IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
NORFOLK DIVISION

LEE SCHMIDT and CRYSTAL ARRINGTON, Plaintiffs, v. CITY OF NORFOLK and MARK TALBOT, in his official capacity as the Norfolk Chief of Police, Defendants.	Civil Case No. 2:24-cv-00621-MSD-LRL

PLAINTIFFS' MEMORANDUM IN SUPPORT OF THEIR MOTION FOR PARTIAL SUMMARY JUDGMENT

TABLE OF CONTENTS

INTRODUCTION 1

STATEMENT OF UNDISPUTED MATERIAL FACTS 3

A. Flock's cost-efficient ALPR cameras effortlessly track the locations of cars. 3

B. NPD blankets the city in surveillance with 176 Flock cameras. 4

C. The Flock Cameras can extensively track the movements of everyday people. 8

D. Officers have virtually unfettered access, with minimal oversight. 11

E. Plaintiffs get caught in Norfolk's dragnet. 14

SUMMARY JUDGMENT STANDARD 15

ARGUMENT 16

I. The warrantless operation of the Flock Cameras violates the Fourth Amendment. 16

A. Surveillance technology invades a reasonable expectation of privacy when it enables inferences or deductions from the whole of people's past movements. 16

B. The Flock Cameras violate Plaintiffs' subjective expectation of privacy in the whole of their movements. 20

C. The Flock Cameras invade a reasonable expectation of privacy because they enable deductions and inferences from the whole of people's past movements. 22

1. The Flock Cameras contravene societal expectations of privacy by collecting long-term records of people's movements without suspicion. 22

2. The Flock Cameras enable police to make deductions from the whole of people's past movements. 26

II. The Flock Cameras are an unreasonable search under the ordinary meaning test. 29

CONCLUSION 30

TABLE OF AUTHORITIES

Page(s)

Cases

Audio MPEG, Inc. v. Dell Inc.,
272 F. Supp. 3d 813 (E.D. Va. 2017) 15

Carpenter v. United States,
585 U.S. 296 (2018)..... *passim*

Cnty. of Riverside v. McLaughlin,
500 U.S. 44 (1991).....30

Curran v. Axon Enter., Inc.,
712 F. Supp. 3d 717 (E.D. Va. 2024) 16

Florida v. Jardines,
569 U.S. 1 (2013).....21

Katz v. United States,
389 U.S. 347 (1967).....17, 18, 29

Kyllo v. United States,
533 U.S. 27 (2001)..... *passim*

Leaders of a Beautiful Struggle v. Balt. Police Dep't,
2 F.4th 330 (2021)..... *passim*

Mexican Gulf Fishing Co. v. U.S. Dep't of Com.,
60 F.4th 956 (5th Cir. 2023) 27

Minnesota v. Carter,
525 U.S. 83 (1998).....22

Morgan v. Fairfield Cnty.,
903 F.3d 553 (6th Cir. 2018) 29, 30

Riley v. California,
573 U.S. 373 (2014).....30

Texas v. Brown,
460 U.S. 730 (1983).....28

United States v. Chatrie,
136 F.4th 100 (4th Cir. 2025) 20, 23, 26, 29

United States v. Cortez,
449 U.S. 411 (1981).....27

United States v. Di Re,
332 U.S. 581 (1948).....17

United States v. Dugan,
136 F.4th 162 (4th Cir. 2025).....25

United States v. Johnson,
148 F.4th 287 (4th Cir. 2025).....20

United States v. Johnson,
565 U.S. 400 (2012)..... *passim*

United States v. Martin,
753 F. Supp. 3d 454 (E.D. Va. 2024).....25

United States v. Moore-Bush,
36 F.4th 320 (1st Cir. 2022).....18

United States v. Smith,
110 F.4th 817 (5th Cir. 2024).....20, 26

United States v. Sturdivant,
2025 WL 1633754 (N.D. Ohio June 9, 2025).....24, 25, 26, 27

What Hurts, LLC v. Volvo Penta of the Ams., LLC,
710 F. Supp. 3d 502 (E.D. Va. 2024).....15

Rules

Fed. R. Civ. P. 56(a).....15

Other Authorities

Br. for United States, *United States v. Jones*,
No. 10-1259, 2011 WL 3561881 (U.S. Aug. 11, 2001).....19, 28

Flock Safety, *Expand Your LPR Coverage: Introducing Falcon for every roadway and use case* (Flock Safety, Aug. 30, 2023), http://bit.ly/4mlHyQv.....9

FOX6 News Milwaukee, *Wisconsin AI-Powered Flock Cameras Are Tracking Where You Drive* (YouTube, Aug. 3, 2023), http://bit.ly/417fAPM.....3

Jed Rubenfeld, *The End of Privacy*, 61 Stan. L. Rev. 101 (2008).....30

Joint App'x, *United States v. Jones*,
No. 10-1259, 2011 WL 7113271 (U.S. Aug. 11, 2011).....19, 28

Laura K. Donohue, *The Fourth Amendment in a Digital World*, 71 N.Y.U. Ann. Surv. Am. L. (2017) 23

License Plate Readers, Flock Safety, http://bit.ly/4oUOOEJ (last visited Sept. 15, 2025) 3

Norfolk VA PD Transparency Portal (last updated Sep. 14, 2025), http://bit.ly/45BMObm; 8, 11

NorfolkTV, *Norfolk City Council Work Session* (YouTube, May 23, 2023), http://bit.ly/45gPzjz 8

Orin S. Kerr, Katz *Has Only One Step: The Irrelevance of Subjective Expectations*, 82 U. Chi. L. Rev. 113 (2015) 22

Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 Mich. L. Rev. 547 (1999) 25

U.S. Trademark Application Serial No. 97026096 (filed Sep. 14, 2021), http://bit.ly/3Hh1DrX 4

INTRODUCTION

The City of Norfolk lives under the watch of a flock of unblinking eyes—a growing network of 176 automated license plate reader ("**ALPR**") cameras made by Flock Safety (the "**Flock Cameras**"). In 2023, the Norfolk Police Department ("**NPD**") positioned the cameras strategically throughout the city. This cast a wide net of surveillance where, in the NPD chief's words, "It would be difficult to drive anywhere of any distance without running into a camera." That is no exaggeration: expert analysis shows most routes can be captured and reconstructed using data from the cameras. Plaintiffs alone were tracked ***hundreds of times*** in less than five months. And this does not account for the much larger number of third-party Flock cameras in and out of Norfolk that NPD leverages—the "curtain of technology" that surrounds Hampton Roads.

The Flock Cameras yield a massive trove of data anyone with access can mine for insights about people's movements, habits, and routines. And those with access search with abandon. Norfolk's records show over ***200,000 searches***, nearly all of which include vague, boilerplate justifications. Meanwhile, Norfolk admitted that NPD conducted virtually no oversight: it did not even start looking at these justifications until ***May 2025***. Even now, each "audit" is nothing more than a box-checking exercise, given the massive number of searches. None of these hundreds of thousands of searches required probable cause, let alone a warrant. Instead, whether to search and what to search for were left to the discretion of Flock users in Norfolk and beyond.

Pervasive, warrantless surveillance like this violates the Fourth Amendment. The Supreme Court held in *Carpenter v. United States* that people "have a reasonable expectation of privacy in the whole of their physical movements." 585 U.S. 296, 310 (2018). Then, in *Leaders of a Beautiful Struggle v. Baltimore Police Department*, the en banc Fourth Circuit explained that dragnet surveillance can invade this expectation of privacy even when it captures less than the literal "whole" of people's movements. 2 F.4th 330, 342–45 (2021). The aerial surveillance there captured

only blurry, outdoor images in "snippets of several hours or less." *Id.* at 334, 341–42. None of those shortcomings mattered, though, because even "snippets" of location data can be profoundly revealing. *Id.* at 343–44 & n.11. And spying on an entire city for weeks on end contravenes long-settled expectations of privacy from police surveillance dating back to the Founding.

So too here. The Flock Cameras are "like a 21st century general search, enabling the police to collect all movements, both innocent and suspected." *Id.* at 348. The 176 strategically positioned cameras collect massive amounts of data, capturing the locations and movements of innocent and suspected drivers alike. Anyone with access can sift through the data for insights without a warrant. That can show habits, routines, and, perhaps more tellingly, departures from them. No such feat was possible in the analog age; it would have required nearly the entire police force working long shifts to try to create a record of every passing car. And unlike a police officer posted at an intersection, the cameras never blink, they never sleep, and they see and remember everything.

Like the aircraft in *Beautiful Struggle*, the Flock Cameras do not capture literally 100 percent of people's movements. But that does not matter in the end. The key question is whether the Flock Cameras, in combination with other information, "enable[] deductions from the whole of individuals' movements." *Id.* at 345. And the Flock Cameras provide more than enough information for NPD to leverage to make deductions. The likely drivers of cars are easy to identify just by looking up the registration. From there, *Beautiful Struggle* establishes that most people follow habitual patterns that are easy to spot even in sparse location data. Investigative priorities, police intelligence, and other information systems—like NPD's network of thousands of video cameras—can fill out the picture. Ultimately, though, it is the *Flock Cameras* that enable those deductions. That makes their operation a "search." Without a warrant, that search violates the Fourth Amendment.

STATEMENT OF UNDISPUTED MATERIAL FACTS

A. Flock's cost-efficient ALPR cameras effortlessly track the locations of cars.

1. Flock is a technology start-up founded in 2017. *See* Doc. 40, PageID# 330. Flock's key products are ALPR cameras and associated software. *See* Ex. 1. Its CEO and founder's vision is "a Flock camera on every street corner." FOX6 News Milwaukee, *Wisconsin AI-Powered Flock Cameras Are Tracking Where You Drive*, at 0:30 (YouTube, Aug. 3, 2023), http://bit.ly/417fAPM. So far, Flock claims that it has cameras in "[o]ver 5,000 communities in 49 states." Doc. 40, PageID# 330. Over 5,000 law enforcement agencies use Flock's cameras and software. *See License Plate Readers*, Flock Safety, http://bit.ly/4oUOOEJ (last visited Sept. 12, 2025).

2. Flock's Falcon ALPR cameras photograph every passing car. Ex. 2 at 31:1–3. Flock then uses artificial intelligence to read the license plate. *Id.* at 31:10–34:12. [redacted] *Id.* at 36:8–37:14. The cameras operate around the clock and [redacted]. *Id.* at 58:21–60:12, 61:3–7. But license plates are not the only information they capture. Flock's patented "Vehicle Fingerprint" also records the make, type, color, and other distinctive features (like roof racks and bumper stickers). *Id.* at 31:10–19, 63:3–16; Ex. 1 at -186. [redacted] Ex. 2 at 69:13–71:20. [redacted] *Id.* at 65:7–12, 129:3–18. And soon, all of Flock's existing ALPR cameras will be able to stream and record video clips, at no extra cost to its customers. *Id.* at 55:12–56:4; *see also id.* at 58:11–17 [redacted].

3. Flock offers additional software to analyze the location information its cameras collect. "Convoy Analysis" [redacted]

[redacted] *Id.* at 79:11–80:12. [redacted] *id.* at 83:19–21, of "[i]dentifying associate suspect vehicles," Ex. 1 at -186. "Real-Time Routing" helps "[d]etermine [a] possible vehicle path of travel." *Id.* [redacted] *See* Ex. 2 at 97:3–98:17. [redacted] *See id.* at 81:6–12, 100:12–21.[1]

4. Flock allows customers to share data. It issues "sole source" letters stating that its products are the only way to access "an ever-increasing amount of cameras and data" from Flock's thousands of customers, including "our HOA and private business partners," "at no additional cost." Ex. 3 at -4647, -4649. Once customers sign up, "Flock encourages . . . sharing of the networks with other law enforcement agencies." Ex. 4 at 90:4–11.

5. Flock advertises its ALPR cameras as a "force multiplier." *E.g.*, Ex. 5 at -3890. Its trademark applications have shown advertisements stating that a system of Flock cameras can cover 4.6 miles at a lower cost than the number of officers needed to cover the same territory. *See* U.S. Trademark Application Serial No. 97026096 (filed Sep. 14, 2021), http://bit.ly/3Hh1DrX.

B. NPD blankets the city in surveillance with 176 Flock cameras.

6. In spring of 2022, a Norfolk assistant chief of police began to look into Flock's ALPR cameras. Ex. 6 at 11:4–12:2, 57:22–59:5; Ex. 7 at 17:21–18:12. From NPD's perspective, several features made Flock's technology an appealing law enforcement tool. Key among them was the ability to generate alerts for vehicles of interest. Ex. 7 at 36:9–16; Ex. 6 at 39:16–40:1, 78:11–79:11. Another was the ability to search for vehicles, enabling NPD "to locate that vehicle" and "associate[e] an individual with a vehicle who may have committed a crime." Ex. 7 at 37:1–

[1] These features are available to Norfolk, but it has not purchased them. *See* Ex. 2 at 86:5–88:1, 100:2–11.

19. And the ability to look up where a vehicle previously has been seen provides a "clue" to "assist" with finding a person of interest. *Id.* at 29:5–20, 192:17–193:8. In the end, Flock was the only ALPR vendor NPD considered because only Flock enabled information-sharing among the Hampton Roads cities, several of which were already using Flock. *Id.* at 31:13–32:10.

7. In August 2022, NPD's deputy chief initially decided to move forward with 20 cameras. Ex. 8 at -4032–35; Ex. 7 at 61:5–62:2. An NPD captain worked with Flock to map out the camera locations. *Id.* at 62:10–63:8. But it soon became clear that NPD would need more than 20 cameras to achieve the coverage it wanted. *Id.* at 62:20–63:8. To figure out where to place the cameras, NPD first created "heat maps for violent crimes and calls for service." *Id.* at 48:18–20. It then "locate[d] the best intersections to put cameras at that would help provide the intelligence that [it] thought necessary." *Id.* at 49:5–10. That meant "putting cameras in locations where suspects may travel to and from a location to commit a crime." *Id.* at 50:7–18. Because criminals often try to evade detection, NPD sought to prevent routes around the cameras. *Id.* at 51:10–52:5. NPD also placed cameras at points of ingress and egress to capture vehicles entering and leaving the city. *Id.* at 97:20–99:16, 122:7–17. Norfolk's city council had "[n]o role whatsoever" in funding the initial 172 cameras or deciding where they would go. *Id.* at 117:15–22.

8. During meetings, NPD identified the areas to cover, and Flock calculated the number of cameras needed. *Id.* at 65:9–66:20. Over several months, the number increased from 20 to 100 to 107 to 172. *See id.* at 75:20–76:6, 80:12–81:18. NPD opted not to "reduce coverage by lowering the number of cameras," even as it ran up against funding constraints. *Id.* at 87:11–88:12. Flock helpfully made NPD aware of grants it could use to acquire additional cameras. Ex. 6 at 94:11–19; 119:2–5. As more funding became available, NPD increased the number of cameras to achieve "more" and "better" coverage. Ex. 7 at 76:7–18, 82:11–83:11.

9. By January 2023, NPD had mapped out the locations. Ex. 6 at 103:8–104:1. So, it entered into a five-year agreement with Flock to rent 172 cameras and obtain associated services. Ex. 7 at 43:6–19; Ex. 9 at -7528, -7534. That is "the most any jurisdiction in Virginia has purchased, at a cost of $2500 each per year." Ex. 7 at 130:6–16. Under the agreement, Norfolk pays $430,000 per year. Ex. 9 at -7534. The agreement's "Purpose" is "the awareness, prevention, and prosecution of crime, bona fide investigations by police departments, and archiving for evidence gathering." *Id.* at -7535. Norfolk retains "all right, title and interest" in the data, which "belong to and are retained solely by" NPD. *Id.* at -7543. Flock installed the cameras in May and June 2023. Ex. 7 at 110:20–111:4. Although the Flock Cameras are in public places, where Norfolk contends people have no expectation of privacy, Ex. 11 at -21156, it has refused to release their locations to the public, Ex. 7 at 106:4–108:7; *see* Ex. 12 at -14089.

10. Since the installation, city officials and NPD officers have requested more cameras. *See* Ex. 13 at -18094 (councilmember "disappointed" and "shocked" there are no cameras to "follow a pattern of a car that gets picked up on Flock"); Ex. 14 at -8167 ("I know of appx. 6-8 locations that would improve our coverage."); Ex. 15 at -8164 ("We are in desperate need of more cameras . . . ."). Shortly after the cameras went up, the deputy chief of police wrote, "As more funding becomes available, we will consider installing cameras in areas that were not selected for the initial deployment." Ex. 13 at -18093. Norfolk's Rule 30(b)(6) designee agreed that, at that time, "[t]here [we]re actually a lot of locations that we would like to add cameras to" and "[i]f additional funds become available in the future we will definitely look to add cameras." Ex. 7 at 130:6–19, 131:9–17. Investigators have asked for more cameras to expand the evidence they can collect. Ex. 6 at 119:6–120:12, 121:3–14. In early 2025, NPD secured funding for four more cameras "to provide additional coverage in an area where there wasn't any" and "fill a gap in the

existing system." Ex. 7 at 111:5–112:13.

11. Even within city limits, NPD leverages a larger network of Flock cameras. An NPD executive told her counterpart at Norfolk's public housing authority (the "**NRHA**") about Flock and facilitated the NRHA's acquisition of its own cameras. Ex. 6 at 135:19–136:15, 144:13–18, 146:16–147:17, 148:20–22. For a time, an NPD officer served as the administrator of the NRHA's Flock camera system. *Id.* at 137:19–138:16, 151:4–152:14. The same NPD executive also provided information about Flock to Norfolk State University, which later acquired Flock cameras and shared them with NPD. *Id.* at 154:5–7, 156:14–157:12. Flock facilitated NPD access to Flock cameras at Home Depot and Lowe's stores as "donor sites" (at no cost to NPD). Ex. 16 at -6843–44; *see* Ex. 17 at -14125–26. And Flock has told NPD that it could "grow [its] camera footprint at no extra cost to the PD" by making Norfolk property management companies and homeowners associations aware of Flock's products. Ex. 18. Within Norfolk alone, NPD has access to data from 43 additional cameras. *See* Ex. 19. Norfolk also shared data with other Flock customers across the country. *See* Ex. 7 at 151:16–152:1; *id.* at 155:9–16 ("Norfolk is happy to allow sharing to anyone who would like it."); Ex. 20 at -6895 (same); Ex. 4 at 90:7–11 ("Flock encourages -- or encouraged sharing of the networks with other law enforcement agencies.").

12. Supplementing this network of Flock cameras is a bevy of complementary surveillance technologies. NPD centralizes these technologies in its Real Time Crime Center (the "**RTCC**"), which "provide[s] real time information to officers who are responding to calls for service and . . . evidence of crimes that have occurred to investigators investigating crimes." Ex. 7 at 298:11–16, 299:6–19. The technologies include thousands of city-owned and private video cameras, as well as state- and city-owned traffic cameras. Ex. 21 at 3–4. Video footage is retained for between 3 and 30 days, including for some privately owned cameras. Ex. 7 at 307:12–308:3,

312:8–313:3. NPD plans to install 65 video cameras of its own (34 of which are active) in "roughly" the same areas as the Flock Cameras. *Id.* at 303:13–304:2, 305:10–14. That way, the live view cameras can complement the Flock Cameras. *Id.* at 305:15–307:11.

C. The Flock Cameras can extensively track the movements of everyday people.

13. Chief Talbot discussed the Flock Cameras in his first city council briefing. Ex. 22 at -9359; Ex. 23 at 117:8–14, 119:12–13. When a councilmember asked whether "every time [a stolen car] passes a Flock camera, it's taking that image, so that you can actually create a traceable path of the car moving through the city, as long as it's being picked up by the Flock cameras," Chief Talbot responded, "Correct, correct." Totally unprompted, Talbot added: "It would be difficult to drive anywhere of any distance without running into a camera somewhere." NorfolkTV, *Norfolk City Council Work Session*, at 21:21–43 (YouTube, May 23, 2023), http://bit.ly/45gPzjz. The Flock Cameras capture around a million vehicles every thirty days. *See, e.g.*, *Norfolk VA PD Transparency Portal* (last updated Sep. 14, 2025), http://bit.ly/45BMObm; *but cf.* Doc. 65-1, PageID# 762 ("For the period March 30, 2025 through April 27, 2025 the Total Vehicle Volume was ***41,148,215***." (emphasis added)). Meanwhile, NPD's access to other cities' data creates, in Chief Talbot's words, "a nice curtain of technology." NorfolkTV, *Norfolk City Council Work Session*, at 18:49–19:04 (YouTube, May 23, 2023), http://bit.ly/4mIlOxR.

14. Expert analysis of Norfolk's Flock system bears out Chief Talbot's claims. To gauge the overall capabilities of the Flock Cameras, Plaintiffs retained a professor of applied mathematics at Williams College. Ex. 24 at 3, 6–7. He used reliable government and open-source data, as well as widely used commercial routing programs, to generate 15,000 realistic routes modeled on real-world driving behavior. *Id.* at 8–18, 26. Few routes escaped the Flock Cameras, which captured 78.7% of routes. *Id.* at 22–25. Most routes can be reconstructed at least in part because they pass two or more cameras. *See id.* at 18–19, 27. For over 25% of these routes, at least 70% of the overall

route can be reconstructed; for 50% of these routes, at least 50% of the overall route can be reconstructed. *See id.* at 29–30. The extent of surveillance varies widely across Norfolk. Nearly all trips that begin or end in some areas can be reconstructed. *Id.* at 27–28. In some areas, the Flock Cameras could enable NPD to reconstruct 75% or more of the average trip. *Id.* at 29, 31. Because the average person typically drives a few habitual routes each week, there is a high likelihood that many of the average person's trips within Norfolk can be reconstructed. *Id.* at 34–35.[2] Indeed, the median cumulative probability that one or more of these repeated, habitual trips can be at least partially reconstructed based on Flock captures is ***99.4%*** across Norfolk. *Id.* at 34.

15. Admittedly, reconstructing routes requires some assumptions and inferences. *See, e.g.*, *id.* at 10 (noting that empirical research shows over 90% of routes minimize travel time). Data from the Flock Cameras, however, include locations and timestamps. Ex. 7 at 182:19–183:4; Ex. 2 at 100:22–101:5, 103:13–18, 104:10–105:2. An officer can use those to make inferences about the likely routes that drivers took based on the distance between cameras and the time between captures. *See, e.g.*, Ex. 25 at 15–19 (following 14 captures over six-and-a-half hours on a single day); *cf.* Ex. 2 at 100:18–21 ([redacted]).[3] Indeed, Flock lets customers map out the times and locations of captures

[2] Plaintiffs' expert made conservative assumptions that necessarily understate the Flock Cameras' surveillance capabilities. First, his calculations are based only on rear vehicle captures, Ex. 24 at 17–18, [redacted], *see* Ex. 2 at 123:4–11, 124:8–17. Second, he excludes Flock cameras in Norfolk that are not owned by NPD. *See* Ex. 24 at 9, 15, 47.

[3] In a webinar, a Flock employee showed how Flock can reconstruct a route based on "sequential hit[s]" and use that information to predict the driver's future route. *Cf.* Flock Safety, *Expand Your LPR Coverage: Introducing Falcon for every roadway and use case*, at 29:45–30:27 (Flock Safety, Aug. 30, 2023), http://bit.ly/4mlHyQv ("[W]e have a sequential hit. So, these three LPR cameras have each seen a stolen vehicle. It's telling you where they saw them and in what way. From that, we can then predict the route with our real-time routing.").

in what it calls a "***Vehicle Journey Map***." Ex. 26 at -65–66 (emphasis added); Ex. 2 at 109:21–111:2, 149:17–150:7. Equally telling is where vehicles "*are not* captured," which helps "eliminate routes." Ex. 25 at 13–14; *see also* Ex. 24 at 19–20 (excluding areas car could not have traveled without passing additional Flock cameras). There may be gaps between captures where it appears someone stopped or did not take a direct route. But police can use other information to infer where a person went during the gaps. *See* Ex. 25 at 9–10, 12, 20. And they can infer how far a person could have walked or driven without being captured by another Flock camera. Ex. 24 at 36–38 (automating this process).

16. NPD officers do all these things in the real world. Flock data can "provide a clue that might help [an] officer find where [a] person is." Ex. 7 at 29:5–20; *see id.* at 50:7–18. If investigators see a "vehicle of interest frequents a certain part of the city on a regular basis," then "[t]hat provides them with clues about where the vehicle operator is." *Id.* at 191:22–193:8. Norfolk's Rule 30(b)(6) designee testified that [redacted]. *Id.* at 196:18–199:15. When data from the Flock Cameras alone is insufficient, [redacted]. *See id.* at 198:11–200:4, 306:9–307:11. And, in an appeal pending in Virginia state court, an NPD officer testified that he reconstructed a suspect's route using Flock data and falsified the suspect's assertion that he took a different route. *See* Ex. 27 at 6:13–10:11; *see also id.* at 28:22–29:8 ("Q. . . . And so according to the information that you have on Flock, this is the path that you were able to determine for my client's vehicle? A. That's correct."); *id.* at 49:9–13 ("Q. . . . Is it reasonable that this would outline the defendant's path leaving the POC or driving away from the POC? A. Yes, that's correct.").

17. NPD has no reason to suspect most drivers whose movements are captured by the

Flock Cameras of any wrongdoing: fewer than two percent of vehicle detections trigger a stolen vehicle, open warrant, or other alert. *See Norfolk VA PD Transparency Portal* (last updated Sep. 14, 2025), https://bit.ly/45BMObm. Even with all of this suspicionless surveillance, Chief Talbot testified "there hasn't been any real evidence that" the RTCC "has been successful in reducing crime." Ex. 23 at 102:1–13, 103:9–104:17. Homicide clearance rates are down; nonfatal shootings "are almost precisely at the same level." *Id.* at 112:5–113:2. "[T]he technology is not helping us in any way that I can see overcome that challenge . . . ." *Id.* at 115:18–20.

D. Officers have virtually unfettered access, with minimal oversight.

18. When NPD officers started using the Flock system in late May or early June 2023, there was no policy regulating their use. Ex. 7 at 201:6–11, 206:16–207:18. In July, NPD issued a "special order." Ex. 28 at -17585. Under the special order, "[p]atrol officers [were] required to sign into Flock Safety and utilize the technology throughout their entire shift." Ex. 28 at -17586. The only guidance it offered on permissible system use was "Flock Safety is to be utilized by personnel for law enforcement purposes only." *Id.* And it also provided that "Flock Safety will automatically delete data after a 30 day period." *Id.* This was Flock's default retention period, not a retention period NPD independently chose. *See* Ex. 7 at 218:11–15. Special orders are usually temporary until a "general order" issues. *Id.* at 204:10–22. But the Flock special order was in effect for nearly two years. *Id.* at 225:4–9, 227:4–7.

19. In June 2025, NPD issued a general order to implement new Virginia legislation limiting the use of ALPR cameras. *See id.* at 224:16–225:3. The policy changes in the general order resulted from changes in state law, not Norfolk's or Flock's independent policy decisions. *See* Ex. 7 at 157:5–16; Ex. 10 at 99:7–100:4; *cf.* Doc. 60-1, PageID# 663–64 (§§ D–F, H, L).

20. Among other changes, the general order reduces the retention period from 30 days to 21 days. Ex. 7 at 248:3–7. But that retention policy does not limit downloads. *Id.* at 248:8–10.

"So an officer can download data from the Flock system for a permitted purpose for more than 21 days." *Id.* at 248:11–14; *see* Ex. 6 at 213:19–214:17. And "Flock does not prevent defendants from downloading and storing data for longer than 21 days." Ex. 10 at 101:19–102:7. Flock is also "not sure" if it creates any record of these downloads. *See id.* at 67:3–14.

21. On paper, the general order limits searches to: (i) investigations "where there is reasonable suspicion that a [state or local] crime was committed"; (ii) investigations "related to a missing or endangered person or a person associated with human trafficking"; or (iii) receiving certain alerts. Ex. 11 at -21156. To search, officers must now enter a "[c]ase number or call for service number," specify the offense, and type a few words explaining their suspicion. Ex. 11 at -21157. But the general order does not say what connection there must be between the license plate queried and the suspected crime. *See* Ex. 7 at 234:1–4. An NPD executive and Norfolk's 30(b)(6) witness could not agree on whether an officer could simply look up every license plate that passed a Flock camera near the site of a robbery. *Compare id.* at 234:5–14, *with* Ex. 6 at 196:7–15. They also could not agree on whether scenario (ii) requires reasonable suspicion. *Compare* Ex. 7 at 236:2–8, *with* Ex. 6 at 201:17–19. And they disagreed on whether officers could use the system for other, unspecified purposes. *Compare* Ex. 7 at 238:6–239:8, *with* Ex. 6 at 204:8–12.

22. NPD has never required a warrant to collect information with the Flock cameras, access data in the Flock system, or download Flock data. *Compare* Doc. 1, ¶¶ 104–07, *with* Doc. 30 ¶¶ 66–69; *see* Ex. 7 at 217:16–19, 240:11–14. It has never required probable cause. *Compare* Doc. 1, ¶¶ 104–07, *with* Doc. 30 ¶¶ 66–69; *see* Ex. 7 at 217:20–218:1, 240:7–10. And it has never required officers to get any prior approval before searching the Flock system. *Compare* Doc. 1, ¶ 108, *with* Doc. 30, ¶ 70; *see* Ex. 7 at 217:12–15, 237:21–238:5, 240:2–6.

23. Flock offers its customers the ability to download "audit" files containing records

of searches and the reasons given for them. Ex. 10 at 58:4–19. [redacted] *Id.* at 60:16–62:9.[4] [redacted] *Id.* at 62:10–20.

24. NPD did not download any audit files until February 2025 (to produce them in this case). Ex. 4 at 95:3–14, 96:1–9. Even then, no one looked at them until May 2025. Ex. 7 at 231:1–16, 267:17–22. Based on what Norfolk has produced, its Flock data were searched ***over 230,000 times*** since May 2023. *See* Ex. 29 ¶¶ 7–8. The top three search reasons were "[redacted]" "[redacted]," and "[redacted]," accounting for nearly 75,000 searches (not counting [redacted]). *Id.* ¶ 9. One officer repeatedly searched for [redacted]. Ex. 7 at 275:12–276:13, 280:17–282:3 (emphasis added). Another repeatedly wrote [redacted] *Id.* at 285:15–287:1 (emphasis added). Today, NPD's "audits" [redacted] Ex. 4 at 98:19–100:19. No one verifies that the case and call-for-service numbers are real and related to the search reason, as that "would be entirely too time consuming" given "the number of entries." Ex. 7 at 251:20–252:11; Ex. 4 at 100:15–19 (this "would be impossible" because "there are thousands of searches done per week").

25. [redacted] *See* Ex. 7 at 268:1–21 (Norfolk never changed policies [redacted] based on audits of searches). [redacted] Ex. 4 at 96:14–97:9. [redacted] *See*

[4] [redacted] Ex. 10 at 59:20–60:9, 65:7–66:5.

id. at 97:10–14, 98:11–17; Ex. 23 at 224:16–225:12. [redacted] Ex. 6 at 229:1–21, 237:14–19. [redacted] *Compare id.* at 238:12–15 [redacted], *with* Ex. 7 at 265:1–20 ([redacted]).

E. Plaintiffs get caught in Norfolk's dragnet.

26. Lee Schmidt is a retired Navy veteran and father of two who lives in Norfolk. Ex. 31 ¶¶ 1–4. After retiring, he took some time off but is now attending classes again. *Id.* ¶ 4. Lee drives to the supermarket, the shooting range, hardware stores, classes, church, doctors' appointments, his daughter's high school, and other locations in Norfolk. *Id.* ¶ 6. Just outside his neighborhood, there are four Flock Cameras at a major thoroughfare, and he has seen cameras elsewhere during his travels around Norfolk. *Id.* ¶¶ 8–9. Trying to get around these cameras would be inconvenient, adding time to virtually every trip. *Id.* ¶¶ 7, 10. Even if Lee could navigate around the cameras he has seen, he has not memorized the locations of all the Flock Cameras, so he cannot ensure he always routes around them. *Id.* ¶¶ 9–11. Lee finds all this surveillance deeply disturbing, and it clashes with his understanding of how much of his movements an ordinary bystander could observe or capture. *Id.* ¶¶ 5, 8, 12–13.

27. All in all, the Flock Cameras read Lee's license plate and stored records of his locations at least 475 times from February 19 to July 2 (and at least 526 times across all Hampton roads Flock cameras).[5] Ex. 29 ¶¶ 4–6. Treating this as a continuous time period, this equates to an

[5] Norfolk's produced data are likely underinclusive because they only include license plate reads, [redacted]. Ex. 2 at 71:13–20; *see* Ex. 33 at -2998 ("No plate? No problem.").

average of about 74 records per 21 days for NPD's cameras and about 82 records per day for all Hampton Roads cameras.

28. Crystal Arrington is a home healthcare worker and mother of four who lives in Portsmouth. Ex. 32 ¶¶ 1–3. She grew up in Norfolk. *Id.* ¶ 4. Many of her friends and family still live there, so she visits often. *Id.* ¶¶ 4–5. Crystal became a home healthcare worker because she wanted to treat elderly and dying people with dignity and compassion. *Id.* ¶ 3. She often picks up clients or takes them to appointments in Norfolk. *Id.* ¶ 6. Crystal does not know and could not memorize the locations of all the Flock Cameras, so she cannot ensure that she always routes around them. *Id.* ¶¶ 9–10. Doing so would also be inconvenient and add time to her trips. *Id.* ¶¶ 7, 10. Crystal finds all this surveillance deeply disturbing, and it clashes with her understanding of how much of her movements an ordinary bystander could observe or capture. *Id.* ¶¶ 8, 12–14.

29. All in all, the Flock Cameras read Crystal's license plate and stored records of her locations at least 324 times from February 19 to July 3 (and at least 849 times across all Hampton Roads Flock cameras). Ex. 29 ¶¶ 4–6. Treating this as a continuous time period, this equates to an average of about 50 records per 21 days for NPD's cameras and about 132 records per 21 days for all Hampton Roads cameras.

SUMMARY JUDGMENT STANDARD

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). "A fact is 'material' if it 'might affect the outcome of the suit,' and a dispute is 'genuine' if . . . 'a reasonable jury could return a verdict for the nonmoving party.'" *Audio MPEG, Inc. v. Dell Inc.*, 272 F. Supp. 3d 813, 820 (E.D. Va. 2017) (Davis, J.) (citation omitted). "A genuine question of material fact exists where, after reviewing the record as a whole, a court finds that a reasonable [fact finder] could return a verdict for the nonmoving party." *What Hurts, LLC v. Volvo*

Penta of the Ams., LLC, 710 F. Supp. 3d 502, 510–11 (E.D. Va. 2024) (Davis, J.) (alteration in original) (citation omitted). "When faced with cross-motions for summary judgment, the Court must 'consider each motion separately,'" and "resolve all factual disputes and any competing, rational inferences in the light most favorable to the party opposing that motion." *Curran v. Axon Enter., Inc.*, 712 F. Supp. 3d 717, 724 (E.D. Va. 2024) (Davis, J.) (citation omitted).

ARGUMENT

I. The warrantless operation of the Flock Cameras violates the Fourth Amendment.

Norfolk's warrantless operation of the Flock Cameras violates the Fourth Amendment. People have a reasonable expectation of privacy in the whole of their public movements. Dragnet surveillance like the Flock Cameras invades that expectation through long-term tracking that opens an intimate window into activities and associations. Under en banc Fourth Circuit precedent, the surveillance need not capture the literal "whole" of people's movements, just enough to enable deductions and insights. And that is what the Flock Cameras do. They systematically collect information about where virtually everyone within the city of Norfolk drives. That, in turn, enables police to infer routes and routines. Because the Flock Cameras enable those deductions, their operation is a Fourth Amendment search.

A. Surveillance technology invades a reasonable expectation of privacy when it enables inferences or deductions from the whole of people's past movements.

The Fourth Amendment protects "[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures." U.S. Const. amend. IV. "When an individual 'seeks to preserve something as private,' and his expectation of privacy is 'one that society is prepared to recognize as reasonable,'" then "official intrusion into that private sphere generally qualifies as a search and requires a warrant supported by probable cause." *Carpenter v. United States*, 585 U.S. 296, 304 (2018) (citation omitted). Because the Fourth

Amendment "protects people, not places," these protections can apply "even in an area accessible to the public." *Katz v. United States*, 389 U.S. 347, 351 (1967). That honors the "central aim of the Framers . . . 'to place obstacles in the way of a too permeating police surveillance.'" *Carpenter*, 585 U.S. at 305 (quoting *United States v. Di Re*, 332 U.S. 581, 595 (1948)). Consistent with their intent, the Fourth Amendment not only protects against the types of searches that existed at the Founding, but also preserves the "degree of privacy against government that existed when the Fourth Amendment was adopted." *Id.* (quoting *Kyllo v. United States*, 533 U.S. 27, 34 (2001)).

Those considerations have led the Supreme Court to "recognize[] that individuals have a reasonable expectation of privacy in the whole of their physical movements." *Id.* at 310.

In *United States v. Jones*, the Court held that tracking a car with a GPS device for 28 days was a search. *See* 565 U.S. 400, 401, 403–04 (2012). The majority opinion so held because attaching the device was a trespass. *See id.* at 404–05. But five concurring justices also endorsed a privacy-based approach to long-term location tracking. *See Carpenter*, 585 U.S. at 307, 310. Four feared that, under the majority's approach, the Fourth Amendment would have nothing to say about non-trespassory tracking. *See Jones*, 565 U.S. at 425–26 (Alito, J., concurring). Rather than focus on the trespass, these justices homed in on how electronic tracking upset traditional privacy expectations. *See id.* at 430–31. "[S]ociety's expectation has been that law enforcement agents and others would not—and, indeed, in the main, simply could not—secretly monitor and catalogue every single movement of an individual's car for a very long period." *Id.* at 430. Justice Sotomayor separately explained that in a different case she would consider how "even short-term monitoring" allowed the government to "record[] and aggregate[]" "the sum of [people's] public movements" in a way "that enables the government to ascertain more or less at will, their political and religious beliefs, sexual habits, and so on." *Id.* at 415–16 (Sotomayor, J, concurring).

The upshot of the *Jones* concurrences, the Court later held, is that "individuals have a reasonable expectation of privacy in the whole of their physical movements." *Carpenter*, 585 U.S. at 310. In *Carpenter*, prosecutors subpoenaed suspects' cell-site location information ("**CSLI**"). *Id.* at 301–02. Even over a mere seven days, *id.* at 310 n.3, those "time-stamped data provide[] an intimate window into a person's life," *id.* at 311. "Prior to the digital age," people reasonably expected that such tracking was effectively impossible for more than "a brief stretch." *Id.* at 310. But technology has made long-term tracking possible "[w]ith just the click of a button . . . at practically no expense." *Id.* at 311. "[T]he retrospective quality of the data" made that capability more alarming because it meant that "this newfound tracking capacity runs against everyone," not just those suspected of crimes. *Id.* at 312. And it did not matter that the data were "less precise than GPS information." *Id.* Even so, "the Government could, in combination with other information, deduce a detailed log of [the defendant's] movements." *Id.* Accordingly, accessing CSLI "invaded [the defendant's] reasonable expectation of privacy in the whole of his movements." *Id.* at 313.

After *Carpenter*, the en banc Fourth Circuit clarified that surveillance can "contravene" or "invade" this expectation of privacy even when it falls short of the literal "whole" of someone's movements. *See Leaders of a Beautiful Struggle v. Balt. Police Dep't*, 2 F.4th 330 (2021); *cf. United States v. Moore-Bush*, 36 F.4th 320, 340 (1st Cir. 2022) (en banc) (Barron, J., concurring) (a party must "distinguish between the portions of the *Katz* inquiry that concern the *expectation of privacy* and the portions that concern *contravention*" of that expectation (emphasis added)). *Beautiful Struggle* involved Baltimore's AIR program, which used aircraft to capture images of broad swaths of the city that were stored for 45 days. *See* 2 F.4th at 333–34. At best, the images depicted "people and cars . . . as blurred dots or blobs." *Id.* at 334. And the aircraft captured only outdoor areas during the daytime and in good weather, which typically meant "shorter snippets of several hours

or less" that could be reconstructed through a "labor-intensive process." *Id.* at 334, 342, 345.

Even so, "*Carpenter* applie[d] squarely." *Id.* at 341. Most surveillance technologies have "gaps in their coverage." *Id.* at 342. "The GPS data in *Jones* only tracked driving, in a specific car,"[6] and "[t]he raw CSLI in *Carpenter*" placed the defendant "within a wedge-shaped sector ranging from one-eighth to four square miles." *Id.* at 342–43 (citation omitted). But these gaps did not matter because "inference [does not] insulate a search." *Id.* at 345. The Fourth Circuit therefore "consider[ed] not only the raw data, but what that data can reveal." *Id.* at 344. Location data are inherently revealing because people "follow[] a relatively habitual pattern." *Id.* at 343. "[M]any people start and end most days at home," so "identity is easy to deduce from just a few random points of an individual's movements." *Id.* at 343–44 & nn.10–11. Beyond those commonsense inferences, police can fill gaps in the data using "the context of specific investigations," "publicly available information[,] and, even more valuably, their own information systems." *Id.* at 344.

In other words, even though the AIR program alone did not reveal the literal "whole" of people's movements, it still "enable[d] deductions from the whole of individuals' movements." *Id.* at 345. That put it outside the ambit of conventional surveillance technologies. The AIR program was not "some discrete [surveillance] operation," but "the creation of a retrospective database of everyone's movements across the city." *Id.* For all its gaps, the program "transcend[ed] mere augmentation of ordinary police capabilities" by allowing police to "travel back in time to observe a target's movements, forwards and backwards." *Id.* at 341, 345.

[6] The government in *Jones* conceded that the GPS data could place the suspect only in a "neighborhood" and that the tracker turned off when the car was not moving. *See* Joint App'x, *United States v. Jones*, No. 10-1259, 2011 WL 7113271, at *113, 117, 141 (U.S. Aug. 11, 2011); *see also* Br. for United States, *United States v. Jones*, No. 10-1259, 2011 WL 3561881, at *4 (U.S. Aug. 11, 2001) ("Using the device, agents were able to track respondent's Jeep in the *vicinity* of a suspected stash house . . . ." (emphasis added)).

These cases focused on "what [the] technology had the *capacity* to reveal, not what it *actually* revealed in the search at issue." *United States v. Chatrie*, 136 F.4th 100, 150 (4th Cir. 2025) (Berner, J., concurring); *accord id.* at 123 n.8 (Wynn, J., concurring); *United States v. Smith*, 110 F.4th 817, 834 (5th Cir. 2024). That principle flows from *Kyllo v. United States*, where police scanned a house with a thermal imager for "a few minutes" "at 3:20 a.m." and inferred that the owner was growing marijuana. 533 U.S. at 29–30. That would not have been a search if all that mattered was what the technology *actually* revealed because "there is no reasonable expectation of privacy in contraband"—even in the home. *United States v. Johnson*, 148 F.4th 287, 292–93 (4th Cir. 2025). But because thermal imaging also "*might* disclose, for example, at what hour each night the lady of the house takes her daily sauna and bath," it was a search. *Kyllo*, 533 U.S. at 38 (emphasis added). Likewise, in *Carpenter*, it was irrelevant that the CSLI did not even place the defendant at the crime scene, *see* 585 U.S. at 312, because of what it *could* have revealed, *see id.* at 310–13. So too in *Beautiful Struggle*: "Plaintiffs d[id] not . . . claim a privacy invasion related solely to being photographed," but instead "challenge[d] the creation of a retrospective database of everyone's movements across the city." 2 F.4th at 345. The common thread in these cases is a focus on the technologies' *capabilities*, not what they happened to reveal in one instance.

To sum up, *Jones* and *Carpenter* recognized a reasonable expectation of privacy in the whole of one's movements. And *Beautiful Struggle* clarified that surveillance can invade this expectation even when it does not capture the literal "whole" of people's movements. Instead, dragnet warrantless surveillance violates the Fourth Amendment when it exceeds ordinary police capabilities and enables deductions from people's past movements.

B. The Flock Cameras violate Plaintiffs' subjective expectation of privacy in the whole of their movements.

At the motion-to-dismiss stage, the Court explained that it was plausible that Crystal and

Lee had a "*subjective belief* that Defendants' drag-net surveillance violates their subjective expectation of privacy." Doc. 29, PageID# 184. Two key allegations supported that conclusion: "(1) neither Plaintiff, prior to the Flock camera installations, believed that anyone, including law enforcement, would be able to track their every movement in a vehicle over the span of 30 days, and if they did it would be considered stalking; and (2) both Plaintiffs find the cameras deeply intrusive . . . ." *Id.*, PageID# 184–85. Although Plaintiffs did not "overtly offer any outward manifestations of their subjective expectation of privacy," most efforts to evade the surveillance "would be either illegal (i.e., covering up their license plate) or essentially impractical in their circumstances and given their responsibilities (i.e., not driving and instead walking, biking, or taking public transit everywhere)." *Id.*, PageID# 185 n.8.

Discovery has borne out those allegations. Before the Flock Cameras, neither Lee nor Crystal expected that the police or anyone else was recording every time they passed by 176 locations around Norfolk. Ex. 31 ¶¶ 8–13; Ex. 32 ¶¶ 8–14. Indeed, if anyone had chronicled their driving without their consent like the Flock Cameras have, Lee and Crystal would consider it stalking. Ex. 31 ¶ 13; Ex. 32 ¶ 14; *cf. Florida v. Jardines*, 569 U.S. 1, 12 (2013) (Kagan, J., concurring) (analogizing police behavior to behavior of a private "stranger"). Both find this surveillance deeply disturbing. Ex. 31 ¶¶ 12–13; Ex. 32 ¶¶ 12–14. Although neither has tried to avoid the Flock Cameras entirely, those efforts would be impractical or illegal. Ex. 31 ¶¶ 7, 9–11; Ex. 32 ¶¶ 7, 9–11. And neither could possibly remember all 176 locations and reliably navigate around them. Ex. 31 ¶ 9; Ex. 32 ¶ 9. Finally, efforts to prevent the Flock Cameras from reading their license plates would be illegal, Doc. 29, PageID# 185 n.8—not to mention futile given that Flock's Vehicle Fingerprint technology would enable police to find images of their cars even if they obscured the license plates. *See* Statement of Undisputed Material Facts ("**SUMF**") ¶ 2.

Plaintiffs have sufficiently demonstrated that they "personally ha[ve] an expectation of privacy" in the whole of their movements. *Minnesota v. Carter*, 525 U.S. 83, 88 (1998).[7]

C. The Flock Cameras invade a reasonable expectation of privacy because they enable deductions and inferences from the whole of people's past movements.

The Flock Cameras also invade an objectively reasonable expectation of privacy. They collect location data that society has long assumed would remain practically obscure and private. As in *Carpenter* and *Beautiful Struggle*, these data enable unexpected *deductions* about habits and patterns, in combination with other information. That means that the Flock Cameras contravene society's expectation of privacy in the whole of one's movements.

1. The Flock Cameras contravene societal expectations of privacy by collecting long-term records of people's movements without suspicion.

"*Carpenter*" and *Beautiful Struggle* "appl[y] squarely to this case," *Beautiful Struggle*, 2 F.4th at 341, because Norfolk is accomplishing from the ground what Baltimore did from the air. The Flock Cameras can generate data on nearly every trip in Norfolk and store those data for 21 days—or longer if an officer downloads the data. SUMF ¶ 20. They capture the vast majority of individual routes and enable reconstruction of large portions of most routes. SUMF ¶ 14. Per Chief Talbot, "It would be difficult to drive anywhere of any distance without running into a camera." SUMF ¶ 13. Unsurprising, then, that the cameras captured ***over 41 million*** photographs in 29 days. Doc. 65-1, PageID# 762; *cf. Beautiful Struggle*, 2 F.4th at 337 ("millions of photographs"). NPD has used the Flock Cameras to apprehend fugitives, reconstruct routes, and catch suspects lying

[7] Although Plaintiffs satisfy *Katz*'s subjective prong, Fourth Amendment rights should not turn on subjective expectations, at least in challenges to dragnet surveillance. "Over time, the Court [has] minimized the subjective prong . . . ." *Carpenter*, 585 U.S. at 346 (Thomas, J., dissenting). Neither *Carpenter*, *see* 585 U.S. at 303–13, nor *Beautiful Struggle*, *see* 2 F.4th at 339–46, considered it. This prong is redundant and irrelevant in challenges to electronic surveillance. *See* Orin S. Kerr, Katz *Has Only One Step: The Irrelevance of Subjective Expectations*, 82 U. Chi. L. Rev. 113, 131–32 (2015). Plaintiffs are preserving this argument for appellate review.

about their routes. SUMF ¶ 16. In other words, "[l]aw enforcement can 'travel back in time' to observe a target's movements, forwards and backwards." *Beautiful Struggle*, 2 F.4th at 341. "Unlike with [a] GPS device . . . , police need not even know in advance whether they want to follow a particular individual, or when." *Carpenter*, 585 U.S. at 312. And they can do this "[w]ith just the click of a button," *id.* at 311, without a warrant or meaningful oversight, SUMF ¶¶ 22–24.

These capabilities go beyond individual routes. People generally drive the same habitual routes many times per week. *See* Ex. 24 at 34; *cf. Beautiful Struggle*, 2 F.4th at 343 (most people's movements are "habitual"). The likelihood that many or most of those habitual routes can be inferred is high across virtually the entire city. *See* Ex. 24 at 35. And Flock stores NPD's data for 21 days at a time.[8] "The value of aggregated information changes when there is more of it." Laura K. Donohue, *The Fourth Amendment in a Digital World*, 71 N.Y.U. Ann. Surv. Am. L. 553, 628 (2017) (cited with approval in *Beautiful Struggle*, 2 F.4th at 344 n.11). NPD can thus mine at least 21 days of "time-stamped data," *Carpenter*, 585 U.S. at 311, to uncover "habitual pattern[s]" and reveal "associations and activities," *Beautiful Struggle*, 2 F.4th at 342–43. Police can monitor vehicles around locations of interest. [redacted] *See* SUMF ¶ 3. And they can flag where vehicles were *not* seen, *see* SUMF ¶¶ 15–16, which "may reveal even more," *Beautiful Struggle*, 2 F.4th at 342 n.8 (citation omitted). Thus, the Flock Cameras "enable[] deductions about 'what a person does repeatedly, what he does not do, and what he does ensemble,' which 'reveal[s] more about a person than does any individual trip viewed in isolation.'" *Id.* at 342 (citation omitted).[9]

[8] *Cf. Carpenter*, 585 U.S. at 310 n.3 ("[A]ccessing seven days of CSLI constitutes a Fourth Amendment search."); *Jones*, 565 U.S. at 430 (Alito, J., concurring) ("[T]he line was surely crossed before the 4-week mark.").

[9] *See Chatrie*, 136 F.4th at 140 n.19 (Richardson, J., concurring) ("[T]he question is not whether the government knew with exact precision what Chatrie did on an 'individual trip viewed

Although the *capabilities* of the technology are what ultimately matter, the troves of data Norfolk collected about Lee and Crystal underscore the point. Over less than five months, the Flock Cameras have captured Lee's and Crystal's license plates 475 and 324 times, respectively. *See* SUMF ¶¶ 27, 29.[10] On average, that yields at least 50 to 74 datapoints every 21 days. *See id.* With this information, someone can reconstruct or infer Lee's and Crystal's routes and "reveal intimate details through habits and patterns." *Beautiful Struggle*, 2 F.4th at 341.

"In some ways, automatic license plate reader data can be more granular than cell-site location information" and AIR data. *United States v. Sturdivant*, 2025 WL 1633754, at *10 (N.D. Ohio June 9, 2025). For instance, based on publicly available data, Verizon's approximated cell-tower coverage areas in Norfolk average 0.4 square miles. *See* Ex. 30 at 7. "Rather than placing a vehicle somewhere in a sector up to several square miles large, each ALPR data point can pinpoint the vehicle's precise location at a specific time." *Sturdivant*, 2025 WL 1633754, at *10; *see* SUMF ¶ 15.[11] Compared to "blurred dots or blobs" in AIR images, *Beautiful Struggle*, 2 F.4th at 334, Flock images "suppl[y] richer visual information about the car and its surroundings," *Sturdivant*, 2025 WL 1633754, at *10. Meanwhile, Flock links different captures of the same vehicle using "Vehicle Fingerprint," even without a license plate. SUMF ¶ 2. That is far less "labor intensive" than piecing together "snippets" of "blurred image[s]" that trail off every night. *See Beautiful Struggle*, 2 F.4th at 342, 343 n.9, 345. "And although ALPR photos cannot identify the driver inside the car, common sense dictates that the registered owner of a personal vehicle, or a friend

---

in isolation,' but whether it gathered enough information from many trips to 'reveal intimate details through habits and patterns.'" (citations omitted)).

[10] Not to mention the 526 and 849 captures of Lee's and Crystal's respective license plates across all of Hampton Roads.

[11] *Cf. Jones*, 565 U.S. at 428 (Alito, J., concurring) ("On toll roads, automatic toll collection systems create a precise record of the movements of motorists who choose to make use of that convenience.").

or relative, will usually be the driver of the car." *Sturdivant*, 2025 WL 1633754, at *10.

This surveillance upends long-settled privacy expectations. There were few police officers at the Founding, and they mostly worked part time. *See* Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 Mich. L. Rev. 547, 620–21 (1999). No Founding-era city resident would have expected officers to log their comings-and-goings in so many places with precision. *Cf. Jones*, 565 U.S. at 420 (Alito, J., concurring) ("[I]t is almost impossible to think of late-18th-century situations that are analogous to what took place in this case."). Today, that would require at least 352 officers—about 70 percent of NPD, *see* Ex. 6 at 225:11–18—working twelve-hour shifts, seven days per week. Even then, none of them could match the Flock Cameras, which record and remember the precise time, location, and Vehicle Fingerprint of every car. SUMF ¶ 15. "[T]hey are ever alert, and their memory is nearly infallible." *Carpenter*, 585 U.S. at 314. No reasonable person in 1791 or today would expect that the government could "creat[e] a retrospective database of everyone's movements across the city." *Beautiful Struggle*, 2 F.4th at 345.[12]

Many past cases have rejected challenges to license plate readers, but those cases are distinguishable. *See, e.g.*, *Sturdivant*, 2025 WL 1633754, at *11. The only one from this district considered a network of just 66 Flock cameras within Richmond, compared to the 176 Flock cameras involved in this case. *United States v. Martin*, 753 F. Supp. 3d 454, 458 (E.D. Va. 2024). And virtually all the prior cases were criminal cases, with extremely limited discovery. *See, e.g.*, *United States v. Dugan*, 136 F.4th 162, 170–71 (4th Cir. 2025). As a result, the defendants framed their challenges around what the ALPR cameras captured about *their own* vehicles. *See, e.g.*, *Sturdivant*, 2025 WL 1633754, at *9 ("26 images"); *Martin*, 753 F. Supp. 3d at 473 ("three

[12] Even if it were possible to have a police officer trail every person for 24 hours per day, "[t]he fact that equivalent information could sometimes be obtained by other means does not make lawful the use of means that violate the Fourth Amendment." *Kyllo*, 533 U.S. at 35 n.2.

individual snapshots"). That framing misses the forest for the trees. Plaintiffs "do not object to what any one [Flock] image reveals," but instead "challenge the creation of a retrospective database of everyone's movements across the city." *Beautiful Struggle*, 2 F.4th at 345. As a result, the key question is "what [the] technology had the *capacity* to reveal, not what it *actually* revealed in the search at issue." *Chatrie*, 136 F.4th at 150 (Berner, J., concurring); *accord id.* at 123 n.8 (Wynn, J., concurring); *Smith*, 110 F.4th at 834 n.8. Even if all that mattered was what the technology captured about Plaintiffs, the Flock Cameras captured Lee 475 times and Crystal 324 times in less than five months. "Compared to most other cases involving ALPR, the record here shows a qualitative leap forward . . . ." *Cf. Sturdivant*, 2025 WL 1633754, at *11.

The Flock Cameras collect long-term information about people's public movements in a way that contravenes long-settled societal expectations of privacy.

2. The Flock Cameras enable police to make deductions from the whole of people's past movements.

Because the Supreme "Court has already rejected the proposition that 'inference insulates a search,'" *Carpenter*, 585 U.S. at 312, this Court must "consider not only the raw [Flock] data, but what that data can reveal," *Beautiful Struggle*, 2 F.4th at 344. In other words, the key question is whether NPD "could, *in combination with other information*, deduce a detailed log of [a person's] movements." *Carpenter*, 585 U.S. at 312 (emphasis added).

The answer is undisputed. NPD can rely not only on its Flock Cameras, but also officers' knowledge, thousands of video cameras, and myriad police and public intelligence sources routinely used in investigations, SUMF ¶ 12; *cf. Beautiful Struggle*, 2 F.4th at 344 (police can make deductions using "the context of specific investigations," "publicly available information[,] and, even more valuably, their own data systems"). When combined with at least 21 days of data from the Flock Cameras, "these abilities enable police to glean insights from the whole of individuals'

movements." *Id.* "From these data, a trained officer draws inferences and makes deductions—inferences and deductions that might well elude an untrained person." *United States v. Cortez*, 449 U.S. 411, 418 (1981).

Even "just a few random points of an individual's movements" can be incredibly revealing. *Beautiful Struggle*, 2 F.4th at 344; *accord Mexican Gulf Fishing Co. v. U.S. Dep't of Com.*, 60 F.4th 956, 962, 967, 973–74 (5th Cir. 2023) (rule requiring boats to transmit their location "at least once per hour" "appears to be a search" and raises "grave concerns" that the "requirement violates the Fourth Amendment"). "[M]any people start and end most days at home, following a relatively habitual pattern in between." *Beautiful Struggle*, 2 F.4th at 343. With a license plate number, police can identify the likely driver. *See Sturdivant*, 2025 WL 1633754, at *10; Ex. 7 at 199:8–15; Ex. 6 at 24:4–22.[13] Most drivers choose time-minimizing routes, Ex. 24 at 10, so a few lines of time- and location-stamped Flock data provide "variable location points from which movements can be reconstructed." *See Beautiful Struggle*, 2 F.4th at 343; Ex. 27 at 6:13–10:11, 28:22–29:8, 49:9–13 (NPD officer testifying that he reconstructed a person's route based on three Flock camera hits). "[T]he absence of detections can be as informative as their presence" by excluding potential routes. Ex. 24 at 37.[14] Even when people leave their cars, someone examining the Flock data can map out—at least roughly—where the person could have gone. *See, e.g.*, Ex. 24 at 36–38.[15]

[13] In *Jones*, the car was registered to the defendant's wife, but police knew that the defendant drove it. *See* 565 U.S. at 402, 404 n.2, 425–26.

[14] *See also* Ex. 27 at 7:1–24, 10:3–11 (NPD officer testifying that defendant's statements about his "path" were not "accurate" based on absence of "any Flock hits" on a specific camera).

[15] Plaintiffs' expert automated this process to generate a map of areas a person likely could have reached through a combination of driving and walking. Ex. 24 at 36–38. The program excludes driving in areas that would have passed a Flock camera. *See id.* at 37. This program allows a user to adjust the allocation between walking and driving, as well as the walking speed. *See id.* at 49–51. An investigator likely could achieve a similar result manually. [redacted]

To be sure, the Flock Cameras do not "allow[] perfect tracking of all individuals [they] capture[] across all the time [they] cover[]." *Beautiful Struggle*, 2 F.4th at 342. But "[t]he datasets in *Jones* and *Carpenter*" and *Beautiful Struggle* "had gaps in their coverage, too." *Id.* at 343. The GPS in *Jones* tracked one car while moving, to the "vicinity" of a stash house. Br. for United States, *United States v. Jones*, No. 10-1259, 2011 WL 3561881, at *4 (U.S. Aug. 11, 2011).[16] The CSLI in *Carpenter* put the defendant in an "estimated" "wedge-shaped sector ranging from one-eighth to four square miles." *Beautiful Struggle*, 2 F.4th at 342–43 (citation omitted). And the surveillance in *Beautiful Struggle* covered outdoor areas on days with clear weather, so it typically tracked "blurred dots or blobs" for "snippets of several hours or less." *Id.* at 334, 342.

None of that mattered, though, because the surveillance "provided *enough* information to *deduce* details from the whole of individuals' movements" in combination with other information available to the police. *Id.* at 343 (emphasis added). True, data from the Flock Cameras may support multiple inferences. But inferring a driver's route between captures is no more speculative than inferring when "the lady of the house takes her daily sauna and bath" from thermal readings. *See Kyllo*, 533 U.S. at 38. Surveillance technology need not "produce[] an 8-by-10 Kodak glossy that needs no analysis." *Id.* at 36. An inference is not mere speculation just because the facts are consistent with other possibilities. *Cf., e.g.*, *Texas v. Brown*, 460 U.S. 730, 742 (1983) ("Long before the law of probabilities was articulated as such, practical people formulated certain

[16] *See also* Joint App'x, *United States v. Jones*, No. 10-1259, 2011 WL 7113271, at *113 (U.S. Aug. 11, 2011) ("THE COURT: The GPS took him in the neighborhood."); *id.* at *117 ("Q. Can you testify that based on just the data that you reviewed from the GPS, not any other surveillance that you've done, can you actually [*sic*] that it was actually 9508 or just Potomac Drive? A. Potomac Drive. Q. And why is that? A. The tracking device there, I don't think it ever gave out, you know, an exact address . . . ."); *id.* at *141 ("Q . . . . [A]ll these every ten second coordinates show that it's sort of bouncing around a little hill? A As you can see . . . , a lot of trees in the area, and the GPS is picked up better when it's moving than when it stops, and it changes satellites, you can't -- trees affect it.").

common-sense conclusions about human behavior; jurors as factfinders are permitted to do the same—and so are law enforcement officers." (citation omitted)).

In short, the Flock Cameras, in combination with other information available to the police, enable deductions from the whole of people's movements.

* * *

The Flock Cameras create a detailed record of people's movements across the entire city that can be leveraged to make deductions about habits and routines. That violates subjective and objective expectations of privacy. And that means Norfolk's operation of the Flock Cameras is a warrantless "search" that violates the Fourth Amendment. *See Beautiful Struggle*, 2 F.4th at 333.

II. The Flock Cameras are an unreasonable search under the ordinary meaning test.

Courts determine whether a "search" occurred through either the *Katz* test or the *Jones* trespass test. Doc. 29, PageID# 177–78. But the Supreme Court should adopt a test that hews more closely to the Fourth Amendment's original meaning and the Framers' intent. The Court need not reach this foreclosed argument because Plaintiffs are entitled to summary judgment under existing precedent. Plaintiffs are briefly raising the argument to preserve it for appellate review.

"The Fourth Amendment promises security against unreasonable searches and seizures." *Chatrie*, 136 F.4th at 115 (Wynn, J., concurring) (cleaned up). The *Katz* test collapses what qualifies as a "search" with whether the search is "reasonable," *see Morgan v. Fairfield Cnty.*, 903 F.3d 553, 570 (6th Cir. 2018) (Thapar, J., concurring in part and dissenting in part), and jettisons "security" for "privacy," *see Carpenter*, 585 U.S. at 347–48 (Thomas, J., dissenting). Courts should determine whether a "search" is "unreasonable" based on the Fourth Amendment's text.

Start with "search." At the founding, "search" was not a legal term of art. *See id.*; *Morgan*, 903 F.3d at 568 (Thapar, J., concurring). To understand what the Framers had in mind, then, the Court should look to the word's ordinary meaning in 1791. *See Morgan*, 903 F.3d at 568 (Thapar,

J., concurring). Then, as now, a "search" was just an effort to find or discern something. *See Kyllo*, 533 U.S. at 32; *Carpenter*, 585 U.S. at 347 (Thomas, J., dissenting). In other words, "a purposeful, investigative act (and nothing more)." *Morgan*, 903 F.3d at 568 (Thapar, J., concurring). Norfolk's operation of the Flock Cameras clears this hurdle because the explicit "Purpose" of the Flock cameras is "solely . . . the awareness, prevention, and prosecution of crime, bona fide investigations by police departments, and archiving for evidence gathering." Ex. 9 at -7535.

Next, the Court should ask whether the search is "unreasonable," which is shorthand for "against the reason of the common law." *Carpenter*, 585 U.S. at 355 (Thomas, J., dissenting). Consistent with the Framers' expectations, the common law search rules of 1791 should set a baseline. *See Cnty. of Riverside v. McLaughlin*, 500 U.S. 44, 60 (1991) (Scalia, J., dissenting). Even then, reasonableness turns on whether letting the government conduct the search at issue without judicial oversight undermines the right to be secure. *Cf. Riley v. California*, 573 U.S. 373, 385–86, 393–98, 403 (2014) (declining to apply common law search-incident-to-arrest rule to cellphones). That is, whether that discretion resembles a general warrant. *See, e.g.*, Jed Rubenfeld, *The End of Privacy*, 61 Stan. L. Rev. 101, 126–29, 131–32, 137–38 (2008). The Flock Cameras are "like a 21st century general search, enabling the police to collect all movements, both innocent and suspected, without any burden to 'articulate an adequate reason to search for specific items related to specific crimes.'" *Beautiful Struggle*, 2 F.4th at 348. Every person's movements are captured and each officer has discretion to search the Flock database. *See* SUMF ¶¶ 13–17, 22.

Simply put, Norfolk's use of the Flock Cameras to purposefully investigate an entire population without the formal safeguards of a specific warrant is an "unreasonable search."

CONCLUSION

For these reasons, the Court should grant Plaintiffs' motion for partial summary judgment.

Respectfully submitted,

Dated: September 15, 2025

/s/ Robert Frommer

Jessica Bigbie
(TX Bar No. 24134429)*

Institute for Justice
816 Congress Ave, Suite 970
Austin, TX 78701
Tel: (512) 480-5936
Fax: (512) 480-5937
jbigbie@ij.org

Robert Frommer
(VA Bar No. 70086)
Joshua Windham
(NC Bar No. 51071)*
Michael B. Soyfer
(NY Bar No. 5488580; DC Bar No. 230366)*
James T. Knight II
(DC Bar No. 1671382)*
Tahmineh Dehbozorgi
(DC Bar No. 90030252)*

Institute for Justice
901 N. Glebe Rd., Suite 900
Arlington, VA 22203
Tel: (703) 682-9320
Fax: (703) 682-9321
rfrommer@ij.org
jwindham@ij.org
msoyfer@ij.org
jknight@ij.org
tdehbozorgi@ij.org

Attorneys for Plaintiffs

*pro hac vice