200

Table 1 shows the cost of purchasing Faraday bags for every sworn officer in each police department, costing at most \$2.5 million for New York, \$696,000 for Chicago, \$116,000 for Atlanta, \$52,200 for Pittsburgh, and \$23,200 for Knoxville.

Department with over six thousand sworn officers. *America's Largest Police Departments*, *supra*.

105. This data represents an approximation of officers during the time of writing since the numbers will fluctuate based on the economy and local hiring needs. This data has also been rounded for ease of calculation.

106. *America's Largest Police Departments*, *supra* note 104.

107. *Id.*

108. *See Atlanta Police Department*, CITY ATLANTA, <http://www.atlantapd.org/apdhistor y.aspx> (last visited Feb. 6, 2016) (explaining in 2013, “[t]he department reache[d] historic staffing level of 2,000 sworn police officers”).

109. Nico Savidge, *Former Madison Captain Named Pittsburgh Police Chief*, MADISON.com (Sept. 2, 2014), http://host.madison.com/news/local/crime_and_courts/former-madison-captain-named-pittsburgh-police-chief/article_b4e4fc81-c05f-52e6-acc3-d0dee1f40c10.html.

110. Jim Balloch, *Policing Numbers: Local Law Enforcement Seeks Increase in Ranks*, KNOXVILLE NEWS SENTINEL (Apr. 26, 2013), <http://www.knoxnews.com/news/local/policing-numbers-local-law-enforcement-seeks-increase-in-ranks-ep-358391368-355911481.html>.

Beyond the cost of the equipment, officers would have to be trained in its use. Table 2 shows the cost of such training.

Table 2. Costs of Faraday Bag Training to Police Departments¹¹¹

Police Department	Number of Sworn Officers	Average Salary of a Sworn Officer	Hourly Wage from Salary	Cost of Training
<i>New York</i>	44,000	~\$69,907.00 ¹¹²	~\$33.61	\$1,478,840.00
<i>Chicago</i>	12,000	~\$71,583.00 ¹¹³	~\$34.41	\$412,920.00
<i>Atlanta</i>	2,000	~\$48,109.00 ¹¹⁴	~\$23.13	\$46,260.00
<i>Pittsburgh</i>	900	\$50,361.00 ¹¹⁵	\$24.21	\$21,789.00
<i>Knoxville</i>	400	\$46,445.00 ¹¹⁶	\$22.33	\$8,932.00

Table 2 shows that providing one hour of training to each officer would cost New York \$1,478,840, Chicago \$412,920, Atlanta \$46,260, Pittsburgh \$21,789, and Knoxville \$8,932. The cost is based on the average hourly rate—calculated using a forty-hour work week determined from the annual average salary—for officers in each department. Table 2 does not take into account current trainees at the police academy, but the training could be

111. The training would be minimal at best so the cost has been ascertained by determining the average hourly wage of a sworn police officer in the discussed precincts, and multiplying the cost of an hour of training by the number of officers.

112. The average was calculated by adding the total pay of a police officer after six months of employment (\$47,815) to the total pay of a police officer after five and a half years of employment (\$91,998), then dividing the sum by two. *Benefits & Salary Overview*, NYPD RECRUIT, <http://www.nypdrecruit.com/benefits-salary/overview> (last visited Feb. 6, 2016).

113. The average was calculated by adding the entry pay of a police officer (\$46,668) and the highest pay of a police officer who has been with the force for thirty years (\$96,498), then dividing the sum by two. CHI. POLICE DEP'T, 2016 POSITION & SALARY SCHEDULE: SWORN & CIVILIAN PERSONNEL [JANUARY – JUNE], <http://directives.chicagopoli ce.org/forms/CPD-61.400.pdf> (last visited Mar. 15, 2016).

114. The average was calculated by adding the starting salary and top salary of police officers with each degree, then dividing the sum by six. *Salaries and Benefits*, JOINATLANTAPD.ORG, <https://www.joinatlantapd.org/salaryandbenefits.htm> (last visited Feb. 6, 2016).

115. *Police Patrol Officer Salaries in Pittsburgh, Pennsylvania*, SALARY.COM, <http://www1.s alary.com/PA/Pittsburgh/police-officer-salary.html> (last visited Feb. 6, 2016) (based on Human Resources reported data as of February 2016).

116. *Police Patrol Officer Salaries in Knoxville, Tennessee*, SALARY.COM, <http://www1.salar y.com/TN/Knoxville/police-officer-salary.html> (last visited Feb. 6, 2016) (based on Human Resources reported data as of February 2016).

made as part of the trainee's curriculum and would thus be negligible. Ideally, police precincts could circulate an interoffice memo to cut training costs, explaining what a Faraday bag does, how it is used, and when to use it, since the technology is simple. Table 3 shows the combined cost of the equipment and training.

Police Department	Budget	EDEC Faraday Bag Standard Non-Window (\$32.00) and Training	EDEC Faraday Bag with Window (\$58.00) and Training
<i>New York</i>	\$4.9 billion ¹¹⁸	\$2,886,840 (0.06%)	\$4,030,840 (0.08%)
<i>Chicago</i>	\$1.45 billion ¹¹⁹	\$796,920 (0.05%)	\$1,108,920 (0.08%)
<i>Atlanta</i>	\$174,588,091 ¹²⁰	\$110,260 (0.06%)	\$162,260 (0.09%)
<i>Pittsburgh</i>	\$93,423,344 ¹²¹	\$50,589 (0.05%)	\$73,989 (0.08%)
<i>Knoxville</i>	\$56,723,800 ¹²²	\$21,732 (0.04%)	\$32,132 (0.06%)

In summation, the cost of equipping every sworn officer with just one Faraday bag and training her is a negligible part of a department's annual budget, no matter the size of a city. For lower priced Faraday bags, it would cost each city approximately 0.04% to 0.06% of its police department budget, and for the higher

117. The percentages are simply the total percentage of the city's budget that would be required.

118. COUNCIL OF THE CITY OF N.Y., REPORT TO THE COMMITTEES ON FINANCE AND PUBLIC SAFETY ON THE FISCAL YEAR 2016 EXECUTIVE BUDGET FOR THE NEW YORK POLICE DEPARTMENT 1 (2015), <http://council.nyc.gov/html/budget/2016/ex/nypd.pdf>.

119. CITY OF CHI., 2016 BUDGET OVERVIEW 93 (2015), www.cityofchicago.org/content/dam/city/depts/obm/supp_info/2016Budget/2016BudgetOverviewCoC.pdf (noting the Department of Police Budget).

120. CITY OF ATLANTA, ADOPTED BUDGET: FISCAL YEAR 2016, at 57 (2015), www.atlantaga.gov/modules/showdocument.aspx?documentid=19706 (noting the operating budget for the Department of Police Services).

121. CITY OF PITTSBURGH, 2016 OPERATING BUDGET: FINAL ADOPTED BUDGET 208 (2015), http://apps.pittsburghpa.gov/cbo/2016_Operating_Budget.pdf (calculating total expenditures for the Bureau of Police).

122. CITY COUNCIL OF KNOXVILLE, FY 2015/2016 ADOPTED OPERATING BUDGET 230 (2015), http://www.knoxvilletn.gov/UserFiles/Servers/Server_109478/File/Finance/Budget/2015/finalbudget.pdf.

priced bag the cost would be 0.06% to 0.08% of each city's police department budget. Because these bags are reusable,¹²³ precincts would not have to allocate 0.04% to 0.10% of their budget each year.

Granted, devoting a portion of a department's budget to purchasing Faraday bags means that departments will have to reduce spending in other areas—such as purchasing new patrol cars—but the above costs are the worst-case scenario. Police departments will likely get a discount on Faraday bags for purchasing them in bulk, and not every officer needs a Faraday bag.¹²⁴ For example, most officers will not be conducting cell phone searches, so only officers involved in investigations concerning narcotics, child pornography, or white collar crime would need the technology, as these specific officers are constantly investigating crimes that rely on the use of cell phones.¹²⁵ Most officers, such as the ordinary traffic cop, will rarely encounter situations requiring a cell phone search because traffic stops are minimal, unrelated to cell phones, and typically end in a citation.¹²⁶ If a traffic officer without a Faraday bag finds himself in a situation like *Riley*, he can simply turn the phone on airplane mode and request an officer with a Faraday Bag to assist, or he can search the phone at the scene if exigent circumstances arise.¹²⁷ By obtaining a bulk discount and specifying which officers need Faraday bags, the cost of using Faraday bags could be cut significantly.¹²⁸

A police department can also save money by releasing a memorandum or training guide on using Faraday bags as opposed to providing physical training for an hour, eliminating the training cost entirely. Finally, if a police department truly cannot afford the necessary number of Faraday bags in one purchase, it can buy supplemental rolls of aluminum foil for \$2 or request a grant from the U.S. Department of Justice Office of Justice Programs or the Community Oriented Police Services Office.¹²⁹ Ultimately, 0.04%

123. Brown, *supra* note 85, at 582–83.

124. Gershowitz, *supra* note 80, at 607; Graham, *supra* note 96.

125. Gershowitz, *supra* note 80, at 607.

126. *Id.*

127. *Riley v. California*, 134 S. Ct. 2473, 2494 (2014); Gershowitz, *supra* note 80, at 607; Dunnagan & Schroader, *supra* note 86.

128. *Riley*, 134 S. Ct. at 2487; Gershowitz, *supra* note 80, at 607.

129. Gershowitz, *supra* note 80, at 609; *Grants*, U.S. DEP'T JUST., <http://www.justice.gov>

to 0.10% of a department's budget seems minimal compared to the benefits that the widespread use of Faraday bags will provide to both citizens' rights and the police.

Because cell phones are a commonly carried item today, the benefits of Faraday bags are numerous. First, Faraday bags protect citizens' privacy in digital data. While it is true that, in the wake of *Riley*, police are required to obtain a warrant before searching the digital information on a cell phone, this ruling does not strictly prohibit police from searching a phone on site; instead this decision requires an applicable warrant exception, such as exigent circumstances, before such officers can search a phone without a warrant.¹³⁰ If officers are equipped with Faraday bags, police will no longer have to fear destruction of digital evidence through remote wiping.¹³¹ Second, Faraday bags will help preserve evidence by preventing third-party tampering or wiping of the phone. Third, Faraday bags may also save officer resources and judicial resources because, if police officers place phones in Faraday bags and obtain a warrant as required, they will face fewer challenges to the evidence and will spend less time in court. Fourth, by reducing officers' time in court and by lessening the number of suppression motions, a department and its municipality will save money, which could be used to supplement the costs of Faraday bags.

Despite the aforementioned benefits, Faraday bags are not universally regarded as a cost-effective solution to warrantless cell phone searches. For example, one critic emphasizes that the Faraday bag is only effective while the phone is in the bag; hence police not only need "cheap Faraday bags but also Faraday rooms or other specialized equipment" at a police precinct or forensics lab that allows officers to remove the phone from the bag and search it while it is in police custody without making it vulnerable to remote wiping.¹³² As a simpler solution to this criticism, officers can place the phone on airplane mode before placing it in the Faraday bag, turning off all cell phone service to the phone.¹³³

v/business/grants (last visited Jan. 28, 2016).

130. *Riley*, 134 S. Ct. at 2493–94.

131. See Gershowitz, *supra* note 80, at 607.

132. Adam Liptak, *Supreme Court Taking Up Police Searches of Data Toves Known as Cellphones*, N.Y. TIMES (Apr. 28, 2014), http://www.nytimes.com/2014/04/28/us/suprem-e-court-taking-up-police-searches-of-data-toves-known-as-cellphones.html?_r=1.

133. Dunnagan & Schroeder, *supra* note 86.

Thus, the cell phone is not active when it is removed for the search. Another solution is to purchase a sophisticated Faraday bag with built-in USB connection ports and touch screen technology, allowing an officer to search a phone while it is bagged.¹³⁴ While these sophisticated Faraday bags raise costs slightly, precincts would only need a few at the station into which police can transfer their seized phones. A third solution is to adopt Adam Liptak's suggestion and buy a Faraday room—a structure the size of a small tent or room capable of blocking cell phone signals and allowing the officers to search the phones without fear of loss of data—though this solution is probably unnecessary and would be better reserved for actual forensic labs.¹³⁵

A second critic suggests that Faraday bags will not protect data that is pre-programmed to be deleted after a certain amount of time.¹³⁶ This criticism can be solved by one of two simple solutions. First, if data will be erased immediately, the police officer may try to obtain consent or rely on the exigent circumstances warrant exception to search a phone before deletion occurs. The success of the warrant exception would depend on the facts of each case. Second, if information will be deleted in a number of hours or days, police can simply take the phone to the precinct in a Faraday bag and use a device that instantly copies its data onto a police server.¹³⁷ While this process will increase costs, any increased expenditure would be minimal because a police precinct would only need one or two devices at the precinct itself. Thus, the aforementioned concerns are not strong enough to prohibit a rule requiring the use of Faraday

134. See *Black Hole Data Bag Vector Kit (Gen 2)*, EDEC, <http://www.edecdf.com/store/faraday-bags/black-hole-data-bag-kit-vector.html> (last visited Feb. 6, 2016); *Digi-Guard Signal Blocking Faraday Pouch-Tablet Touch Screen/USB Connect*, TRITECH FORENSICS, <http://www.tritechforensics.com/store/product/print/digi-guard-signal-blocking-faraday-pouch-tablet-touch-screenusb-connect> (last visited Feb. 6, 2016).

135. Liptak, *supra* note 132; see, e.g., *Faraday Tent*, EDEC, <http://www.edecdf.com/store/faraday-tents.html> (last visited Feb. 6, 2016) (requiring a call or email to the company for a quote, but a sales representative quoted it at \$17,980); E-mail from Ryan Judy, Sales Manager, EDEC, to author (Oct. 9, 2014, 4:13 PM) (on file with author). The Faraday tent is obviously not the most practical solution for precincts, but if a forensics lab was to use them, the lab could immediately send all Faraday bags back to the police upon receiving the phone.

136. Gershowitz, *supra* note 80, at 608.

137. *Id.* (referencing Cellebrite UFED technology as a solution because it can instantly download the contents of the phone).

bags. In conclusion, requiring police to implement Faraday bags in the field is a feasible, practical, and cost-effective solution to protect citizens' rights. Thus, Faraday bags are one of many cost-efficient, publicly available technologies in existence that police should be required to use to protect citizens' rights.

B. Body Cameras: An Objective Monitor over Citizen-Police Interactions

Dr. Barak Ariel and Tony Farrar of the Rialto (California) Police Department described Taser Inc. body worn cameras as light, small, capable of mounting to the officer in various ways, water resistant, and with full color and a twelve-hour battery life.¹³⁸ Unlike Faraday bags, “[b]ody-mounted police cameras are in their infancy, but [they are] built on tech trends long in the making, including the miniaturization of cameras and the rapid decline in prices of online storage that has given consumers Dropcam and Google Glass.”¹³⁹ Thus, while implementation of body worn cameras in law enforcement is just gaining momentum, the technology has been publicly available for some time to meet the *Kyllo* requirement.¹⁴⁰ If departments required police to wear these cameras, every interaction between a police officer and a citizen would be recorded, saved, and archived as digital evidence, which can be viewed if an officer's behavior is ever called into question. Recording police-citizen interactions builds on several pre-existing foundations: audio recording equipment on officers, the cameras on electric weapons that activate when armed, and police cruiser dashboard cams.¹⁴¹ Furthermore, body cameras are already being specifically manufactured for law enforcement and tested in the field, as discussed below.

138. Barak Ariel et al., *The Effect of Police Body-Worn Cameras on Use of Force and Citizens' Complaints Against the Police: A Randomized Controlled Trial*, 31 J. QUANTITATIVE CRIMINOLOGY 509, 520 (2015).

139. Farhad Manjoo, *Police Cameras Can Shed Light, but Raise Privacy Concerns*, N.Y. TIMES (Aug. 21, 2014), http://www.nytimes.com/2014/08/21/technology/personaltech/police-cameras-can-shed-light-but-raise-privacy-concerns.html?_r=1.

140. See, e.g., *Hero4 Cameras*, GOPRO, http://shop.gopro.com/cameras?gclid=Cj0KEQjwidKiBRCEvbT6yeqPrJQBEiQA1iM2WeE8UYL60afIpzPWbokz0yn2YB3Jrb0hoShiTU_gUVgaAj0e8P8HAQ (last visited Feb. 6, 2016) (displaying a line of small HD cameras that can be mounted to vehicles, helmets, or a person's chest).

141. See Randall Stross, *Wearing a Badge, and a Video Camera*, N.Y. TIMES (Apr. 7, 2013), http://www.nytimes.com/2013/04/07/business/wearable-video-cameras-for-police-officers.html?_r=1&.

At a general law enforcement level, Sgt. Charles E. Humes Jr. published an article in *Law Officer Magazine* endorsing the use of body worn cameras, believing they will become as common as dashboard cams within the next two years because video perceptions are more accurate than eyewitnesses or participant recollection of an event.¹⁴² At the federal level, the federal government has not required body cameras to be worn by federal agents, but the Department of Justice stated that “[t]he Department [of Justice] will continue to support the use of video technology, review and evaluate law enforcement agencies that use it, and engage in discussions to answer the questions . . . [about] the manner in which this technology impacts policing, communities, and public safety.”¹⁴³ In fact, in December 2014, President Obama proposed a “\$263 million program to reform U.S. law enforcement, which includes \$75 million that would be allocated to helping police departments purchase 50,000 body cameras;” this program was extended in 2015 when the Justice Department awarded an additional \$23 million for body camera funding.¹⁴⁴

Adoption at the state level has been piecemeal. At the time of writing, California, South Carolina, Nevada, and New Jersey have required certain officers to use body cameras.¹⁴⁵ A number of jurisdictions have begun implementing them as a matter of

142. *Body Worn Cameras*, LAW OFFICER MAG. (Feb. 24, 2014), <http://www.lawofficer.com/article/technology-and-communications/body-worn-cameras>.

143. Roy L. Austin, Jr., *Response to Your Petition on the Use of Body-Worn Cameras*, WE THE PEOPLE (Sept. 12, 2014), <https://petitions.whitehouse.gov/response/response-your-petition-on-use-body-worn-cameras>; see also LINDSAY MILLER & JESSICA TOLIVER, POLICE EXEC. RESEARCH FORUM, IMPLEMENTING A BODY-WORN CAMERA PROGRAM: RECOMMENDATIONS AND LESSONS LEARNED 51 (2014) (noting the benefits of body-worn cameras and encouraging police agencies to adopt incremental approach to implementing a program).

144. Adriana Scott, *Views You Can Use: Obama Calls for More Police Body Cameras*, U.S. NEWS (Dec. 2, 2014, 11:30 AM), <http://www.usnews.com/opinion/articles/2014/12/02/obama-requests-funding-for-50-000-police-body-cameras-pundits-react>; see *Justice Department Awards over \$23 Million in Funding for Body Worn Camera Pilot Programs to Support Law Enforcement Agencies in 32 States*, U.S. DEP’T JUST. (Sept. 21, 2015), <https://www.justice.gov/opa/pr/justice-department-awards-over-23-million-funding-body-worn-camera-pilot-program-support-law>.

145. Rebecca Brown, *Nearly All States Considered Police Body Cameras in 2015, Few Enacted Laws*, FISCALNOTE (Aug. 6, 2015), <https://www.fiscalnote.com/2015/08/06/nearly-all-states-considered-police-body-cameras-in-2015-few-enacted-laws> (noting that forty-six states have introduced legislation or resolutions regarding body cameras).

department policy, including jurisdictions in Arizona,¹⁴⁶ Florida,¹⁴⁷ Illinois,¹⁴⁸ Louisiana,¹⁴⁹ Maryland,¹⁵⁰ Massachusetts,¹⁵¹ Michigan,¹⁵² Missouri,¹⁵³ New Mexico,¹⁵⁴ New York,¹⁵⁵ North Carolina,¹⁵⁶ Pennsylvania, Texas, Utah,¹⁵⁷ and Washington.¹⁵⁸ These numbers are constantly growing.

146. Arizona jurisdictions include Chandler, Maricopa County, Mesa, Surprise, Rialto, and Modesto. Megan Cassidy, *MCSO Plans On-Body Cameras*, AZ CENT. (Oct. 27, 2014, 8:39 PM), <http://www.azcentral.com/story/news/local/phoenix/2014/10/27/mcso-plans-body-cameras/18040371>.

147. See, e.g., Charles Rabin, *Miami Beach Cops Begin Trial of Police Body Cameras*, MIAMI HERALD (May 5, 2015, 5:39 PM), <http://www.miamiherald.com/news/local/crime/article/20291373.html> (describing the Miami Beach Police Department's trial to implement the body camera program); Amy Tardif, *Florida Police Use Body Cameras*, WGCU PUB. MEDIA (Sept. 23, 2014, 2:54 PM), <http://news.wgcu.org/post/florida-police-use-body-cameras> (stating the Fort Meyers and Daytona Beach police departments will implement body cameras).

148. See, e.g., E-mail from Steve Tuttle, Vice President of Strategic Commc'n, Taser, to Dr. Kay Levine, Professor of Law, Emory Univ. Sch. of Law (Oct. 21, 2014, 12:24 PM) (on file with author).

149. See, e.g., *id.*

150. See, e.g., Editorial, *Cops and Cameras*, BALTIMORE SUN (Sept. 24, 2014, 3:37 PM), <http://www.baltimoresun.com/news/opinion/editorial/bs-ed-police-cameras-20140924-story.html>; Kevin Rector & Colin Campbell, *Baltimore Selects Taser International to Supply Police Body Cameras, Price Unknown*, BALTIMORE SUN (Jan. 19, 2016, 8:37 PM), <http://www.baltimoresun.com/news/maryland/crime/bs-md-ci-body-cameras-20160119-story.html>.

151. Lauren Leamanczyk, *I-Team: Mass. Police Departments Considering Body Cameras*, CBS BOS. (Oct. 21, 2014, 11:19 PM), <http://boston.cbslocal.com/2014/10/21/i-team-mas-police-departments-considering-body-cameras>.

152. See, e.g., Christina Hall, *Michigan Police Agencies Find Body Cams Useful Tools*, DETROIT FREE PRESS (Oct. 5, 2014, 12:50 AM), <http://www.freep.com/story/news/local/michigan/2014/10/05/michigan-police-agencies-find-body-cams-useful-tools/16725529> (stating the police department in Lowell has adopted body cameras while its counterparts in Detroit, Macomb County, and the State Police of Michigan are testing, or have tested, using body cameras).

153. See, e.g., William Cummings, *Ferguson Police Begin Using Body Cameras*, USA TODAY (Sept. 1, 2014, 1:43 AM), <http://www.usatoday.com/story/news/nation/2014/09/01/ferguson-police-cameras/14920587>. Ferguson's body camera requirement was imposed after the Michael Brown incident. *Id.*

154. See, e.g., E-mail from Steve Tuttle, Vice President of Strategic Commc'n, Taser, to Dr. Kay Levine, Professor of Law, Emory Univ. Sch. of Law (Oct. 21, 2014, 12:24 PM) (on file with author).

155. See, e.g., *Cops and Cameras*, *supra* note 150.

156. See, e.g., E-mail from Steve Tuttle, *supra* note 154.

157. See, e.g., Stross, *supra* note 141 ("A spokesman for Taser International said it received orders from various police departments, including those in Pittsburgh, Salt Lake City . . . as well as Fort Worth, Tex.").

158. See, e.g., David Ham, *Seattle Police will Launch Body Camera Pilot Program*, KIRO TV (May 9, 2014, 2:27 PM), <http://www.kirotv.com/news/news/seattle-police-will-launch-body-camera-pilot-program/nfsRt>.

Because many of these jurisdictions that use body cameras do so by choice, not by law, their costs presumably fall on the police precincts that employ them. The costs associated with body cameras include the price of the actual device, the cost of cloud data storage, and the cost of training for the officers, which are discussed below. For purposes of this discussion, two types of body cameras manufactured by Taser will be used to assess costs: the AXON Body and the AXON Flex.¹⁵⁹ The AXON Body, originally priced at \$399.00, is described as a durable on-officer camera with a 130-degree wide-angle lens capable of capturing footage even in low-lit areas, with twelve hour battery life.¹⁶⁰ It has multiple on-body mounting options.¹⁶¹ In contrast, the AXON Flex, originally priced at \$599.00, is a point-of-view camera that can attach directly to eyewear, headbands, collars, ball caps, and helmets.¹⁶² It has a seventy-five degree lens, boasts a thirteen-hour battery life, and can record in low-light settings.¹⁶³

Aside from the device itself, these cameras also require software that uploads the footage to the cloud server on Evidence.com, unless the actual precinct has digital evidence storage programs in place.¹⁶⁴ Evidence.com offers five different cloud storage monthly plans that charge per user.¹⁶⁵ These include Basic (\$15/month for 10 GB of storage), Standard (\$25/month for 20 GB of storage), Pro (\$39/month for 30 GB of storage), Ultimate (\$55/month for 40 GB of storage), and Unlimited (\$79/month for unlimited storage).¹⁶⁶ Each data plan comes with different features, meaning the more a precinct pays, the more features it gets. For the purposes of this discussion, the Basic plan and the Unlimited plan will be used in order to get a sense of both

159. These devices have been chosen because body cameras are a rather new innovation for police and these models have been used in practice.

160. *Axon Body*, TASER, <http://web.archive.org/web/20141202051836/http://www.taser.com/products/on-officer-video/axon-body-on-officer-video> (last visited Mar. 3, 2016).

161. *Id.*

162. TASER, <https://web.archive.org/web/20141127010054/http://www.taser.com/products/on-officer-video/axon-flex-on-officer-video> (last visited Mar. 3, 2016).

163. *Id.*

164. *Taser AXON Body Camera: User Manual*, TASER 8 (2013), https://www.taser.com/images/support/downloads/product-resources/axon_body_product_manual.pdf.

165. *Evidence.com Plans*, AXON, http://prismic-io.s3.amazonaws.com/axon%2F8aaa4593-3fbb-4344-9b69-ef96caa3572b_axon+evidence.com+plans.pdf (last visited Jan. 26, 2016).

166. *Id.*

the highest cost and lowest cost. The Basic plan's features include secure evidence storage, basic management tools, AXON capture, and Audit trails, while the Ultimate plan includes the Basic features and collaboration tools, bulk actions, administrator roles, power administrator roles, pro data management, agency analytics, AXON camera upgrades every 2.5 years, full AXON camera warranty, and support and maintenance.¹⁶⁷

Finally, the last cost policymakers must consider before implementing these cameras is the cost of training. Steve Tuttle, Vice President of Strategic Communications at Taser, compared using the camera to double-clicking a mouse.¹⁶⁸ When an officer double-clicks the control switch, he or she activates an "event."¹⁶⁹ When an event is activated, a red LED light turns on and the camera beeps twice to signal it is recording.¹⁷⁰ The event immediately begins recording audio and video, but the body camera also frontloads the event with footage from the thirty-second buffer (the thirty seconds that was recorded immediately before activating the event).¹⁷¹ However, the buffer does not include audio.¹⁷² This event records until the officer presses and holds the control-switch for five continuous seconds.¹⁷³ If an officer double-clicks the control switch a second time, a second event is created.¹⁷⁴ The officer can then view these event videos on an iOS or Android smart phone and can even add notes, interviews, and information to supplement the video.¹⁷⁵ When the officer's shift is over, she must connect the camera to the charger so that the information can be uploaded to the Evidence.com cloud server.¹⁷⁶ Once all videos are uploaded, the camera deletes the audio and video footage off of its internal storage device.¹⁷⁷ Because these cameras are rather simple to use, training has been

167. *Id.*

168. E-mail from Steve Tuttle, Vice President of Strategic Commc'n, Taser, to Dr. Kay Levine, Professor of Law, Emory Univ. Sch. of Law (Nov. 3, 2014, 03:39 PM) (on file with author).

169. *Id.*

170. *Id.*

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.*

175. *Id.*

176. *Id.*

177. *Id.*

limited to one hour. The three tables below represent the costs of implementing body cameras for each of the five representative police departments.

Police Department	Number of Sworn Officers 178	AXON BODY (\$399)	Axon Flex (\$599)	Evidence.com Basic Plan per officer¹⁷⁹ (\$15/month)	Evidence.com Unlimited plan per officer (\$79/month)
<i>New York</i>	44,000	\$17,556,000	\$26,356,000	\$660,000/month	\$3,476,000/month
<i>Chicago</i>	12,000	\$4,788,000	\$7,188,000	\$180,000/month	\$948,000/month
<i>Atlanta</i>	2,000	\$798,000	\$1,198,000	\$30,000/month	\$158,000/month
<i>Pittsburgh</i>	900	\$359,100	\$539,100	\$13,500/month	\$71,100/month
<i>Knoxville</i>	400	\$159,600	\$239,600	\$6,000/month	\$31,600/month

Table 4 represents the cost of the equipment and cloud storage for each police department. At most, it would cost New York \$26,356,000, Chicago \$7,188,000, Atlanta \$1,198,000, Pittsburgh \$539,100, and Knoxville \$239,600 for the equipment. As for the cost of cloud storage, it would cost New York \$3,476,000, Chicago \$948,000, Atlanta \$158,000, Pittsburgh \$71,100, and Knoxville \$31,600 per month for ultimate plan. The training costs appear in Table 5.

178. See *supra* Table 1.

179. Evidence.com states that agencies should choose the storage level that is best for the agency's users and lists the price of the plan per user, showing that the plan is required for each officer with a camera. See *Evidence.com Plans*, *supra* note 165.

Police Department	Number of Sworn Officers¹⁸⁰	Average Salary of a Sworn Officer¹⁸¹	Hourly Wage from Salary	Cost of Training
<i>New York</i>	44,000	~\$69,907.00	~\$33.61	~\$1,478,840.00
<i>Chicago</i>	12,000	~\$71,583.00	~\$34.41	~\$412,920.00
<i>Atlanta</i>	2,000	~\$48,109.00	~\$23.13	\$46,260.00
<i>Pittsburgh</i>	900	~\$50,361.00	\$24.21	\$21,789.00
<i>Knoxville</i>	400	~\$46,445.00	\$22.33	\$8,932.00

Table 5 shows that providing one hour of training to each officer would cost New York \$1,478,840, Chicago \$412,920, Atlanta \$46,260, Pittsburgh \$21,789, and Knoxville \$8,932. The cost is based on the average hourly rate for officers in each department. Table 6 shows the total cost of body cameras and training to police departments.

Police Department	Budget¹⁸³	AXON Body (\$399) and Training	AXON Flex (\$599) and Training
<i>New York</i>	\$4.9 billion	\$19,034,840 (0.39%)	\$27,834,840 (0.57%)
<i>Chicago</i>	\$1.45 billion	\$5,200,920 (0.36%)	\$7,600,920 (0.52%)
<i>Atlanta</i>	\$174,588,091	\$844,260 (0.48%)	\$1,244,260 (0.71%)
<i>Pittsburgh</i>	\$93,423,344	\$380,889 (0.41%)	\$560,889 (0.60%)
<i>Knoxville</i>	\$56,723,800	\$168,532 (0.30%)	\$248,532 (0.44%)

Table 6 shows that purchasing the equipment and training officers, at most, would cost New York 0.57% of its budget, Chicago 0.52% of its budget, Atlanta 0.71% of its budget, Pittsburgh 0.60% of its budget, and Knoxville 0.44% of its budget.

180. See *supra* Table 1.

181. See *supra* Table 2.

182. The percentages reflect the total percentage of the city's budget that would be required.

183. See *supra* Table 3.

Table 7 shows the cost of cloud storage.

Police Department	Budget¹⁸⁵	Yearly Basic Plan (\$15/month)	Yearly Ultimate Plan (\$79/Month)
<i>New York</i>	\$4.9 billion	\$7,920,000 (0.16%)	\$41,712,000 (0.85%)
<i>Chicago</i>	\$1.45 billion	\$2,160,000 (0.15%)	\$11,376,000 (0.78%)
<i>Atlanta</i>	\$174,588,091	\$360,000 (0.21%)	\$1,896,000 (1.1%)
<i>Pittsburgh</i>	\$93,423,344	\$162,000 (0.17%)	\$853,200 (0.91%)
<i>Knoxville</i>	\$56,723,800	\$72,000 (0.13%)	\$379,200 (0.67%)

Table 7 shows that the highest annual cost for unlimited cloud storage to each department would require 0.85% of New York's budget, 0.78% of Chicago's budget, 1.1% of Atlanta's budget, 0.91% of Pittsburgh's budget, and 0.67% of Knoxville's budget.

If one combines the Table 6 AXON Flex Camera and Training totals with the Table 7 Yearly Ultimate Plan, the cost of implementing body cameras is \$69,546,840 for New York Police Department, \$18,976,920 for Chicago Police Department, \$3,140,260 for Atlanta Police Department, \$1,414,089 for Pittsburgh Police Department, and \$627,732 for Knoxville Police Department. This is by no means a small amount of money, but it is only 1.41%, 1.31%, 1.80%, 1.51%, and 1.11% of each department's total, annual budget. More importantly, these costs are the worst-case scenario. Once the equipment is purchased, the only reoccurring cost is the yearly data plan. If a precinct wishes to minimize the yearly cloud storage charge, it can create its own digital evidence storage program and save money by avoiding the reoccurring monthly costs. Furthermore, precincts can minimize this cost by choosing the AXON Body camera or the Basic data plan, depending on the department's needs. If a department is truly concerned about funding, it may request a grant from the U.S. Department of Justice Office of Justice Programs or the

184. The percentages reflect the total percentage of the city's budget that would be required.

185. See *supra* Table 3.

Community Oriented Police Services Office.¹⁸⁶ Regardless, the benefits of the body cameras justify this cost.

The benefits of body cameras are becoming increasingly important because they act as safeguards to both citizens and police. If police are required to wear body cameras at all times, citizens will have greater protection during field encounters with officers, ultimately reducing officer misconduct and complaints.¹⁸⁷ For example, if a police officer exceeds the scope of a *Terry* stop or searches a phone without a warrant in the wake of *Riley*, his or her actions will be recorded, and the citizen's Fourth Amendment rights will be protected. If the officer goes beyond the scope of a warrant and seizes items without probable cause, those items will be excluded at trial.¹⁸⁸ Similarly, if an officer begins questioning a suspect in the field without giving *Miranda* warnings or continues questioning after a suspect has invoked her rights, the citizen's Fifth Amendment rights will be protected, and the statements will be excluded from the case in chief if she is ultimately prosecuted.¹⁸⁹ This constant monitoring will also serve as a deterrent for police misconduct, discouraging officers from overreaching or taking risky action in the field because they know they will be held accountable for such actions the moment a citizen complains and the relevant footage is viewed by supervisors.¹⁹⁰ Finally, use of cameras will increase the civility of interactions between citizens and police by reducing the use of unnecessary force.¹⁹¹

Citizens are not the only beneficiaries of body cameras. On the law enforcement side of the equation, police have an objective record of all interactions with citizens, which will help deter officer complaints and exonerate those officers who are falsely accused of property theft during searches or of violating

186. See *Grants*, *supra* note 129.

187. See, e.g., Ariel et al., *supra* note 138, at 525 (describing the outcome of the experiment which “suggest[s] a reduction in the total number of incidents of use-of-force in experimental conditions”).

188. *Mapp v. Ohio*, 367 U.S. 643, 655 (1961) (holding “all evidence obtained in violation of the Constitution, is, by that same authority, inadmissible in a state court”).

189. *Miranda v. Arizona*, 384 U.S. 436, 445, 476 (1966).

190. See Ariel et al., *supra* note 138, at 530.

191. See Eugene P. Ramirez, *A Report on Body Worn Cameras*, BUREAU JUST. ASSISTANCE 8 (2014), https://www.bja.gov/bwc/pdfs/14-005_Report_BODY_WORN_CAMERAS.pdf (noting a 59% reduction in use of force).

constitutional rights.¹⁹² In turn, use of cameras will prevent frivolous litigation over the suppression of evidence that the officer lawfully obtained, reducing paid time in court and litigation costs for the jurisdiction.¹⁹³ These savings will help offset some of the costs of implementing the technology. Use of cameras may also encourage citizens to act more cooperatively with the police if they know they are being filmed.¹⁹⁴ Due to the double deterrence effect of preventing police from overreaching and causing citizens to act more cooperatively, there should be a reduction in officer complaints and fewer internal investigations for the precinct.¹⁹⁵

These effects were observed in the Rialto study.¹⁹⁶ The Rialto study found a decrease in use of force complaints from seventy in 2009 to twenty-five in 2013, and a drop in citizen complaints about police behavior from thirty-six in 2009 to three in 2013.¹⁹⁷ Most importantly, the use of body cameras can prevent officers from being subjected to disciplinary action, criminal suits, and civil suits arising from excessive-force claims; internal affairs and the courts will be able to observe the situation from the officer's point of view rather than simply relying on stories and videos taken by witnesses who may not have been as observant as the officer.¹⁹⁸ By having the tools to monitor field interactions between a police officer and a citizen, society will be able to hold

192. See Ariel et al., *supra* note 138, at 524 (recognizing an overall reduction in citizen's complaints in a study on the effects of body worn cameras).

193. See Ramirez, *supra* note 191, at 9.

194. See Ariel et al., *supra* note 138, at 530 ("Simply put, the camera communicated the deterrence message, through self-awareness of being observed, that the acceptable behavioral response in a given situation was not one of force. In short, whether they affected officers, citizens, or both, body-worn-cameras resulted in less force.").

195. See Ramirez, *supra* note 191, at 9 (noting that a 90% reduction in citizens' complaints and a 59% reduction in use of force should cause a dramatic change in police-public encounters).

196. Ariel et al., *supra* note 138, at 524.

197. *Id.*

198. See Ramirez, *supra* note 191, at 9; see also Tony Perry, *San Diego Police Body Camera Report: Fewer Complaints, Less Use of Force*, L.A. TIMES (Mar. 18, 2015, 10:21 AM), <http://www.latimes.com/local/lanow/la-me-ln-body-cameras-20150318-story.html> (finding that complaints had fallen by nearly 40% and both use of force and pepper spray had decreased); Nick Wing, *Study Shows Less Violence, Fewer Complaints When Cops Wear Body Cameras*, HUFFINGTON POST (Oct. 13, 2015, 3:14 PM), http://www.huffingtonpost.com/entry/police-body-camera-study_us_561d2eal1e4b028dd7ea53a56 (describing the University of South Florida study of the Orlando Police Department finding a decrease in use of force complaints and civilian injuries among those officers wearing body cameras).

police officers accountable for improper actions.¹⁹⁹ Similarly, the public will have the information to support officers who act lawfully, rather than condemn them on speculations.²⁰⁰ Holding wrongful officers accountable while vindicating officers who acted in the right will ultimately improve the relationship between police officers and their constituents.²⁰¹

To be fair, use of cameras does allow supervisors or internal affairs to second-guess an officer's decisions in the field.²⁰² However, the use of body cameras is not intended to replace investigations into an officer's actions, but rather to provide one piece of evidence as to how the event transpired.²⁰³ So long as departments conduct full investigations into an incident in order to determine what the officer believed and what information she had, an officer should not be punished simply because her actions were second-guessed by a supervisor.²⁰⁴ A related and possibly more important concern is the officer over-thinking her own actions in the field because of the knowledge that she is being recorded. An officer may be reluctant to take a risky yet lawful action out of fear of being reprimanded, which may lead to a suspect escaping or the officer being injured.²⁰⁵ This potential reluctance may be mitigated by creating department policies assuring officers that any events will be fully investigated.

The largest concern posed by body cameras is the invasion of privacy such technology may produce. As Eugene Ramirez notes, the issue is twofold: privacy of citizens and privacy of

199. See *City of Rialto Case Study*, TASER (2013), https://taser-international.cdn.prismic.io/taser-international%2F8115e245-f575-4583-a971-0d00641245fc_rialto_study.pdf. (last visited Feb. 21, 2016).

200. See *id.*

201. See *id.*

202. Ramirez, *supra* note 191, at 14.

203. *Id.* An interesting spin placed on this concern is the issue of tunnel vision and being blinded to other details not at the officer's immediate attention. If a plaintiff brings a suit against the officer and plays the video in court, the plaintiff may ask the officer why his recollection is missing key details without considering the fact that the officer is in a stressful situation and thus might not have the same wide perception of the video. *Body Worn Cameras*, *supra* note 142. He has tunnel vision, focusing solely on the suspect and not on the surroundings. *Id.* This argument supports the idea that departments must truly investigate police "misconduct" before holding them open to lawsuits. *Id.*

204. Ramirez, *supra* note 191, at 14.

205. See Martin Kaste, *What Happens When A Police Officer Doesn't Shoot?*, NPR (May 7, 2015, 6:06 PM), <http://www.npr.org/2015/05/07/404913703/what-happens-when-a-polic-e-officer-doesnt-shoot>.

officers.²⁰⁶ On the citizen side, organizations like the American Civil Liberties Union (“ACLU”) are most concerned about cameras recording innocent behavior, especially when an officer enters the privacy of someone’s home when responding to a call.²⁰⁷ Aside from worrying about the unnecessary capture of innocent behavior, the ACLU is also concerned about the capture of criminal (or even simply embarrassing) behavior if these videos are leaked unnecessarily online.²⁰⁸ Similarly, an officer’s privacy is at risk because her actions are constantly being recorded, whether or not she is interacting with a citizen or simply taking a break.²⁰⁹

To mitigate privacy concerns, the ACLU recommends several policies to protect citizen privacy, such as limiting recording to uniformed officers so citizens know what to expect, requiring officers to notify people when they are being recorded (similar to dash cams in some states),²¹⁰ and requiring officers to provide clear notice of a camera when entering a private home, except under exigent circumstances.²¹¹ The ACLU also suggests creating a department policy of asking residents whether they wish for a camera to be turned off before they enter a home in non-exigent circumstances.²¹² By notifying citizens when they are being recorded, and by restricting camera use within an individual’s home, the police can protect citizen privacy.²¹³ Furthermore, because camera footage is stored for evidentiary purposes only, it will only be viewed when an officer’s actions are called into doubt; concerns for citizen privacy may, therefore, not be implicated in

206. Ramirez, *supra* note 191, at 15.

207. *Id.*

208. *Id.*

209. *Id.* at 12.

210. Jay Stanley, *Police Body-Mounted Cameras: With Right Policies in Place, a Win for All*, AM. C.L. UNION (Mar. 2015), https://www.aclu.org/sites/default/files/assets/police_body-mounted_cameras-v2.pdf. Despite its sensibility, this recommendation may not be practical to implement since different states have different consent laws. Some states require all parties to consent, whereas others do not. *See* Ramirez, *supra* note 191, at 5. Even the states that have two party consent rules may have exceptions if police are in an area they are lawfully allowed to be. *Id.* Regardless of the consent requirement, notifying individuals that they are being recorded will help protect privacy. *Id.*

211. *Id.* at 16.

212. *Id.*

213. It should be noted that this could lead to potential consent issues in multiple-occupant dwellings, which is why state consent laws and department policies will be crucial in governing when a camera can be used inside the home.

most cases.²¹⁴ Unlike the number of bystander-recorded police interactions posted on YouTube, these videos have very little chance of being shared.²¹⁵

In response to the concern regarding officer privacy, one must remember how the body cameras work. While Taser cameras are always recording, the only footage that is saved are the officer-initiated events and the pure video of the thirty seconds before he triggers the events.²¹⁶ Similarly, there exists no simultaneous monitoring of these recordings. The only time the footage should be viewed is when there is an officer complaint or when the officer's actions are called into question. The camera is not activated when the officer is on his or her break or simply patrolling. Thus, an officer is not under constant surveillance. If an officer fails to double-click to activate an event when needed, then the department may reprimand him and launch its own investigation into the incident. Due to the relatively low costs and the enormous benefits of this technology, requiring police to wear and use body cameras is a very practical solution.

IV. REQUIRING POLICE TO USE PUBLICLY AVAILABLE TECHNOLOGY IS BOTH A NECESSARY AND PRACTICAL SOLUTION TO PROTECT CITIZENS' RIGHTS

This part begins by revisiting *Kyllo* and *Riley* as a backdrop to the proposed rule. It then looks at the total cost of implementing Faraday bags and body cameras for each representative city, but explains how police departments can mitigate cost by determining which forms of the technology best meet the police department's needs.

There is already a long history of Court cases granting and restricting police use of various technology. In *Kyllo*, the Court held that the police use of technology that is not readily available to gain information about the interior of the home is an unconstitutional search; the corollary of this holding is that police use of readily available technology to gain information about the interior of the home, without trespassing onto the property, is constitutionally permissible because there is no reasonable

214. Ramirez, *supra* note 191, at 17–18.

215. *Id.* at 18.

216. E-mail from Steve Tuttle, *supra* note 168.

expectation of privacy in information that can be obtained through such technology.²¹⁷ In *Riley*, the Court held that police are unable to search the digital data of a cellphone without a warrant or warrant exception, recognizing that using alternatives, such as a publicly available Faraday bag, can promote governmental interests while protecting citizens' rights.²¹⁸ The simple step of combining these two rulings creates the requirement that police should be required to use publicly available technology that protects citizens' rights.

Up to this point, this Article has analyzed each technology to determine whether its implementation is feasible. However, the central question presented herein is whether law should exist that require police to use publicly available technology if the technology is capable of protecting citizens' rights. If the representative police departments implemented both of the highest priced technology from Part II (the Faraday bag with Window and the AXON Flex camera with the Unlimited cloud storage plan) it would cost New York \$73.6 million, Chicago \$20.1 million, Atlanta \$3.3 million, Pittsburgh \$1.5 million, and Knoxville \$659,855. This combination of technology only costs 1.50%, 1.39%, 1.89%, 1.59%, and 1.16% of each police department's respective budget.

Furthermore, the police departments could choose to purchase the Faraday bag Standard Non-Window and the Axon Body camera with the Basic cloud storage plan, which would cost New York \$29.8 million (0.61%), Chicago \$8.2 million (0.56%), Atlanta \$1.3 million (0.75%), Pittsburgh \$593,478 (0.64%), and Knoxville \$262,192 (0.47%). This cost does not include any forms of cost mitigation that have been discussed, such as creating training alternatives, choosing cheaper equipment, or creating a cloud storage program for the police department. It is also important to note that this cost may rise as more technologies become publicly available and police departments implement them.

These costs beg an important question: Who bears them? Cost spreading may be the preferred option to individual police departments, but with a fragmented police force divided between private forces, federal, state, county, and city departments with

217. *Kyllo v. United States*, 523 U.S. 27, 40 (2001).

218. *Riley v. California*, 134 S. Ct. 2473, 2487, 2493 (2014).

“[m]unicipal police departments providing the lion’s share of police service,” it is difficult to fairly spread the cost among the other agencies, especially when all agencies will be required to implement the equipment.²¹⁹ Thus, it would be best if each city works the cost into the budget for each individual police department implementing the technology, allowing each department to completely implement the technology within three or even five years. This slow implementation gives departments the time and discretion to determine how many Faraday bags or body cameras they need, train officers on their use to maximize the effect of the technology, and spread the cost across multiple fiscal years. As these technologies bring a return for police departments, departments can put those savings towards purchasing new publicly available technology. If cost remains an issue, the departments can request supplemental funding from the U.S. Department of Justice Office of Justice Programs or the Community Oriented Police Services Office, as discussed above.²²⁰

The requirement being proposed is not meant to limit police departments’ discretion in choosing the type of equipment (i.e., the type of body camera or the type of Faraday Bag) that best serves their needs; it only requires that departments use equipment capable of protecting the rights that the chosen publicly available technology is designed to protect. Requiring the use of Faraday Bags and body cameras is a cost-effective and practical solution to aid citizens’ rights, but this Article advocates beyond requiring police to only implement the two named technologies.

As technology advances, the amount of publicly available technology on the market that police can use to protect citizens’ rights will increase. Implementing these technologies is nothing new for police. Police already have a host of technology at their disposal—dash cams, interrogation room recording equipment, audio recording equipment, Tasers, breathalyzers, and speed radars—that protect both citizens and police.²²¹ Furthermore,

219. Hadar Aviram et al., *Moving Targets: Placing the Good Faith Doctrine in the Context of Fragmentation*, 37 FORDHAM URB. L.J. 709, 721–22 (2010).

220. See *Grants*, *supra* note 129.

221. Schultz, *supra* note 1; Strange, *supra* note 1; see also POLICE EXEC. RESEARCH FORUM, CRITICAL ISSUES IN POLICING SERIES: “HOW ARE INNOVATIONS IN TECHNOLOGY TRANSFORMING POLICING?” (2012), http://www.policeforum.org/assets/docs/Critical_Iss

police already use technology that intrudes on citizens' rights such as wiretaps and sense enhancing devices.²²² By looking at what police have already implemented and recognizing the cost-effectiveness of the proposed technologies, this Article argues that a more general rule is not only possible, but incredibly beneficial in this technological age. Society should require that police use publicly available technology that is capable of protecting citizens' rights. As of date, there has been piecemeal adoption by departments, cities, counties, and states to implement specific technology. Thus, either the Court should establish this general rule by combining the precedents set forth in *Kyllo* and *Riley* so that citizens, police, and the judiciary may reap its benefits, or state and federal legislatures should create legislation to that effect.

V. CONCLUSION

As noted, law enforcement is no stranger to technology. This Article addressed restrictions the Court has placed on police use of technology through the Fourth Amendment, and technology—such as dash cams and interrogation room equipment—that the police have used to yield great benefits both for citizens' rights and themselves. This Article has also analyzed Faraday bags and body cameras, both of which are publicly available today, to determine both their costs and their ability to protect citizens' rights and law enforcement. As shown, implementing Faraday bags and body cameras is a cost-efficient method to protect citizens' Fourth and Fifth Amendment rights, but these technologies are only the beginning. In this technological age, new technology is frequently entering the market. For this reason, we should require police to use publicly available technologies that safeguard citizens' rights.

The largest difficulty faced in the future will be discovering these new technologies and notifying jurisdictions of their benefits. The federal government should take the lead in ensuring that police departments are informed of new technology because

ues_Series/how%20are%20innovations%20in%20technology%20transforming%20policin
g%202012.pdf (discussing institutional survey findings showing widespread use of technologies in policing).

222. *Kyllo*, 523 U.S. at 29; *Olmstead v. United States*, 277 U.S. 438, 456–57 (1928), *overruled by Katz v. United States*, 389 U.S. 347 (1967), and *Berger v. New York*, 388 U.S. 41 (1967).

the federal government already has programs in place that identify beneficial technologies, such as dash cams, and provide supplemental funding. Thus, the task of identifying new technologies will be two-fold. First, police departments must be vigilant in recognizing technologies that are capable of protecting citizens' rights and experimenting with them in the field to determine if the benefits are worth the cost. The beneficial technologies should be reported to the Department of Justice Community Oriented Police Services Office. Second, the Community Oriented Police Services Office should undertake three tasks: research potential technological shields, identify shields discussed by independent researchers and law enforcement, and compile and maintain the list of technology and nationally distribute it to police departments. Once police departments have this list, they can be given a grace period, depending on the financial ability of the department, to obtain the make and model of the technology that best suits the department's needs and to train officers in its use.

If a police department fails to implement this requirement there must be consequences. First and foremost, an inherent consequence of not implementing the identified publicly available technology may often be a lack of evidence in court. If there is a lack of evidence due to the department's failure to comply with the requirement, a court should give an additional jury instruction, instructing the jury that the lack of implementing the technology creates a presumption that the missing evidence is adverse to the prosecution's case in chief. If, however, the department fails to implement the technology but has evidence nonetheless (i.e., searching a cellphone without a warrant or actual exigent circumstances), then the defense should file a motion to suppress the evidence and the burden of proof should shift to the prosecution to prove why the evidence should not be suppressed. As for civil lawsuits, failing to implement the rule should support a citizen lawsuit against the police department generally, but it should not affect a lawsuit against the individual officer unless the department made the technology accessible to the officer and the officer neglected to use it.

The requirement that police use publicly available technology capable of preserving citizens' rights is not meant to be a straitjacket on police nor a get-out-of-jail-free card for guilty citizens. Rather, the requirement is meant to be a protective shield. It will shield citizens from police tactics that degrade or

destroy their rights, and it will shield police from lawsuits, department sanctions or punishments, and trials by public opinion because police will have the equipment and training to best handle citizen interactions while protecting themselves. If Ferguson police had employed technological shields during the Michael Brown incident,²²³ at best Michael Brown may still be alive today, but at worst, the public would have an objective record of the transpired events to hold the officer accountable for any improper actions taken.

Society today cannot function without technology, ranging from cell phones, laptops, tablets, smart watches, cars with advanced navigation and assist capabilities, and sophisticated home appliances. Why should police forces differ? If society relies heavily on technology to make life easier, so too should police rely on technology that makes policing more effective while simultaneously protecting citizens' rights.

223. See Larry Buchanan et al., *Q&A: What Happened in Ferguson?*, N.Y. TIMES, <http://www.nytimes.com/interactive/2014/08/13/us/ferguson-missouri-town-under-siege-after-police-shooting.html> (last updated Aug. 10, 2015) (explaining the Michael Brown incident).