# The City of (Big) Brotherly Love: Examining the Federal and State Constitutional Implications of Real-Time Crime Center Surveillance in Philadelphia

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The rise of Real-Time Crime Centers (RTCCs) in the United States, including their implementation in Pennsylvania, marks a significant development in law enforcement surveillance. These centers employ advanced technologies to conduct real-time monitoring of the public. While the primary aim of RTCCs is to enhance public safety, they also raise critical concerns about privacy rights and constitutional protections. Specifically, the use of pervasive surveillance technology by the Philadelphia Police Department (PPD) through its RTCC challenges the boundaries of the Fourth Amendment of the U.S. Constitution and Article I, Section 8 of the Pennsylvania Constitution.

This Comment explores the constitutional implications of RTCC surveillance, arguing that the PPD's use of this technology constitutes a search under both the Fourth Amendment and the Pennsylvania Constitution. By analyzing U.S. Supreme Court decisions on surveillance, as well as relevant Pennsylvania court rulings, this Comment advocates for enhanced judicial scrutiny of RTCCs, noting that while Pennsylvania's Article I, Section 8 does not categorically exceed the protections of the Fourth Amendment, it offers particularly persuasive safeguards when it comes to real-time surveillance. The conclusion underscores the need for a balanced approach that respects both public safety and individual privacy in the digital age.

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### INTRODUCTION

Philadelphia's streetlights were slick with grease after the Eagles' Super Bowl win<sup>1</sup>—a last-ditch effort by the city government to stop celebrants from scaling the poles.<sup>2</sup> As the crowds cheered and some football fans attempted to climb, Philadelphia simultaneously deployed another tool on its streetlights for regulating its citizens: real-time surveillance cameras. From high above, these cameras captured every movement during the festivities as part of Philadelphia's Real-Time Crime Center (RTCC or "center").<sup>3</sup>

In Philadelphia and other cities across the United States, RTCCs are reshaping policing and pushing the boundaries between public safety and personal privacy. Advanced centers can aggregate data from thousands of cameras and impute it into facial recognition software with predictive analytics to provide law enforcement departments with unprecedented, real-time access to citizens' daily lives.<sup>4</sup> Predictive policing entails using data from various sources, such as crime mapping, social network analysis, and geospatial prediction, to identify patterns and anticipate where crimes are likely to occur.<sup>5</sup> While this can mean faster emergency response,<sup>6</sup> it also means "far more innocent people will be tracked" by police than those actually suspected of crimes.<sup>7</sup> This feature of the modern surveillance era was born in the wake of the September 11 attacks, when the New York Police Department constructed a vast network of closed-circuit cameras-called a fusion center-for the sake of national security.<sup>8</sup> Surveillance

<sup>1.</sup> See NFL History - Super Bowl Winners, ESPN, https://www.espn.com/nfl/ superbowl/history/winners [https://perma.cc/VF2Y-HEXZ] (listing the Philadelphia Eagles as the decisive winners of Super Bowl LIX).

<sup>2.</sup> See Dan Treacy, *Why Does Philadelphia Grease the Poles*?, SPORTING NEWS (Feb. 9, 2025, 7:14 AM), https://www.sportingnews.com/us/nfl/news/philadelphia-grease-poles-tradition-eagles-win/p3zznvlc3xdh633clw2azuaf [https://perma.cc/LHG6-6XAM].

<sup>3.</sup> See About Delaware Valley Intelligence Center, PHILA. POLICE DEP'T, https://dvicphila.org/default.aspx?menuitemid=86 [https://perma.cc/9CV8-D5TF].

<sup>4.</sup> See Andrew Guthrie Ferguson, Video Analytics and Fourth Amendment Vision, 103 TEX. L. REV. 1253, 1272–73 (2025) [hereinafter Ferguson, Video Analytics] (cataloging the role and makeup of RTCCs).

<sup>5.</sup> See Beth Pearsall, Predictive Policing: The Future of Law Enforcement?, 266 NIJ J. 16, 16–17 (2010).

<sup>6.</sup> See id. at 17.

<sup>7.</sup> Ferguson, Video Analytics, supra note 4, at 63.

<sup>8.</sup> See About Delaware Valley Intelligence Center, supra note 3; see also ANITA SALEM ET AL., PORTS OF DELAWARE BAY: INDUSTRY AND PUBLIC SECTOR COOPERATION FOR INFORMATION SHARING 7–8 (2010).

hubs have since become fixtures in modern policing in cities across America.<sup>9</sup>

Philadelphia is no exception. Since launching its RTCC in 2013,<sup>10</sup> the Philadelphia Police Department (PPD) has expanded surveillance technology, enabling around-the-clock-monitoring of public spaces.<sup>11</sup> Given rising crime concerns and Mayor Cherelle Parker's tough-on-crime stance,<sup>12</sup> it is reasonable to anticipate that Philadelphia's RTCC may incorporate even more cameras and predictive algorithms moving forward. Yet, despite this rapid proliferation, the legal status of RTCCs remains uncertain.<sup>13</sup> Do these real-time surveillance practices constitute a search under

11. See Jerry H. Ratcliffe & Elizabeth R. Groff, A Longitudinal Quasi-Experimental Study of Violence and Disorder Impacts of Urban CCTV Camera Clusters, 44 CRIM. JUST. REV. 148, 160 (2019) ("[T]he camera images began being sent to the Philadelphia Police Real Time Crime Center, where a team of between 2 and 5 people monitor the cameras (while conducting other duties) 24 [hours] a day, 7 days a week."); see also Allison Steele, Philadelphia Police Now Have 24-hour Real-Time Surveillance Center, PHILA. INQUIRER (Feb. 23, 2012, 6:54 AM), https://www.inquirer.com/philly/insights/in\_the\_know/20120223\_Philadelphia\_police\_now\_have\_24-hour\_real-time\_surveillance\_center.html [https://perma.cc/D3DG-5RU3] (noting that the Philadelphia RTCC has 24-hour surveillance); Queen Muse, supra note 10 (explaining that at the time of its inception, the Philadelphia RTCC had approximately 2,000 video feeds).

12. See Sammy Caiola, Democratic Mayoral Nominee Cherelle Parker Wants to Strengthen Police, Lean on Stops and Searches to Tackle Gun Violence, WHYY (May 30, 2023), https://whyy.org/articles/philadelphia-cherelle-parker-policing-mayor-election-stop-and-frisk-gun-violence/ [https://perma.cc/X86L-J53P].

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<sup>9.</sup> See SALEM ET AL., *supra* note 8, at 32 (describing the national network of fusion centers).

<sup>10.</sup> See Queen Muse, New Intelligence Center to Help Curb Philly Crime, NBC10 PHILA., https://www.nbcphiladelphia.com/news/local/new-intelligence-center-to-help-prevent-philly-crime/1962472/ [https://perma.cc/7CJL-E8JF] (June 29, 2013, 6:01 AM) (noting the formal opening of the Delaware Valley Intelligence Center, home to Philadelphia's RTCC); Press Release, Mayor Michael A. Nutter, Mayor Nutter To Open Delaware Valley Intel. Ctr. (June 27, 2013) (on file with the Columbia Journal of Law & Social Problems) (announcing the official opening of the Philadelphia RTCC in 2013).

<sup>13.</sup> Few studies have been conducted on the legal and practical impacts of RTCCs. See Rachael Arietti, Do Real-Time Crime Centers Improve Case Clearance? An Examination of Chicago's Strategic Decision Support Centers, 90 J. CRIM. JUST. 1, 1 (2024) (remarking on how understudied this subject is despite the substantial costs associated with establishing and maintaining an RTCC). Recently, a study on the Hartford Police Department's RTCC was published that suggested RTCC activities boost crime solvability. See Lisa Barao & Chris Mastroianni, Creating Solvability With Real-Time Crime Centers (RTCCs): Impacts on Homicide and Shooting Investigations, POLICE Q., Oct. 2024, at 20; see Kimberly Przeszlowski et al., The Centralization and Rapid Deployment of Police Agency Information Technologies: An Appraisal of Real-Time Crime Centers in the U.S., 96 POLICE J. 553, 554 (2023) ("[T]he current body of knowledge on the diffusion of these centers remains largely absent."); Ferguson, Video Analytics, supra note 4, at 9 (interrogating the role of video analytics in RTCCs and interactions with the Fourth Amendment and noting that "there have been few legislative rules placed upon digital command centers . . . the systems [] of modern policing [are] without governmental oversight.").

the Fourth Amendment or under Pennsylvania's constitutional equivalent? While courts have grappled with various forms of digital policing technologies,<sup>14</sup> the specific constitutional implications of RTCCs remain unresolved. This Comment juxtaposes the standards of the federal Fourth Amendment with the Pennsylvania Constitution's Article I, Section 8, which, while at times offering heightened privacy safeguards, operates as a complementary framework rather than imposing a radically different benchmark. As legal challenges to digital policing continue to mount, it is only a matter of time before these questions reach the U.S. and Pennsylvania Supreme Courts.

Part I of this Comment surveys the expanding use of RTCCs, placing particular emphasis on Philadelphia's RTCC within the Delaware Valley Intelligence Center (DVIC). Part II then analyzes the Fourth Amendment implications of such surveillance, highlighting U.S. Supreme Court jurisprudence and a notable Fourth Circuit decision to illustrate how privacy rights are evolving in the digital age. Part III explores how Pennsylvania's Article I, Section 8 may, at times, afford heightened privacy protections by reviewing key state court rulings on digital surveillance. Part IV applies these discussions to Philadelphia's RTCC technology, arguing that this system constitutes a search under both the Fourth Amendment and Article I, Section 8. Part V concludes by considering the broader ramifications of digital-age surveillance for constitutional protections.

# I. SOMEBODY'S WATCHING ME: A LOOK AT REAL-TIME CRIME CENTERS

## A. OVERVIEW OF REAL-TIME CRIME CENTERS IN THE UNITED STATES

RTCCs serve as "centralized data platforms" that enable police departments to deliver critical information to officers in real-

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<sup>14.</sup> See generally Leaders of a Beautiful Struggle v. Balt. Police Dep't, 2 F.4th 330 (4th Cir. 2021) (striking down the Baltimore Police Department's use of an aerial surveillance program); United States v. Tuggle, 4 F.4th 505 (7th Cir. 2021) (upholding the police use of stationary video cameras on public property directed at private property); United States v. Moore-Bush, 36 F.4th 320 (1st Cir. 2022), *cert. denied sub nom.* Moore v. United States, 143 S. Ct. 2494 (2023) (splitting three votes to three on whether long-term pole camera surveillance violates the Fourth Amendment).

time.<sup>15</sup> These centers enhance communication between law enforcement personnel and criminal analysts, who may be sworn officers or civilian employees.<sup>16</sup> The primary objective of RTCCs is to optimize operational intelligence in law enforcement response to ongoing criminal activity and investigations.<sup>17</sup>

While RTCCs share similarities with fusion centers information-sharing hubs that emerged after September 11—their management structures differ.<sup>18</sup> Fusion centers are typically operated at the state or regional level, coordinating intelligence across various government entities and private-sector partners. In contrast, RTCCs are managed by municipal or county police departments and focus primarily on local crime prevention.<sup>19</sup> Estimates suggest that there are at least 143 RTCCs throughout the United States compared to just 80 fusion centers.<sup>20</sup>

Many RTCCs boast sophisticated technological capabilities. In the Philadelphia area, RTCCs resemble high-tech command centers, where wall-to-wall screens display live surveillance footage.<sup>21</sup> These centers integrate "[a]utomatic license plate

17. See DEP'T OF JUST., BUREAU OF JUST. ASSISTANCE, *supra* note 16, at 1 (explaining the purpose of RTCCs generally).

<sup>15.</sup> Przeszlowski et al., supra note 13, at 554.

<sup>16.</sup> See DEP'T OF JUST., BUREAU OF JUST. ASSISTANCE, REAL TIME CRIME CENTER INFORMATION 10 (n.d.), https://bja.ojp.gov/sites/g/files/xyckuh186/files/media/document/RealTimeCrimeCenterInfo rmation.pdf [https://perma.cc/J877-QWWT] (noting that RTCCs may include sworn or civilian crime analysts, retired sworn officers, a hybrid of both, or contractors); see also Law Enforcement Analyst, CITY OF PHILA., https://www.phila.gov/departments/office-of-human-resources/job-specs/6C26.htm [https://perma.cc/BG23-PWLJ] (describing law enforcement analyst position as supporting the RTCC operations "through the analysis of 911 calls, radio, crime tips, and other sources; responds directly to Requests for Information from Philadelphia Police or external agency partners; redirects requests to the appropriate unit within the Intelligence Bureau.").

<sup>18.</sup> See ANITA SALEM ET AL., supra note 8, at 7–8; see also Fusion Centers, DEP'T HOMELAND SEC., https://www.dhs.gov/fusion-centers [https://perma.cc/YD4L-RX86] (Oct. 17, 2022) ("The National Network of Fusion Centers is the hub of much of the two-way intelligence and information flow between the federal government and our State, Local, Tribal and Territorial (SLTT) and private sector partners.").

<sup>19.</sup> *See* Przeszlowski et al., *supra* note 13, 557 (depicting the jurisdictional differences between fusion centers and RTCCs).

<sup>20.</sup> See Arietti, supra note 13, at 1 ("A growing number of police departments have implemented RTCCs in recent years, with as many as 143 RTCCs identified across the U.S. to date."); DEP'T OF HOMELAND SEC., NATIONAL NETWORK OF FUSION CENTERS ASSESSMENT: SUMMARY OF FINDINGS 3 (2021), https://www.dhs.gov/sites/default/files/2022-12/2021%20Fusion%20Centers%20Assessment%20Summary%20of%20Findings.pdf [https://perma.cc/3TAX-W9XS].

<sup>21.</sup> See generally Juliana Reyes, Real Time Crime Center: 1 Year After Launch, 24-Hour Support Center Will Move to Delaware Valley Intelligence Center This Spring, TECHNICALLY (Feb. 20, 2013, 11:00 AM), https://technical.ly/civic-news/real-time-crime-center-1-year-

readers, gun-shot detection systems,[] closed-circuit surveillance camera feeds[,]" body-worn cameras, social media software, and, in some cases, facial recognition technology.<sup>22</sup> A recent study indicates that a majority of police departments with RTCCs use them for active surveillance,<sup>23</sup> and nearly 30% of agencies report operating their centers 24/7.<sup>24</sup>

The ability to process vast amounts of surveillance data raises concerns about law enforcement's investigative reach and reasonable expectations of privacy. RTCCs may deploy video analytics software, which uses artificial intelligence to scan and categorize video streams, identifying persons of interest and alerting officers to suspicious activity.<sup>25</sup> This technology enables law enforcement to search for specific individuals or objects in real time, significantly expanding police surveillance capabilities. In practice, this means that police can be alerted to a crime in progress without a report ever being called in. Furthermore, many RTCCs leverage private security networks, including cameras owned by businesses and residents, granting law enforcement access to footage that might otherwise require a warrant.<sup>26</sup> The growing adoption of RTCCs is largely driven by the perception that they reduce crime. For example, former President Barack Obama highlighted their role in local policing strategies during his visit to the Camden County Metro Police RTCC-an initiative linked to

after-launch-24-hour-support-center-will-move-to-delaware-valley-intelligence-center-thisspring/ [https://perma.cc/BQU2-QF48] (depicting an image of the RTCC in the DVIC); Rebecca Everett, *Camden Police's Newest Partner in Proactive Policing? Artificial Intelligence*, NJ.COM (Feb. 19, 2020, 7:10 AM), https://www.nj.com/camden/2020/02/camdenpolices-newest-partner-in-proactive-policing-artificial-intelligence.html [https://perma.cc/ 7LE6-6UW6] (describing the command center at the Real Time Tactical Operation Intelligence Center in nearby Camden, New Jersey).

<sup>22.</sup> See Przeszlowski et al., *supra* note 13, at 558, 565 ("According to the responses, 95 percent of RTCCs do not utilize real-time facial recognition software, whereas only five percent do."); *see also* Kyle Stelmack, *Weaponized Police Drones and Their Effect on Police Use of Force*, 15 J. TECH. L. & POL'Y 276, 279 (noting that drones with the ability to deploy tasers, pepper spray, paint balls, and other kinds of force already exist and are available for potential police use); DEP'T OF JUST., BUREAU OF JUST. ASSISTANCE, *supra* note 16, at 15–17 (highlighting the various technological features that an RTCC may deploy).

<sup>23.</sup> See Przeszlowski et al., supra note 13, at 562.

<sup>24.</sup> Id. at 563.

<sup>25.</sup> Ferguson, *Video Analytics, supra* note 4 at 1, 4 ("In simplified form, video analytics digitizes and thus allows each of the objects on the screen (people, cars, animals, bags, floppy hats, sneakers) to be separated out, categorized, isolated, and tracked across time and place.").

<sup>26.</sup> See Zac Larkham, The Quiet Rise of Real-Time Crime Centers, WIRED (July 10, 2023, 7:00 AM), https://www.wired.com/story/real-time-crime-centers-rtcc-us-police/ [https://perma.cc/CEU6-6TEZ]; Przeszlowski et al., *supra* note 13, at 567.

the Delaware Valley Intelligence Center.<sup>27</sup> Yet, even if RTCCs prove effective at aiding law enforcement, their increasing use also raises serious questions about privacy rights and civil liberties. As these centers multiply nationwide, law enforcement's reliance on robust, real-time surveillance technology demands closer scrutiny to ensure fundamental freedoms are not eclipsed by an ever-expanding digital policing apparatus.

### B. DELAWARE VALLEY INTELLIGENCE CENTER: PHILADELPHIA'S EAGLE-EYE

The DVIC, funded by the City of Philadelphia and the federal government,<sup>28</sup> serves as the fusion center for the greater Philadelphia area and contains the city's RTCC.<sup>29</sup> As the signature initiative of former Police Commissioner Charles Ramsey,<sup>30</sup> the DVIC positioned the PPD as "the 10th agency [in the United States] with access to similar depths of information and analytical tools."<sup>31</sup> Nested within the PPD,<sup>32</sup> the RTCC originally operated from the PPD's headquarters in Philadelphia's Chinatown, relying on 1,800 video feeds, primarily from Southeastern Pennsylvania Transportation Authority (SEPTA) cameras.<sup>33</sup> The PPD later relocated the RTCC to the DVIC's warehouse in South Philadelphia to expand its surveillance capabilities.<sup>34</sup> As of May

<sup>27.</sup> For a further discussion on the details of the Camden model of police surveillance, see Brendan McQuade, *The "Camden Model" Is Not a Model. It's an Obstacle to Real Change.*, JACOBIN (June 4, 2020), https://jacobin.com/2020/07/camden-new-jersey-police-reform-surveillance [https://perma.cc/STJ8-DUGK].

<sup>28.</sup> See Press Release, Mayor Michael A. Nutter, Mayor Nutter Tours Delaware Valley Intel. Ctr. Nutter Receives Progress Briefing From Top City Offs., Examines DVIC Facilities (Dec. 19, 2012) [hereinafter Delaware Valley Tour Press Release] (on file with the *Columbia Journal of Law & Social Problems*) (detailing the funding scheme for the newly opened DVIC).

<sup>29.</sup> See id.

<sup>30.</sup> See Reyes, supra note 21 (noting that the RTCC was Police Commissioner Charles Ramsey's "flagship" initiative).

<sup>31.</sup> Przeszlowski et al., *supra* note 13, at 558. The DVIC was initially funded through a combination of city funds and federal grants totaling \$20 million. Its ongoing operating costs—about \$2 million—are split between the city and the federal government. *See* Press Release, *supra* note 28.

<sup>32.</sup> See About Delaware Valley Intelligence Center, supra note 3.

<sup>33.</sup> Reyes, *supra* note 21 ("Staffers have access to feeds from 1,798 surveillance cameras, nearly all of which are SEPTA cameras.").

<sup>34.</sup> See *id.* (highlighting the Department's 2013 plans, such as piloting comprehensive, searchable database software to mitigate initial RTCC limitations, and suggesting that

2024, the PPD's RTCC can access "2,686 city-owned feeds, plus 4,266 from SEPTA and PennDot."<sup>35</sup>

The DVIC's RTCC provides support across twelve counties,<sup>36</sup> including the Philadelphia/Camden High Intensity Drug Trafficking Area.<sup>37</sup> Officers can access RTCC feeds remotely via mobile devices and laptops,<sup>38</sup> enabling real-time monitoring of neighborhoods and dispatched calls.<sup>39</sup> In the absence of active monitoring, cameras rotate at thirty-second intervals across cardinal directions.<sup>40</sup> RTCC footage is cataloged by the PPD for investigative and legal use,<sup>41</sup> with officers required to disclose its use in their reports.<sup>42</sup> Unrequested footage is retained for thirty

[https://perma.cc/X4B2-2QWU] (noting that Philadelphia is the third most-surveilled city in the United States, following Atlanta, Georgia and Washington, D.C.).

36. The counties covered by the DVIC's RTCC include Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties in Pennsylvania; Burlington, Camden, Cumberland, Gloucester, and Salem Counties in New Jersey; New Castle County in Delaware; and Cecil County in Maryland. *See* SALEM ET AL., *supra* note 8, at 8 fig.1 (providing a map of the counties covered by the DVIC).

37. See Delaware Valley Tour Press Release, supra note 28 ("Agencies represented in the DVIC will include the Philadelphia Police Department's Real Time Crime Center, Criminal Intelligence Unit, Homeland Security Unit, and High Intensity Drug Trafficking Area (HIDTA) Watch Center; SEPTA and Amtrak Police Units; the U.S. Department of Homeland Security; the Federal Bureau of Investigation; and regional partner agencies."); NAT'L DRUG INTEL. CENTER, DEP'T OF JUST., PHILADELPHIA/CAMDEN HIGH INTENSITY DRUG TRAFFICKING AREA DRUG MARKET ANALYSIS fig.1 (2008)https://www.justice.gov/archive/ndic/pubs27/27509/27509p.pdf [https://perma.cc/Y476-JXRL] (depicting the areas included in the Philadelphia/Camden High Intensity Drug Trafficking Area); see also SALEM ET AL., supra note 8, at 8 fig. 1 ("The DVIC has a rich structure of organizational collaboration that spans Federal, State, Local and Tribal entities including law enforcement, fire, social services, healthcare, transportation, commerce, all DHS critical infrastructure domains, education and nongovernmental organizations.").

38. See Complaint at 6, Lopez v. Rosa, No. 2:25-cv-00578 (E.D. Pa. Feb 3, 2025).

39. See id.

40. Telephone Interview with Michael Mellon, Representative, Police Accountability Unit of the Def. Ass'n of Phila. (Feb. 16, 2024).

41. See Complaint, supra note 38, at 7.

42. See id.

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relocating from Chinatown to South Philadelphia reflected an effort to expand surveillance capabilities); *see generally* KEVIN J. BETHEL, PHILA. POLICE DEP'T, PHILA. POLICE DEP'T FISCAL YEAR 2026 BUDGET TESTIMONY 8 (2025), https://phlcouncil.com/wp-content/uploads/2025/04/FY26-Budget-Hearings-Testimony\_Police.pdf [https://perma.cc/NT6S-JV8U].

<sup>35.</sup> Samantha Melamed, *Philly Narcotics Cops Secretly Used Surveillance Cameras. Video Proved Some of Their Testimony False*, PHILA. INQUIRER (May 8, 2024, 5:00 AM), https://www.inquirer.com/news/philadelphia/philadelphia-police-video-surveillance-drugarrests-20240508.html [https://perma.cc/U9E2-RAY3]; see also Paul Bischoff, CCTV Surveillance in the Most Populated Cities in the United States, COMPARITECH (Jan. 8, 2024), https://www.comparitech.com/blog/vpn-privacy/us-surveillance-camera-statistics/ [https://perma.cc/X4B2-2QWU] (noting that Philadelphia is the third most-surveilled city in

days before deletion, while metadata, including user activity trails, is stored for ninety days.<sup>43</sup>

Despite its operational importance, concerns persist regarding the adequacy of the PPD's internal safeguards against misuse.<sup>44</sup> Issues include the retention and oversight of footage, transparency in usage, and protections against potential abuse of the surveillance system.<sup>45</sup> The extent to which the PPD ensures compliance with proper protocols remains unclear; for instance, representatives from the Police Accountability Unit of the Defender Association of Philadelphia found that "[i]n a review of 37 cases from two months in 2023, [a narcotics squad within the PPD] used cameras in 86% of its arrests—but never disclosed it."<sup>46</sup>

Beyond aiding law enforcement, CCTV cameras are often promoted for their deterrence effect. As one scholar explains:

CCTV cameras are hypothesized to generate a general deterrence mechanism that increases the perceived risk of capture among the potential offender population should crime be committed. Hypothetically, there may also be specific deterrence that occurs when camera schemes result in the arrest of offenders who are subsequently dissuaded from future offending—assuming they are aware that they were detained because of the cameras.<sup>47</sup>

Research, however, challenges the effectiveness of CCTV in reducing violent crime.<sup>48</sup> A 2019 study found "no significant

<sup>43.</sup> User activity trails reflect what users access certain cameras. See id.

<sup>44.</sup> Melamed, *supra* note 35.

<sup>45.</sup> See *id.*; see *also* Complaint, *supra* note 38, at 8 ("Defendant Rosa and his NSF team, including Defendants Aponte, Smith, and Howe, have routinely used RTCC cameras, never documenting or preserving the video, and intentionally suppressing exculpatory video and documentary evidence.").

<sup>46.</sup> See Melamed, supra note 35; see also Complaint at 8, Lopez v. Rosa, No. 2:25-cv-00578 (E.D. Pa. Feb 3, 2025). Some observers expressed concerns about the capacity for officers to stalk individuals undetected: "Training materials provided in response to a right-to-know request says users must follow the law, and lists 'forbidden practices': zooming in on a person 'for amusement'; looking through a window into a home 'to spy on someone (without reasonable suspicion, or probable cause)'; 'racial profiling.' But beyond those proscriptions, on-duty police have broad latitude to watch anyone deemed 'suspicious.' The policies set no limits on tracking a person over time or distance by following them from one camera to the next." Melamed, supra note 35.

<sup>47.</sup> Ratcliffe & Groff, supra note 11, at 150.

<sup>48.</sup> See Giovanni Circo & Edmund McGarrell, Estimating the Impact of an Integrated CCTV Program on Crime, 17 J. EXPERIMENTAL CRIMINOLOGY 129, 131–32 (2021)

impact associated with the introduction of CCTV surveillance" in curbing violent crime in Philadelphia.<sup>49</sup> Despite questions about deterrence, CCTV feeds remain integral to RTCC systems, which aggregate real-time footage from multiple locations to aid investigations. As a result, RTCC surveillance, powered in large part by these CCTV networks, plays an increasingly prominent role in criminal prosecutions.<sup>50</sup>

## II. FOURTH AMENDMENT PROTECTIONS AGAINST UNREASONABLE SEARCHES IN THE DIGITAL ERA

Building on this discussion, Part II questions whether RTCC practices constitute a "search" under constitutional law. By analyzing Fourth Amendment case law from the U.S. Supreme Court and the United States Court of Appeals for the Fourth Circuit, this section explores the implications of RTCC surveillance for privacy rights and lawful search protocols with respect to federal constitutional protections. Part III then analyzes these same considerations under the Pennsylvania Supreme Court's interpretation of Article I, Section 8 of the Pennsylvania Constitution.<sup>51</sup>

The Fourth Amendment is a bulwark for individual rights, safeguarding personal privacy and shielding against the "compulsory production" of incriminating evidence.<sup>52</sup> Rooted in the Founders' response to general warrants<sup>53</sup>—tools of unchecked

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<sup>(</sup>suggesting that CCTV surveillance has limited deterrent effects outside minor offenses and property crime).

<sup>49.</sup> Ratcliffe & Groff, supra note 11, at 148.

<sup>50.</sup> See Ximena Conde & Chris Palmer, Philadelphia to Install More Than 100 Security Cameras Near Rec Centers to Deter Gun Violence, PHILA. INQUIRER (Apr. 12, 2023, 7:55 PM) (on file with the Columbia Journal of Law & Social Problems), https://www.inquirer.com/ news/cameras-installed-rec-centers-hopes-to-deter-violence-20230412.html ("[M]any investigations are now based entirely on a combination of forensic evidence including video, cell phone records, and ballistics tests, as opposed to requiring witness testimony.").

<sup>51.</sup> See also Seth F. Kreimer, *Still Living After Fifty Years: A Census of Judicial Review Under the Pennsylvania Constitution of 1968*, 71 RUTGERS U. L. REV. 287, 424–38 (2018) (providing a chronology of important Pennsylvania Supreme Court decisions on Art. I, § 8 of the Pennsylvania Constitution).

<sup>52.</sup> Davis v. United States, 328 U.S. 582, 587 (1946). See generally United States v. White, 322 U.S. 694 (1944) (expounding upon the constitutional protections against self-incrimination).

<sup>53.</sup> Wallace v. King, 626 F.2d 1157, 1160 (4th Cir. 1980), cert. denied, 451 U.S. 969 (1981), app. after remand, 650 F.2d 529 (4th Cir. 1981).

authority that enabled indiscriminate searches—the Fourth Amendment enshrines the following principle:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.<sup>54</sup>

At its core, the Fourth Amendment protects the "privacies of life" from unwarranted government intrusion.<sup>55</sup> Yet, the relentless pursuit of new technologies to "ferret[] out crime" continually tests these constitutional limits.<sup>56</sup> As surveillance capabilities evolve, legal frameworks struggle to keep pace, leaving a gap that permits potentially unconstitutional intrusions. This misalignment between technological advancement and judicial or legislative oversight creates a gray area—where practices may be "awful but lawful."<sup>57</sup>

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<sup>54.</sup> U.S. CONST. amend. IV.

<sup>55.</sup> Stone v. Powell, 428 U.S. 465, 482 (1976).

<sup>56.</sup> Charles E. MacLean & James A. Densley, Fourth Amendment Erosion and Novel Crime-Fighting Technologies, in POLICE, PROSECUTORS, COURTS, AND THE CONSTITUTION 69, 88 (2023); see Abel v. United States, 362 U.S. 217, 237 (1960) ("If anything, we ought to be more vigilant, not less, to protect individuals and their property from warrantless searches made for the purpose of turning up proof to convict than we are to protect them from searches for matter bearing on deportability."); see also Ferguson, Video Analytics, supra note 4, at 6 ("[T]he rise of video analytics both presents one of the most significant privacy and liberty eroding technologies ever deployed ....").

<sup>57.</sup> MacLean & Densley, supra note 56, at 74.

#### The City of (Big) Brotherly Love

# A. THE U.S. SUPREME COURT, CONTEMPORARY POLICE SURVEILLANCE TECHNOLOGIES, AND MOSAIC THEORY

For over fifty years, the U.S. Supreme Court has developed Fourth Amendment doctrine in response to evolving police surveillance technologies. *Katz v. United States* established the foundational "reasonable expectation of privacy" test, rejecting the idea that Fourth Amendment protections depend on physical trespass.<sup>58</sup> *Katz* held that Fourth Amendment protections are triggered when a person reasonably assumes their activity is private.<sup>59</sup> The *Katz* defendant was convicted based on evidence obtained by an electronic listening device used to capture his phone conversations from a public telephone booth.<sup>60</sup> The Court found that once the defendant had closed the booth door and paid for his call, he had a reasonable expectation of privacy, rejecting the government's counter that their warrantless electronic bug remained outside the booth.<sup>61</sup>

More recently, in United States v. Jones, the Court unanimously held that attaching a GPS tracker to a vehicle for prolonged monitoring constituted a search.<sup>62</sup> Justice Alito emphasized that such surveillance "impinges on expectations of privacy" by exposing an individual's movements over time.<sup>63</sup> In their respective concurrences, Justices Alito and Sotomayor warned that digital surveillance technologies raise privacy concerns beyond physical trespass.<sup>64</sup> Justice Sotomayor, in particular, highlighted concerns with the vast personal insights such monitoring can reveal ("trips to the psychiatrist, the plastic surgeon, the abortion clinic, the AIDS treatment center, the strip club, the criminal defense attorney, the by-the-hour motel, the union meeting, the mosque, synagogue or church, the gay bar and on and on") and suggested a broader framework for assessing privacy in public spaces.<sup>65</sup> Justice Sotomayor's analysis aligns

<sup>58.</sup> See generally Katz v. United States, 389 U.S. 347 (1967).

<sup>59.</sup> See id. at 349, 353.

<sup>60.</sup> See id. at 348.

<sup>61.</sup> See id. at 352.

<sup>62.</sup> See generally United States v. Jones, 565 U.S. 400 (2012).

<sup>63.</sup> Id. at 430 (Alito, J., concurring).

<sup>64.</sup> Id. at 415 (Sotomayor, J., concurring).

<sup>65.</sup> Id. at 415 (Sotomayor, J., concurring) (quoting People v. Weaver, 12 N.Y.3d 433,

<sup>441-442 (2009)).</sup> Justice Sotomayor emphasized that this kind of monitoring "reflects a

with the "mosaic theory," referenced by the D.C. Circuit in *United* States v. Maynard, the case leading to Jones, which recognized that prolonged surveillance produces a more revealing picture than isolated observations.<sup>66</sup> The D.C. Circuit explained that "[p]rolonged surveillance reveals types of information not revealed by short-term surveillance . . . [this] type[] of information can [] reveal more about a person than does any individual trip viewed in isolation."<sup>67</sup>

Since Jones, the Court has increasingly adopted this view. In *Riley v. California*, the Court held that warrantless searches of cell phones incident to arrest violate the Fourth Amendment.<sup>68</sup> The Court noted that cell phones contain deeply personal information and warrant heightened privacy protections,<sup>69</sup> clarifying that when "privacy-related concerns are weighty enough," a "search may require a warrant, notwithstanding the diminished expectations of privacy."<sup>70</sup> Similarly, in *Carpenter v. United States*, the Court held that accessing historical cell-site location information (CSLI)<sup>71</sup> without a warrant constituted a search. Chief Justice Roberts acknowledged that carrying a cell phone was a prerequisite to "participat[e] in modern society," and users do not voluntarily share their location "beyond powering up [their cellular device]."<sup>72</sup>

Despite these Fourth Amendment privacy protections recognized by the Supreme Court, surveillance, especially of the digital sort, remains a powerful law enforcement tool. While proponents argue these tactics enhance public safety, their actual efficacy remains unclear.<sup>73</sup> Once lost, privacy is difficult to

68. See generally Riley v. California, 573 U.S. 373 (2014).

wealth of detail about [a person's] familial, political, professional, religious, and sexual associations," and law enforcement's ability to aggregate and access that information into the future is concerning. *Id.* at 415-16.

<sup>66.</sup> United States v. Maynard, 615 F.3d 544, 562 (D.C. Cir. 2010), *aff d in part sub nom*. United States v. Jones, 565 U.S. 400 (2012).

<sup>67.</sup> *Id*.

<sup>69.</sup> See Matthew B. Kugler & Lior Jacob Strahilevitz, Actual Expectations of Privacy, Fourth Amendment Doctrine, and the Mosaic Theory, 2015 SUP. CT. REV. 205, 208.

<sup>70.</sup> Riley, 573 U.S. at 392 (quoting Maryland v. King, 569 U.S. 435, 463 (2013)).

<sup>71.</sup> CSLI is a time-stamped record generated whenever a cell phone connects to a cell site—these connections may occur multiple times per minute so long as the phone has signal and regardless of the user's activity on their device. *See* Carpenter v. United States, 585 U.S. 296, 301–04 (2018). Wireless carriers track this data, which can recreate a person's whereabouts. *See Cell Site Location Information: A Guide for Criminal Defense Attorneys*, ELECT. FRONTIER FOUND., https://www.eff.org/files/2019/03/28/csli\_one-pager.pdf [https://perma.cc/M2S5-KF3C] (Mar. 28, 2019).

<sup>72.</sup> Carpenter, 585 U.S. at 315.

<sup>73.</sup> See discussion supra Part I.B.

reclaim.<sup>74</sup> In *Riley*, Chief Justice Roberts acknowledged this tension, which is central to challenges against RTCCs, writing, "[p]rivacy comes at a cost."<sup>75</sup> A common thread in *Jones*, *Carpenter*, and *Riley* is the Court's concern with the pervasiveness of modern surveillance.<sup>76</sup> In *Carpenter*, the Court rejected the notion that simply existing in public forfeits Fourth Amendment rights, stressing the need to evaluate the scope and intrusiveness of surveillance methods.<sup>77</sup> The Supreme Court's recent decisions highlight the balance between law enforcement's investigative needs and individuals' privacy rights.<sup>78</sup> To illuminate the evolving challenge federal courts face in balancing these considerations, Part II.B examines how the Fourth Circuit has approached Fourth Amendment protections with respect to contemporary surveillance practices.

### B. THE FOURTH CIRCUIT GROUNDS AERIAL SURVEILLANCE

Like the D.C. Circuit in *Maynard* and Justice Sotomayor's concurrence in *Jones*, the Fourth Circuit has also recognized the "mosaic theory": advanced surveillance technologies that exceed

77. Carpenter v. United States, 585 U.S. 296, 310 (2018) (underscoring that a "person does not surrender all Fourth Amendment protection by venturing into the public sphere"). See Andrew Guthrie Ferguson, *Why Digital Policing is Different*, 83 OHIO STATE L.J. 817 (2022), for a further discussion on why digital searches should be considered fundamentally different from analog searches.

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<sup>74.</sup> See e.g., Daniel J. Solove, "*Tve Got Nothing to Hide*" and Other Misunderstandings of Privacy, 2008 SAN DIEGO L. REV. 745, 769 (explaining that the harm of privacy violations, such as those contemplated in this Comment, are that once information leaves your control, it can be repurposed in unpredictable ways, making privacy difficult or impossible to reclaim after the fact).

<sup>75.</sup> Riley v. California, 573 U.S. 373, 401 (2014).

<sup>76.</sup> Carpenter, 585 U.S. at 320 (emphasizing that the surveillance technology at issue there was of a "deeply revealing nature," yet "inescapable and automatic[ally] ... collect[ed]."); see generally Riley, 573 U.S. 373 (2014); United States v. Jones, 565 U.S. 400 (2012). Lower courts, however, have been less principled and remain divided. In United States v. Moore-Bush, the First Circuit permitted long-term pole camera surveillance under the Fourth Amendment. But the justices' 3-3 split reflects uncertainty about how modern surveillance fits within existing doctrine. See generally United States v. Moore-Bush, 36 F.4th 320 (1st Cir. 2022), cert. denied sub nom. Moore v. United States, 143 S. Ct. 2494 (2023). RTCCs, which rely on persistent video monitoring, will likely face similar challenges as courts grapple with the constitutional limits of prolonged surveillance.

<sup>78.</sup> See also Ferguson, Video Analytics, supra note 4, at 31 (arguing that recent U.S. Supreme Court cases support an interpretation of the Fourth Amendment that recognizes how "digital is different," and that this line of cases supports the conclusion that the use of video analytics—the main technology within RTCCs—constitutes a search).

ordinary public observation and intrude on reasonable expectations of privacy can violate the Fourth Amendment.<sup>79</sup> In *Leaders of a Beautiful Struggle v. Baltimore Police Department*, privacy advocates challenged the Baltimore Police Department's (BPD) use of the Hawkeye Wide Area Imaging System, a network of camera-equipped planes.<sup>80</sup> The BPD deployed these planes for about twelve hours daily, capturing one image per second across thirty-two square miles—roughly 90% of Baltimore.<sup>81</sup> Analysts then magnified the images to track individuals and vehicles in criminal investigations.<sup>82</sup>

The Fourth Circuit struck down the program, ruling that it constituted a Fourth Amendment search because it "enable[d] police to deduce from the whole of individuals' movements . . . .<sup>"83</sup> The court, citing to *Carpenter*, emphasized that this prolonged surveillance invaded a reasonable expectation of privacy, as it enabled law enforcement to reconstruct a person's activities on a broad scale.<sup>84</sup> Moreover, the court addressed how evolving technology shapes privacy expectations. While individuals may expect security cameras or incidental police surveillance, the aerial program's scope far exceeded ordinary observation.<sup>85</sup> Rejecting the district court's analogy to warrantless pole cameras and flyovers, the Fourth Circuit found the BPD's surveillance more invasive.<sup>86</sup>

The privacy intrusions considered in *Leaders of a Beautiful* Struggle raise similar concerns about those posed by RTCCs, including the one operated by the PPD. Unlike BPD's aerial program, the PPD's RTCC cameras are stationary but operate continuously and less conspicuously, capturing high-definition images and potentially using artificial intelligence to analyze daily patterns.<sup>87</sup> Officers can access the footage remotely via mobile

<sup>79.</sup> See generally Leaders of a Beautiful Struggle v. Balt. Police Dep't, 2 F.4th 330 (4th Cir. 2021).

<sup>80.</sup> Id. at 334.

<sup>81.</sup> See id. at 334 (detailing the aims and specifics of the Hawkeye Wide Area Imaging System).

<sup>82.</sup> See id.

<sup>83.</sup> *Id.* at 333, 347 ("Allowing the police to wield this power unchecked is anathema to the values enshrined in our Fourth Amendment.").

<sup>84.</sup> See Leaders of a Beautiful Struggle v. Balt. Police Dep't, 2 F.4th 330, 344 (4th Cir. 2021).

 $<sup>85. \</sup>quad See \ id. \ {\rm at} \ 345.$ 

<sup>86.</sup> See id.

<sup>87.</sup> See discussion supra Part I.B. It is not public information at the time of this publication whether the PPD's RTCC uses artificial intelligence yet, but another arm of the city's government has introduced artificial intelligence surveillance program. See Kerri

devices and laptops.<sup>88</sup> Both technologies expose intimate aspects of daily life, including activities protected under the First Amendment, such as religious practice and association.<sup>89</sup>

Although federal courts have yet to consider Fourth Amendment challenges to RTCC surveillance, Supreme Court and Fourth Circuit precedent provide a foundation for how to analyze these privacy concerns. *Leaders of a Beautiful Struggle* strengthened pre-existing Fourth Amendment privacy protections recognized by the Supreme Court, particularly against prolonged, technology-enhanced monitoring. Although not binding in Pennsylvania, which falls within the jurisdiction of the Third Circuit, *Leaders of a Beautiful Struggle* could prove highly persuasive and influential for future challenges to the PPD's RTCC system.

# III. PENNSYLVANIA CONSTITUTION ARTICLE I, SECTION 8: PENNSYLVANIA'S SAFEGUARDS AGAINST UNREASONABLE SEARCHES

Pennsylvanians may enjoy, in certain contexts, protections against unreasonable searches that are at least as robust—and in cases involving real-time surveillance, arguably more attuned to modern privacy concerns—than those provided under the federal Constitution.<sup>90</sup> Article I, Section 8 of the Pennsylvania Constitution mirrors the Fourth Amendment, but state courts have consistently interpreted it to afford greater privacy safeguards.<sup>91</sup> It states:

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Corrado, Philadelphia Parking Authority to Start Using AI Cameras to Ticket Drivers Illegally Parked in Bus Lanes, CBS NEWS, https://www.cbsnews.com/philadelphia/news/ philadelphia-parking-authority-ai-cameras/ [https://perma.cc/YUM7-EH72] (Feb. 21, 2025, 6:07 AM).

<sup>88.</sup> See discussion supra Part I.B.

<sup>89.</sup> See U.S. CONST. amend. I.

<sup>90.</sup> As shown in *Commonwealth v. Pacheco* and *Commonwealth v. Rushing*, Pennsylvania courts have consistently emphasized that continuous tracking—particularly of real-time location data—invokes privacy expectations beyond those recognized under the Federal Fourth Amendment. *See* discussion *infra* Part III.A.

<sup>91.</sup> See Louis A. Smith II, Comment, Pennsylvania's Constitutional Right to Privacy: A Survey of Its Interpretation in the Context of Search and Seizure and Electronic Surveillance, 31 DUQ. L. R. 557, 562–71 (1993) (chronicling the history of the Pennsylvania Supreme Court's understanding of the state constitution's search and seizure protections); see also DAVID RUDOVSKY, THE LAW OF ARREST, SEARCH, AND SEIZURE IN PENNSYLVANIA 1–3 (11th

The people shall be secure in their persons, houses, papers, and possessions from unreasonable searches and seizures, and no warrant to search any place or to seize any person or things shall issue without describing them as nearly as may be, nor without probable cause, supported by oath or affirmation subscribed to by the affiant.<sup>92</sup>

For nearly a century, Pennsylvania courts have recognized Article I, Section 8 as an independent source of privacy rights.<sup>93</sup> The landmark case, *Commonwealth v. DeJohn*, reaffirmed this principle.<sup>94</sup> In *DeJohn*, the appellant challenged a conviction based on evidence obtained through improperly issued subpoenas.<sup>95</sup> The Pennsylvania Supreme Court rejected the government's claim that the appellant lacked standing, explicitly distinguishing Article I, Section 8 from the federal Fourth Amendment as a "separate and independent source of the right of privacy."<sup>96</sup> Refusing to follow the U.S. Supreme Court's reasoning in *United States v. Miller*, the court adopted a broader interpretation of privacy rights, reinforcing Pennsylvania's strong constitutional protections—a commitment that endures today.<sup>97</sup>

96. See Smith, supra note 91, at 563.

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ed. 2020) ("Decisions of the U.S. Supreme Court interpreting the Fourth Amendment establish minimal levels of protections, but are otherwise not binding on the Pennsylvania courts in their interpretation of Article I, Section 8 of the Pennsylvania Constitution.").

<sup>92.</sup> PA. CONST. art. I, § 8.

<sup>93.</sup> See generally Waring v. WDAS Broad. Station, 194 A. 631, 642 (Pa. 1937) (Maxey, J., concurring) (pointing to the existence of a state right of privacy under Pennsylvania law).

<sup>94.</sup> See generally Commonwealth v. DeJohn, 403 A.2d 1283 (Pa. 1979) (departing from earlier case law that reasoned the Fourth Amendment and Article I, Section 8 were coterminous).

<sup>95.</sup> See id. at 1286–87.

<sup>97.</sup> Compare United States v. Miller, 425 U.S. 435 (1976) with Commonwealth v. DeJohn, 403 A.2d. 1283 (Pa. 1979). In Miller, the Supreme Court considered whether a bank depositor could challenge the government's seizure of her bank records. See Miller 425 U.S. at 439–40. Because those records were held by the bank, the Court held that the depositor had no Fourth Amendment privacy interest in them. See id. at 440. By contrast, in DeJohn, the Pennsylvania Supreme Court rejected the Court's logic in Miller under Pennsylvania's Constitution. DeJohn 403 A.2d. at 1289. DeJohn was the first Pennsylvania decision to recognize Article I, Section 8 as an independent source of privacy rights, and it expressly declined to follow Miller's "dangerous precedent," warning that its rationale has "great potential for abuse." Id.

## A. THE SPECTRUM OF ARTICLE I, SECTION 8 PROTECTIONS IN PENNSYLVANIA COURTS

Over time, Pennsylvania courts have continued to refine and expand the scope of Article I, Section 8, applying its privacy protections to evolving technologies and modern surveillance methods. In *Commonwealth v. Pacheco*, the Pennsylvania Supreme Court held that warrantless tracking of real-time CSLI constitutes a search under the state constitution.<sup>98</sup> This decision closely followed the U.S. Supreme Court's reasoning in *Carpenter*,<sup>99</sup> emphasizing that individuals do not voluntarily disclose their real-time movements to their wireless carriers under the third-party doctrine.<sup>100</sup> Because CSLI is automatically generated and reveals an individual's precise location over time, the court found that the appellant retained a reasonable expectation of privacy.<sup>101</sup>

The court further distinguished real-time CSLI from historical CSLI, noting that active, continuous surveillance is more intrusive. Unlike historical data retrieval, real-time tracking enables law enforcement to monitor a person's movements as they occur, significantly heightening privacy concerns.<sup>102</sup> The Pennsylvania Supreme Court reinforced this view in *Commonwealth v. Rushing*, holding that the state constitution protects individuals from warrantless, surreptitious tracking of their real-time location via cell phone signals.<sup>103</sup>

These cases illustrate Pennsylvania's strong constitutional protections against real-time electronic surveillance while acknowledging the permissible use of certain investigative

<sup>98.</sup> See Commonwealth v. Pacheco, 263 A.3d 626, 640 (Pa. 2021) ("Appellant has an expectation of privacy in his location and physical movements as revealed by the Commonwealth's collection of real-time CSLI over a period of months, which society is prepared to accept as reasonable . . . .").

<sup>99.</sup> See id.

<sup>100.</sup> See id. at 641.

<sup>101.</sup> Id. (citing Carpenter v. United States, 585 U.S. 296, 314-16 (2018)).

<sup>102.</sup> See *id.*; *compare* Commonwealth v. Dunkins, 229 A.3d 622 (Pa. Super. Ct. 2020), *aff'd*, 263 A.3d 247 (Pa. 2021) (holding that there is no reasonable expectation of privacy regarding historic cell site location information), *with* United States v. Smith, 2017 U.S. Dist. LEXIS 11910 (E.D. Pa. Jan. 26, 2017) (holding that the defendants' Fourth Amendment rights were not violated because there was no physical intrusion to obtain the CSLI, and the CSLI did not reveal information about the interior of defendants' homes or their exact locations).

<sup>103.</sup> Commonwealth v. Rushing, 71 A.3d 939, 961 (Pa. Super. Ct. 2013).

technologies. For example, the Pennsylvania Superior Court has ruled that police use of automated license plate readers does not constitute a search<sup>104</sup> because drivers lack a reasonable expectation of privacy for license plates displayed in plain view for identification purposes on public roadways.<sup>105</sup> Notwithstanding certain permissible uses, Pennsylvania case law, such as *Pacheco* and *Rushing*, underscores particular skepticism toward law enforcement's ability to track individuals in real time, recognizing the heightened privacy implications of such monitoring.

# B. EMERGING SEARCH AND PRIVACY QUESTIONS UNDER ARTICLE I, SECTION 8

The Supreme Court of Pennsylvania is set to address new questions regarding the scope of search protections under Article I, Section 8—questions that could have significant implications for challenges to the PPD's RTCC.<sup>106</sup> One key issue is whether law enforcement may conduct "reverse searches" without a warrant. This investigative technique allows authorities to obtain records of all individuals who used Google's search tool to look up specific words or phrases.<sup>107</sup>

In *Commonwealth v. Kurtz*, the Pennsylvania Superior Court considered both state and federal constitutional challenges to this practice.<sup>108</sup> The case arose after law enforcement conducted a reverse search of the victim's home address, revealing two Google searches from the defendant's IP address shortly before the offense.<sup>109</sup> This evidence played a crucial role in securing the

<sup>104.</sup> Commonwealth v. Watkins, 304 A.3d 364, 370 (Pa. Super. Ct. 2023) ("Because the purpose of a license plate is to provide public information and is in plain view on a vehicle, Appellant does not have a reasonable expectation of privacy in his movements captured by the LPR system.").

<sup>105.</sup> See id. at 366.

<sup>106.</sup> See generally Commonwealth v. Kurtz, 294 A.3d 509 (Pa. Super. Ct. 2023), appeal granted, 306 A.3d 1287 (Pa. 2023). This decision is pending as of the time of publication of this Comment and there was argument on May 14, 2024. Commonwealth v. Kurtz, No. 98 MAP 2023 (Pa. Super. Ct. 2023).

<sup>107.</sup> Brief for American Civil Liberties Union et al. as Amici Curiae Supporting Appellant, Commonwealth v. Kurtz, 294 A.3d 509 (Pa. Super. Ct. 2023) (No. 289 MAL 2023), 2023 WL 7123941, at \*2 [hereinafter ACLU Brief, *Kurtz*].

<sup>108.</sup> See generally Kurtz, 294 A.3d at 509.

<sup>109.</sup> See id.

defendant's conviction.<sup>110</sup> The defendant argued that he maintained a reasonable expectation of privacy in his Google searches—an argument that, if accepted, could also undercut the legality of RTCC-driven data collection practices that sweep up vast amounts of digital information.<sup>111</sup>

The Superior Court rejected this argument, holding that the defendant had no reasonable expectation of privacy in his IP address or his searches for the victim's address.<sup>112</sup> The court reasoned that by voluntarily entering search queries into Google, the defendant disclosed this information to a third party, thereby waiving any privacy interest.<sup>113</sup> Unlike the passive tracking in *Carpenter*, which revealed a person's movements over time, the court emphasized that the defendant's search activity was an intentional act rather than an involuntary disclosure of personal location data.<sup>114</sup> This distinction, if upheld, could bolster the argument that data collected through RTCCs—such as real-time video feeds, automated license plate readers, and predictive analytics—does not implicate privacy protections because individuals have no reasonable expectation of privacy in their public movements.

However, the defendant and privacy advocates caution that reverse searching grants law enforcement broad access to individuals' thoughts, concerns, and private inquiries through third-party search engines that have become indispensable to daily life.<sup>115</sup> If the Pennsylvania Supreme Court upholds the Superior Court's decision, it could limit the scope of activities Pennsylvanians expect to remain private. Conversely, a ruling favoring the defendant could reinforce digital privacy protections and set the stage for future challenges to the RTCC's expansive monitoring capabilities.

<sup>110.</sup> See id. at 518.

<sup>111.</sup> See id.

<sup>112.</sup> See id. at 522.

<sup>113.</sup> Commonwealth v. Kurtz, 294 A.3d 509, 522 (Pa. Super. Ct. 2023).

<sup>114.</sup> See id. at 522–23.

<sup>115.</sup> ACLU Brief, Kurtz, supra note 107, at \*3.

# IV. Assessing the Constitutionality of PPD's RTCC Surveillance

The key legal question remains: Does the PPD's use of its RTCC surveillance system constitute a search, and if so, is this kind of warrantless surveillance unconstitutional?

Real-time, indiscriminate surveillance closely mirrors the types of surveillance deemed constitutionally suspect in recent U.S. Supreme Court and Pennsylvania state cases. Specifically, the PPD's RTCC system raises concerns analogous to those presented in United States v. Jones, Carpenter v. United States, Riley v. California, and Commonwealth v. Pacheco, particularly regarding the pervasiveness of surveillance and its impact on an individual's reasonable expectation of privacy.<sup>116</sup> Parts IV.A and IV.B apply federal and Pennsylvania state case law to assess the constitutionality of PPD's RTCC surveillance under both the Fourth Amendment and Article I, Section 8. These parts focus on two key components of RTCCs: duration of monitoring and advanced capabilities.

This Comment argues that PPD's RTCC constitutes a warrantless search under the Fourth Amendment and Article I, Section 8, and the case law offers a framework for considering the constitutionally suspect privacy concerns associated with continuous surveillance.

#### A. DURATION OF MONITORING

The duration of monitoring is a key consideration in determining whether the RTCC's surveillance constitutes a search.<sup>117</sup> Courts have recognized that prolonged government

<sup>116.</sup> See also Julia Zuchkov, Find My Friends: Police Edition-Analysis of United States v. Hammond and the Right to Privacy in Real-Time CSLI, 56 IND. L. REV. 201, 212–14 (2022) (explaining that there is a split about whether cell phone users have a reasonable expectation of privacy in their real-time CSLI and noting that the Supreme Court of Pennsylvania's decision in *Pacheco* is aligned with similar decisions by the Supreme Court of Washington and the Supreme Court of Connecticut).

<sup>117.</sup> See discussion *supra* Parts II.A, III.A about the factors that the U.S. Supreme Court and the Pennsylvania courts find relevant in determining whether certain actions constitute a search.

surveillance can infringe upon privacy expectations.<sup>118</sup> The RTCC operates 24/7, capturing footage across the city via thousands of private and public CCTV cameras.<sup>119</sup> This continuous, city-wide monitoring far exceeds the transient or incidental observations traditionally deemed acceptable under Fourth Amendment jurisprudence.<sup>120</sup>

Notably, in *Jones*, the Supreme Court found that long-term tracking via a GPS device constitutes a search.<sup>121</sup> Similarly, in *Carpenter*, the Court held that collecting historic CSLI over an extended period qualifies as a search because of the detailed portrait it creates of an individual's movements and activities.<sup>122</sup> The RTCC presents an even more intrusive scenario: rather than tracking an individual with a single device, this system enables officers to trace a person's movements throughout Philadelphia in real time and to retroactively reconstruct past locations using historical footage.<sup>123</sup> This comprehensive, long-term surveillance can be even more invasive than the tracking methods scrutinized in *Jones* and *Carpenter*.

This raises a central challenge for opponents of the PPD's RTCC surveillance—namely, overcoming existing jurisprudence that narrows the reasonable expectation of privacy.<sup>124</sup> While it is often contended that individuals in public forfeit any expectation of privacy, recent decisions suggest otherwise. In *Leaders of a Beautiful Struggle*, the Fourth Circuit emphasized the invasive nature of persistent aerial surveillance, which allowed law enforcement to comprehensively track individuals' movements over time.<sup>125</sup> Similarly, the Pennsylvania Supreme Court's decisions in *Commonwealth v. Pacheco* and *Commonwealth v. Rushing* reflect skepticism toward surveillance methods that enable continuous tracking of individuals' real-time locations.<sup>126</sup>

<sup>118.</sup> See discussion supra Parts II.A, II.B.

<sup>119.</sup> See discussion supra Part I.B.

<sup>120.</sup> And, the city of Philadelphia continues to add more CCTV surveillance in response to gun violence—notably, analysts at the real-time crime center have the ability to "tap into" the camera's feeds. *See* Conde & Palmer, *supra* note 50.

<sup>121.</sup> See discussion supra Part II.A.

<sup>122.</sup> See discussion supra Part II.B.

<sup>123.</sup> See discussion supra Part I.B for more detail on the capabilities of the Philadelphia RTCC.

<sup>124.</sup> See discussion *supra* Part II.B for further information about the Supreme Court's view of privacy in public spaces. Note that Justice Sotomayor's comments regarding privacy in public spaces come in the form of a concurrence and are nonbinding.

<sup>125.</sup> See discussion supra Part II.B.

<sup>126.</sup> See discussion supra Part III.A.

Collectively, these cases suggest that although isolated public observations may not trigger constitutional protections, constant and aggregated monitoring, such as that employed by RTCCs, raises distinct privacy concerns that merit heightened judicial scrutiny.

### B. ADVANCED CAPABILITIES

Another factor suggesting that RTCC surveillance may constitute a search is the advanced capability of the cameras themselves.<sup>127</sup> Unlike standard security footage, the RTCC's system integrates high-resolution cameras that can zoom in on individuals several blocks away, operate effectively in low-light conditions, and track movement seamlessly from one feed to another.<sup>128</sup> When combined with video analytics, which can enhance facial recognition and identify behavioral patterns, these technologies elevate governmental oversight to an unprecedented level.<sup>129</sup>

This scenario reflects the concerns raised in *Riley*, where the Supreme Court recognized that digital technologies could dramatically enhance the government's investigative powers beyond traditional searches.<sup>130</sup> Rather than capturing isolated moments on a single camera, the RTCC builds a sophisticated, automated surveillance network capable of tracking individuals across various locations without their knowledge.<sup>131</sup> Such pervasive monitoring surpasses what people anticipate when moving through public spaces.<sup>132</sup>

As in *Riley*, RTCC surveillance raises constitutional red flags by transforming fleeting observations into continuous, detailed tracking. While the scope of Fourth Amendment and Pennsylvania constitutional protections against unreasonable

<sup>127.</sup> See discussion supra Part I.B.

<sup>128.</sup> See Complaint at 6, Lopez v. Rosa, No. 2:25-cv-00578 (E.D. Pa. Feb 3, 2025).

<sup>129.</sup> See generally Ferguson, Video Analytics, supra note 4.

<sup>130.</sup> See generally Riley v. California, 573 U.S. 373 (2014).

<sup>131.</sup> See discussion supra Part I.B.

<sup>132.</sup> See generally Ferguson, Video Analytics, supra note 4 at 35–38 (explaining how "a non-human system of surveillance that constantly and continuously monitors people, places, and actions" challenges the presumptions of privacy underlying traditional Fourth Amendment doctrine).

searches and seizures remains contested in the digital age, RTCC systems—incorporating AI analytics, real-time feeds, and remote access—push the limits of standard policing methods. Critics contend that the breadth and intensity of this monitoring convert momentary glimpses of public life into a lasting record of one's whereabouts, sparking significant privacy concerns.<sup>133</sup>

Another legal wrinkle involves mixed precedent on pole cameras.<sup>134</sup> Some circuit courts have found that pole cameras, which record public spaces, do not constitute a search under the Fourth Amendment.<sup>135</sup> RTCC cameras, however, differ in key ways: they are not fixed but can rotate, zoom, and pan at officers' discretion, and they integrate with real-time analytics that enhance tracking capabilities.<sup>136</sup> Moreover, PPD officers can access these feeds remotely via laptops and mobile devices, thus enabling virtually limitless, uninterrupted surveillance—a stark contrast to the pole cameras' fixed, static nature.<sup>137</sup> These technological capabilities set RTCCs apart from static pole cameras, suggesting a greater potential for constitutional concerns.

Pennsylvania's jurisprudence on cell-site location data adds yet another layer of complexity. The Pennsylvania Superior Court has ruled that individuals lack a reasonable expectation of privacy in data collected from "tower dumps," which reveal the presence of cell phones near a crime scene.<sup>138</sup> The court has likened tower dumps to conventional security camera footage, arguing that both capture broad, indiscriminate data.<sup>139</sup> RTCC surveillance, however, does not passively collect incidental data but actively and continuously monitors individuals' movements.<sup>140</sup> Unlike tower

 $<sup>133. \</sup>quad See \ id.$ 

<sup>134.</sup> See generally United States v. Tuggle, 4 F.4th 505 (7th Cir. 2021).

<sup>135.</sup> See generally United States v. Moore-Bush, 36 F.4th 320 (1st Cir. 2022), cert. denied sub nom. Moore v. United States, 143 S. Ct. 2494 (2023) (splitting three votes to three on whether long-term pole camera surveillance violates the Fourth Amendment but ultimately permitting pole cameras in the First Circuit).

<sup>136.</sup> See discussion *supra* Part I.A for more detail on the capabilities of RTCCs generally; see also discussion *supra* Part I.B for more detail on the capabilities of Philadelphia's RTCC specifically.

<sup>137.</sup> See discussion supra Part I.B.

<sup>138.</sup> See Commonwealth v. Kurtz, 294 A.3d 509, 530 (Pa. Super. Ct. 2023), appeal granted, 306 A.3d 1287 (Pa. 2023).

<sup>139.</sup> See id.

<sup>140.</sup> See discussion *supra* Part I.A for more detail on the capabilities of RTCCs generally; see also discussion *supra* Part I.B for more detail on the capabilities of Philadelphia's RTCC specifically.

dumps, which offer only narrow historical snapshots, RTCCs allow law enforcement to track people dynamically across space and time.<sup>141</sup>

Finally, while Pennsylvania courts have upheld law enforcement's ability to access some forms of public surveillance, they have also signaled an awareness of the unique privacy risks posed by persistent, high-tech monitoring.<sup>142</sup> Given the precedent set by *Pacheco*, there is a strong argument that RTCC surveillance, by its duration, sophistication, and pervasiveness, poses unique challenges that may trigger a search under Article I, Section 8.<sup>143</sup> While Pennsylvania's constitutional framework does not inherently impose a more stringent test than the Fourth Amendment across all contexts, its approach to real-time tracking recognizes the significant privacy implications of continuously aggregated surveillance.

# V. PROTECTING PRIVACY BEYOND THE COURTS AMIDST RTCC USE

Beyond the constitutional recourse in the courts, the increasing use of RTCCs demands a broader reflection on shifting police strategies and how to protect privacy rights.<sup>144</sup> The PPD's reliance on the RTCC is likely to grow due to staffing shortages<sup>145</sup> and

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 $<sup>141. \</sup>quad See \ id.$ 

<sup>142.</sup> See Commonwealth v. Pacheco, 263 A.3d 626, 641 (Pa. 2021) (expressing concern over law enforcement's ability to "achiev[e] near perfect surveillance of [defendant's] location"—a concern present in both the law enforcement use of real-time CSLI and RTCC data).

<sup>143.</sup> See discussion *supra* Part III.A for further detail on the *Pacheco* decision.

<sup>144.</sup> See Pearsall, supra note 5, at 16–17 (describing a shift toward predictive policing). 145. Philadelphia's police department struggles with recruitment. See, e.g., Tom MacDonald, New Philly Police Academy Graduates Won't Be Enough to Make Up for Attrition, WHYY (Jan. 17, 2023), https://whyy.org/articles/philadelphia-police-departmentacademy-graduates-attrition-rates/ [https://perma.cc/WKL7-PKWB] (noting that the leader of Philadelphia's FOP claimed that the Philadelphia Police Department is short staffed about 1,200 officers).

political pressures<sup>146</sup> to appear tough on crime.<sup>147</sup> In this environment, expansive surveillance technology can be viewed as a convenient substitute for traditional policing methods. Yet, as Justice Frankfurter cautioned, technological advances risk fostering "lazy" policing, effectively allowing government shortcuts in the collection of data and evidence.<sup>148</sup> While efficiency and crime prevention remain critical goals, they must be balanced against core privacy rights. Without clear judicial or legislative limits, RTCC technology could evolve unchecked, granting authorities an unprecedented capacity for constant, wide-reaching surveillance.

Alongside concerns about the constitutionality of unrestricted RTCC use, a pragmatic question emerges: would limiting RTCC operations adversely impact crime rates? Philadelphia officials continue to seek new strategies to combat criminal activity, reflecting widespread public dissatisfaction with crime levels in the city.<sup>149</sup> Although no comprehensive studies assess the effectiveness of Philadelphia's RTCC, data from similar urban programs, such as Chicago's Strategic Decision Support Centers, suggest that such technology may improve clearance rates for property crimes and violent offenses by 12% and 5%, respectively.<sup>150</sup> Proponents thus see RTCCs as a means to make

<sup>146.</sup> One example is Philadelphia Mayor Cherelle Parker campaigning on a public safety and crime reduction platform. See FOX 29 Staff, Parker Promises to Rein in Crime During Election Night Victory Speech: We Have to Have a Sense of Order', FOX 29 PHILA. (Nov. 8, 2023, 5:26 PM), https://www.fox29.com/news/parker-promises-to-rein-in-crime-duringelection-night-victory-speech-we-have-to-have-a-sense-of-order [https://perma.cc/8UAW-EF5M] (summarizing newly elected Mayor Cherelle Parker's emphasis on crime reduction in a recent speech).

<sup>147.</sup> See MacDonald, supra note 145.

<sup>148.</sup> Adam R. Pearlman & Erick S. Lee, National Security, Narcissism, Voyeurism, and Kyllo: How Intelligence Programs and Social Norms are Affecting the Fourth Amendment, 2 TEX. A&M L. REV. 719, 728 (2015) (citing On Lee v. United States, 343 U.S. 747, 761 (1952)). 149. See Tom MacDonald, Philly Considering Drones for Community Policing, WHYY 29 2023), (Sept. https://whyy.org/articles/philadelphia-city-council-drones-crimeprevention/ [https://perma.cc/M77E-ZBCQ] (noting that Philadelphia city officials are interested in using new technology to combat crime); Isaac Avilucea, Philadelphia City Council Candidate Floats Drone Policing Program, AXIOS (Mar. 15, 2023) (on file with the Columbia Journal of Law & Social Problems), https://www.axios.com/local/philadelphia/ 2023/03/15/philadelphia-violent-crime-drones (discussing recent candidate for city council Jalon Alexander's proposal for drone surveillance); see also Christopher Slobogin & Sarah Brayne, Surveillance Technologies and Constitutional Law, 6 ANN. REV. CRIMINOLOGY 219, 221 (2023) (noting that more than one in every four of the surveyed departments have

acquired drones as of 2020, indicating a nationwide appetite for new policing technology). 150. See JOHN S. HOLLYWOOD ET AL., REAL-TIME CRIME CENTERS IN CHICAGO: EVALUATION OF THE CHICAGO POLICE DEPARTMENT'S STRATEGIC DECISION SUPPORT CENTERS, xiii (2019); see also Arietti, supra note 13, at 6 (suggesting that SDSCs help police solve crime); Rob T. Guerette & Kimberly Przeszlowski, Does the Rapid Deployment of

policing more proactive and predictive,<sup>151</sup> a capability that has spurred nearly 90% of surveyed police departments nationwide to explore similar systems.<sup>152</sup>

Still, as with other cutting-edge surveillance methods, potential gains in solving crime must be weighed carefully against the considerable risks to personal privacy, underscoring the need for clear legal guardrails. These technologies remain relatively untested in the long term, making it difficult to gauge their overall impact on crime deterrence.<sup>153</sup> As one federal prosecutor in the Eastern District of Pennsylvania put it, law enforcement officials "like to fish with a spear, not with a net," highlighting a tension between precision in law enforcement and overbroad data collection.<sup>154</sup> Though RTCCs may prove valuable for solving crimes and assembling strong evidence in court, these benefits must coexist with an understanding that unfettered use of such technology poses serious constitutional privacy concerns.

Protecting privacy interests against RTCC surveillance does not depend on judicial rulings alone. The adoption of RTCCs has prompted organized civic activism by groups concerned that "[a]wareness that the government may be watching chills associational and expressive freedoms."<sup>155</sup> In New York City, for example, privacy advocates have pushed for increased oversight of the New York Police Department's (NYPD) RTCC,<sup>156</sup> arguing that

Information to Police Improve Crime Solvability? A Quasi-Experimental Impact Evaluation of Real-Time Crime Center (RTCC) Technologies on Violent Crime Incident Outcomes, 40 JUST. Q. 950, 950–51 (2023) (noting that case clearance rates across the country are at an all-time low, a statistic motivating the adoption of RTCCs).

<sup>151.</sup> Especially in smaller cities, such as Miami, where an RTCC increased the likelihood of case clearance by 66 percent. *See* Guerette & Przeszlowski, *supra* note 150, at 968.

<sup>152.</sup> See Mike Fox, How Real-Time Crime Center Technologies are Force Multipliers, POLICE1 (Apr. 15, 2014, 2:40 AM), https://www.police1.com/police-products/software/datainformation-sharing-software/articles/how-real-time-crime-center-technologies-are-forcemultipliers-YFZ01KAXSQrHC6q4/ [https://perma.cc/VB8N-FFC7] (arguing in support of

RTCCs).

<sup>153.</sup> See discussion supra note 13.

<sup>154.</sup> Maggie Kent, Building it Better Together: Technology's Role in Combating Gun Violence, 6ABC (Sept. 10, 2021), https://6abc.com/crime-tracking-technology-philadelphiagun-violence-philly-shooting-police-department/11011108/ [https://perma.cc/EH3H-P69E]. 155. United States v. Jones, 565 U.S. 500, 416 (2012) (Sotomayor, J., concurring).

<sup>156.</sup> See Ángel Díaz, New York City Police Department Surveillance Technology, BRENNAN CTR. JUST. 1, 1 (Oct. 7, 2019), https://www.brennancenter.org/sites/default/files/2019-

<sup>10/2019</sup>\_10\_LNS\_%28NYPD%29Surveillance\_Final.pdf [https://perma.cc/Z4YB-NH6Z] (describing privacy advocates' efforts in New York City to resist the police use of surveillance technologies).

surveillance towers "impose a feeling of persistent monitoring, challenging reasonable expectations of privacy."<sup>157</sup> Parallel efforts in St. Louis seek legislation granting the city council authority to regulate police use of RTCC technology.<sup>158</sup>

By demanding transparency and accountability, these extrajudicial and democratic initiatives advance the central claim of this Comment: real-time surveillance requires legal checks at the state and federal levels to preempt unconstitutional intrusions on privacy. As such technologies continue to evolve, sustained civic engagement, in addition to constitutional protections in the courts, is essential to ensure that fundamental rights are not eroded in the name of public safety.

### CONCLUSION

The examination of contemporary police surveillance practices, as reflected in both U.S. Supreme Court and Pennsylvania case law, underscores the delicate balance between law enforcement's investigative needs and individuals' privacy rights. From Commonwealth v. Pacheco to Commonwealth v. Watkins. Pennsylvania courts have demonstrated a commitment to upholding Article I, Section 8 protections against unreasonable searches, particularly in the context of sophisticated surveillance technologies such as real-time CSLI tracking. Similarly, the U.S. Supreme Court's rulings in United States v. Jones and Carpenter v. United States highlight the evolving nature of privacy rights in the digital age, emphasizing the mosaic theory's relevance in assessing the constitutionality of persistent surveillance. The Fourth Circuit's decision in *Leaders of a Beautiful Struggle* further illustrates the potential invasiveness of modern surveillance methods, particularly when applied at scale.

Taken together, these cases offer some guidance for considering whether the PPD's use of its RTCC similarly infringes upon individuals' reasonable expectations of privacy. Should the

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<sup>157.</sup> See id. at 13.

<sup>158.</sup> See Chad Marlow & Sara Baker, *How to Shift Power From the Police to the People*, ACLU (Oct. 19, 2018), https://www.aclu.org/news/privacy-technology/how-shift-power-police-people [https://perma.cc/45MU-B9Y2] (describing public resistance in St. Louis, Missouri).

Pennsylvania Supreme Court ultimately consider the constitutionality of the PPD's RTCC, it must acknowledge that, especially in real-time, persistent surveillance, the challenges to individual privacy are profound. Although Pennsylvania's constitutional safeguards and the federal Fourth Amendment share common goals, the dynamic nature of modern surveillance calls for an approach that is particularly sensitive to the privacy risks inherent in real-time monitoring.

As surveillance technology advances, courts must remain vigilant in safeguarding the fundamental right "to be let alone," as articulated by Justice Louis Brandeis.<sup>159</sup> Indeed, as Michel Foucault observed, "surveillance is permanent in its effects, even if it is discontinuous in its action."<sup>160</sup>

<sup>159.</sup> Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 205 (1890).

<sup>160.</sup> MICHEL FOUCAULT, DISCIPLINE AND PUNISH: THE BIRTH OF THE PRISON 201 (Alan Sheridan trans., Vintage Books 2d ed. 1995) (1975).