No. 26-1227

In the
United States Court of Appeals
for the Fourth Circuit

LEE SCHMIDT; CRYSTAL ARRINGTON,

Plaintiffs–Appellants,

v.

CITY OF NORFOLK; MARK TALBOT, in his official capacity as Norfolk Chief of Police,

Defendants–Appellees.

On Appeal from the United States District Court for the Eastern District of Virginia at Norfolk

OPENING BRIEF OF APPELLANTS

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April 13, 2026

UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

DISCLOSURE STATEMENT

- In civil, agency, bankruptcy, and mandamus cases, a disclosure statement must be filed by **all** parties, with the following exceptions: (1) the United States is not required to file a disclosure statement; (2) an indigent party is not required to file a disclosure statement; and (3) a state or local government is not required to file a disclosure statement in pro se cases. (All parties to the action in the district court are considered parties to a mandamus case.)
- In criminal and post-conviction cases, a corporate defendant must file a disclosure statement.
- In criminal cases, the United States must file a disclosure statement if there was an organizational victim of the alleged criminal activity. (See question 7.)
- Any corporate amicus curiae must file a disclosure statement.
- Counsel has a continuing duty to update the disclosure statement.

No. 26-1227 Caption: Lee Schmidt; Crystal Arrington v. City of Norfolk, Mark Talbot, in his official capacity as the Norfolk Chief of Police

Pursuant to FRAP 26.1 and Local Rule 26.1,

Crystal Arrington
(name of party/amicus)

who is appellant, makes the following disclosure:
(appellant/appellee/petitioner/respondent/amicus/intervenor)

1. Is party/amicus a publicly held corporation or other publicly held entity? ☐YES ☑NO

2. Does party/amicus have any parent corporations? ☐YES ☑NO
If yes, identify all parent corporations, including all generations of parent corporations:

3. Is 10% or more of the stock of a party/amicus owned by a publicly held corporation or other publicly held entity? ☐YES ☑NO
If yes, identify all such owners:

4. Is there any other publicly held corporation or other publicly held entity that has a direct financial interest in the outcome of the litigation? ☐YES ☑NO
If yes, identify entity and nature of interest:

5. Is party a trade association? (amici curiae do not complete this question) ☐YES ☑NO
If yes, identify any publicly held member whose stock or equity value could be affected substantially by the outcome of the proceeding or whose claims the trade association is pursuing in a representative capacity, or state that there is no such member:

6. Does this case arise out of a bankruptcy proceeding? ☐YES ☑NO
If yes, the debtor, the trustee, or the appellant (if neither the debtor nor the trustee is a party) must list (1) the members of any creditors' committee, (2) each debtor (if not in the caption), and (3) if a debtor is a corporation, the parent corporation and any publicly held corporation that owns 10% or more of the stock of the debtor.

7. Is this a criminal case in which there was an organizational victim? ☐YES ☑NO
If yes, the United States, absent good cause shown, must list (1) each organizational victim of the criminal activity and (2) if an organizational victim is a corporation, the parent corporation and any publicly held corporation that owns 10% or more of the stock of victim, to the extent that information can be obtained through due diligence.

Signature: /s/ Michael Soyfer Date: 3/3/2026

Counsel for: Appellants

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Lee Schmidt
(name of party/amicus)

who is appellant, makes the following disclosure:
(appellant/appellee/petitioner/respondent/amicus/intervenor)

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Signature: /s/ Michael Soyfer Date: 3/3/2026

Counsel for: Appellants

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PRELIMINARY STATEMENT

In *Leaders of a Beautiful Struggle v. Baltimore Police Department*, this Court held that tracking everyone's movements across a city from the air was an unconstitutional warrantless search. 2 F.4th 330 (4th Cir. 2021) (en banc). Now, across the country, police are racing to accomplish the functional equivalent from the ground with ever-expanding networks of automated license plate reader ("**ALPR**") cameras. ALPRs photograph every passing car, use artificial intelligence to convert the image into searchable data, and upload that information to a central repository. Many cities that once had a few ALPRs in crime hotspots now maintain dense networks that generate vast troves of data, often shared among hundreds or thousands of law enforcement agencies. The company that made the ALPRs in this case boasts that its customers' ALPRs generate over 20 billion monthly datapoints.[1]

Norfolk, Virginia is one such city.[2] The Norfolk Police Department ("**NPD**") contracted with the mass surveillance company Flock Safety to blanket the city with 175 ALPRs (the "**Flock Cameras**"). Every few weeks, Norfolk's Flock Cameras capture tens of millions of photographs. Hardly any are relevant to an investigation. Instead, virtually all depict law-abiding people, like Plaintiffs, driving to their homes, offices, loved ones, places of worship, doctors, and countless other places.

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[1] *See National LPR Network*, Flock Safety, https://bit.ly/4cE4f0e.

[2] This brief refers to Defendants-Appellees collectively as "**Norfolk**."

The district court held that this pervasive, indiscriminate surveillance is not a Fourth Amendment "search." That was error. The Supreme Court has recognized a reasonable expectation of privacy in the whole of one's movements. But surveillance need not capture the literal "whole" of people's movements to be a search. Instead, *Carpenter v. United States*, 585 U.S. 296 (2018), laid down guideposts rooted in Founding-era expectations of privacy to identify surveillance technologies that *contravene* that expectation: whether the surveillance can reveal intimate details, evades the resource constraints that limit human surveillance, and allows police to reconstruct past movements. *Id.* at 312.

The district court ignored these guideposts and ruled that surveillance must "cross[] the line into cataloging the whole, or nearly the whole, of a person's movements" to be a search. JA36. But this Court held otherwise in *Beautiful Struggle*. The relevant "line," it explained, is "between short-term tracking of public movements—akin to what law enforcement could do prior to the digital age—and prolonged tracking that can reveal intimate details through habits and patterns." 2 F.4th at 341 (cleaned up). Determining when surveillance crosses that "line" requires applying the *Carpenter* factors, not measuring the surveillance against some impossible "whole . . . of a person's movements" standard.

Applying those factors here shows that Plaintiffs proved an unlawful warrantless search. Although Norfolk's Flock Cameras do not "allow[] perfect

tracking of all individuals [they] capture[] across all the time [they] cover[],” *id.* at 342, they have the capacity to collect multi-week blocks of data on where people drive. They do so at far lower cost than analogous human surveillance, just $2,500 per ALPR per year to generate easily searchable data from hundreds of millions of images. And because they are indiscriminate, Norfolk’s Flock Cameras let police travel back in time to reconstruct people’s movements. *Carpenter*’s guideposts thus signal that the Flock Cameras contravene longstanding privacy expectations. The district court’s contrary conclusion simply echoed arguments *Carpenter* and *Beautiful Struggle* rejected.

Returning to the Fourth Amendment’s original meaning reinforces that conclusion. Purposeful investigative conduct like tracking everyone’s movements across a city would have been considered a “search” at the Founding. And it would have been an unreasonable one. The common law condemned general warrants because they made everyone less secure by exposing law-abiding people to the risk of discretionary and suspicionless searches. Norfolk’s Flock Cameras are the 21st-century equivalent: they collect everyone’s movements, innocent and suspected alike, and put all that information in the hands of every officer.

Warrantless, indiscriminate surveillance is fast becoming a daily event for residents of Norfolk and many other cities in this Circuit. This Court should reaffirm

the Fourth Amendment's role in a digitizing world and hold this dragnet unconstitutional.

JURISDICTIONAL STATEMENT

The district court had subject matter jurisdiction because this case presents a federal question, 28 U.S.C. § 1331, and asserts a claim under the Civil Rights Act of 1871, *id.* § 1343(a)(3)-(4); 42 U.S.C. § 1988(a). Final judgment was entered on January 27, 2026, JA52, and Plaintiffs timely noticed their appeal on February 25, 2026, JA1221. This Court has jurisdiction under 28 U.S.C. § 1291.

ISSUE FOR REVIEW

Whether Norfolk's warrantless operation of a system of 175 ALPRs that track the movements and locations of drivers across the city violates the Fourth Amendment.

STATEMENT OF THE CASE

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

Flock is a technology company founded in 2017 whose key products are ALPRs and associated software. *See* JA432, JA465. 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 it has ALPRs in over 5,000 communities across the country. JA465.

These ALPRs aim to photograph every passing car. JA1288. On average, they capture 97%, typically missing only those concealed behind other cars. JA1293-1294. Flock then uses artificial intelligence to read the license plate. JA1288-1291. But license plates are not the only information the ALPRs capture. Flock's "Vehicle Fingerprint" technology records the make, type, color, and other distinctive features (like roof racks and bumper stickers). JA141, JA1288, JA1320. This helps officers "filter search results" and find additional images of a car even when the ALPR did not correctly or fully read the license plate. JA1326-1328. Flock's technology is rapidly advancing. Although Flock initially denied it, JA1322, its software can determine if a person is in an image, JA1385-1386. And its ALPRs can now stream and record video. JA1312-1313, JA1315.

Flock's software tools also help its customers make sense of all the information their ALPRs collect. "Convoy Analysis" identifies "cars that are seen at the same places, around the same times, multiple times." JA1336-1337. It can "speed up" the process, JA1340, of "[i]dentify[ing] associate suspect vehicles," JA141. "Real-Time Routing" helps "[d]etermine [a] possible vehicle path of travel." JA141. It analyzes historical data so that officers can infer which route a vehicle is likely to take *after* passing a Flock ALPR. *See* JA1354-1355. These features are part of a software package that customers like Norfolk can purchase for an additional fee. *See*

JA1343-1345, JA1357. Even without them, officers can accomplish the same things by manually analyzing Flock data. JA1338, JA1357.

Beyond these software features, another key selling point is Flock customers' ability to access third parties' data. Contracting with Flock is, in its words, the only way to access "an ever-increasing amount of cameras and data" from its thousands of customers, including "our HOA and private business partners." JA146. Flock's ever-increasing national network now generates more than 20 billion monthly datapoints. *See National LPR Network*, Flock Safety, https://bit.ly/4cE4f0e.

B. The Norfolk Police Department blankets the city in surveillance.

NPD is one of Flock's thousands of customers. In 2022, an NPD executive decided to rent 20 Flock ALPRs. JA152-155, JA1748-1749. An NPD captain then worked with Flock to map out potential locations. JA1749-1750. To figure out where to place ALPRs, he created "heat maps for violent crimes and calls for service" and "locate[d] the best intersections to put cameras at that would help provide the intelligence that [NPD] thought necessary." JA1735-1736. That meant "putting cameras in locations where suspects may travel to and from a location to commit a crime." JA1737. Because criminals often try to evade detection, NPD sought to prevent routes around its ALPRs. JA1738-1739. NPD also placed ALPRs at points of ingress and egress to capture vehicles entering and leaving the city. JA1784-1786, JA1809.

During that process, Flock calculated the number of ALPRs needed based on the coverage NPD wanted to achieve. JA1752-1753. For its part, NPD opted not to "reduce coverage by lowering the number of cameras," even as it hit funding constraints. JA1774-1775. Instead, Flock helpfully made NPD aware of grants it could use to cover the costs. JA1511, JA1536. As more funding became available, NPD increased the number of ALPRs to achieve "more" and "better" coverage. JA1763, 1769-1770. Over time, that number ballooned from 20 to 172. JA1762-1763, JA1767-1768.

By January 2023, NPD had mapped out all of the locations, JA1520-1521, and entered into a five-year agreement for 172 ALPRs and associated software services, JA157, JA163, JA1730. That is "the most any jurisdiction in Virginia has purchased, at a cost of $2500 each per year." JA1817. The agreement's stated "Purpose" is "the awareness, prevention, and prosecution of crime, bona fide investigations by police departments, and archiving for evidence gathering." JA164.

Since then, City officials and NPD officers have repeatedly sought to expand Norfolk's ALPR system. *See* JA204 ("I know of appx. 6-8 locations that would improve our coverage."); JA207 ("We are in desperate need of more cameras . . . ."); *see also* JA201. In response, the deputy chief of police wrote, "As funding becomes available, we will consider installing cameras in areas that were not selected for the initial deployment." JA200. Norfolk's Rule 30(b)(6) designee likewise agreed that,

in June 2023, "[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." JA1814, JA1817-1818. NPD then secured funding for four more ALPRs "to provide additional coverage in an area where there wasn't any" and "fill a gap in the existing system." JA1798-99.[3]

Even within city limits, NPD leverages a larger network of ALPRs beyond its own. An NPD executive helped Norfolk's public housing authority acquire Flock ALPRs. JA1552-1553, 1561, 1563-1566. She also provided information about Flock to Norfolk State University, which acquired Flock ALPRs and shared them with NPD. JA1571, 1573-1574. Flock facilitated NPD access to Flock ALPRs at Home Depot and Lowe's stores as "donor sites" (at no cost to NPD). JA210-211, JA215-216. And Flock has told NPD that it could "grow [its] camera footprint at no extra cost" by advertising Flock's ALPRs to businesses and homeowner associations. JA219. All in all, NPD has access to data from 43 additional ALPRs in Norfolk alone. *See* JA923-930. And NPD has in turn shared its data with hundreds of other law enforcement agencies. *See* JA1838-1839; *see also* JA1842 ("Norfolk is happy to allow sharing to anyone who would like it.").

Supplementing this network is a bevy of complementary surveillance tools. NPD centralizes these technologies in its Real Time Crime Center, which

[3] Only three are active, bringing the total to 175.

"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." JA1985-1986. The technologies include thousands of city-owned and private video cameras, as well as state- and city-owned traffic cameras. JA231-232. Video footage is retained for 3 to 30 days. JA1994-1995, 1999-2000. NPD plans to install 65 video cameras of its own (34 of which are already active) in "roughly" the same areas as Norfolk's Flock Cameras, so that the video cameras can complement the Flock Cameras. JA1990-1994.

C. Norfolk's Flock Cameras can extensively track people's movements.

Chief Talbot first spoke about Norfolk's Flock Cameras at a city council briefing. JA237, JA1049, JA1051. 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, he 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. Unsurprisingly, Norfolk's Flock Cameras capture tens of millions of vehicles every month. *See* JA136 ("For the period March 30, 2025 through April 27, 2025 the Total Vehicle Volume was ***41,148,215***." (emphasis added)). Yet NPD has no reason to

suspect most of these drivers of any wrongdoing; for instance, only a tiny fraction of vehicle detections result in a hotlist alert. *See, e.g.*, *Norfolk VA PD Transparency Portal* (last updated Apr. 10, 2026), https://bit.ly/45BMObm.

Norfolk's Flock Cameras empower NPD officers to deduce where people drove and when. Every capture includes the location and time. JA1869-1870; *see also* JA1360-1362. And officers can use those captures to infer drivers' likely routes and destinations. *See, e.g.*, JA2235-2239 (following 14 captures on a single day).[4] Given the density of ALPRs, where vehicles are *not* captured can be equally telling. JA2233-2234. Flock even automates this process by letting customers plot all sightings of a vehicle on a "***Vehicle Journey Map***." JA243-244 (emphasis added); *see* JA1366-1368, 1406-1407. That said, Flock's Rule 30(b)(6) designee testified, "I would assume an officer . . . having worked in that particular community, would probably -- be better at knowing where vehicles would normally go than" Flock's software. JA1357.

The summary judgment record demonstrated that, in the real world, NPD officers use Norfolk's Flock Cameras to do all these things. In one state-court hearing, for instance, an NPD officer testified that he reconstructed a suspect's route

[4] A Flock employee showed how Flock's software can automatically reconstruct and "predict" a route based on "sequential hit[s]." 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.

using Flock data and falsified the suspect's assertion that he took a different route. *See* JA261-265; *see also* JA283-284 ("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."). Norfolk's 30(b)(6) designee likewise agreed that Flock data "provide a clue that might help [an] officer find where [a] person is." JA1716; *see* JA1737. If investigators see that 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." JA1878-80. Using the "clues" that Norfolk's Flock Cameras provide, officers have tracked down suspects around where they were last captured. JA1883-1886. And when data from the Flock Cameras alone are insufficient, NPD officers turn to other information sources and technologies to fill in the gaps, such as by looking up the suspect's home address or reviewing video surveillance footage in the area. *See* JA1885-1887, JA1993-1994.

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

Meanwhile, NPD's policies offer scant guidance to officers, and its leadership has done little to police how officers use the Flock system.

When it first installed its ALPRs in 2023, NPD had no policy regulating officers' use of the Flock system. JA1888, JA1893-1894. Only after officers had been using Flock for months did NPD finally issue a temporary "special order." *See* JA364, JA1891. Under the special order, "[p]atrol officers [were] required to sign

into Flock Safety and utilize the technology throughout their entire shift." JA365 (emphasis omitted). As for the permissible uses, this is all of the guidance the special order offered: "Flock Safety is to be utilized by personnel for law enforcement purposes only." JA365.

That temporary order remained in effect for almost two years until NPD issued a general order in July 2025 to implement a new Virginia ALPR statute, Va. Code § 2.2-5517. *See* JA1911-1912. The relevant changes in the general order resulted from the new state law, not Norfolk's independent policy decisions. *See* JA1844; *cf.* Va. Code § 2.2-5517(D)-(F), (H), (L).

Three of those changes are pertinent here. The first was to reduce the retention period from 30 days to 21 days. JA1935. The second was to limit the authorized uses of the system to those specified in the statute. Those are (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 hotlist alerts. JA187. And the third was to require officers to enter, for each search, a "[c]ase number or call for service number," specify the offense, and type a few words explaining their suspicion. JA188.

But NPD's leadership conceded significant loopholes in these policies. Norfolk does not believe that the 21-day retention limit applies to data downloads.

JA1935. "So an officer can download data from the Flock system for a permitted purpose for more than 21 days" on a rolling basis. JA1935; *see* JA1630-1631. And although the statute and policy list specific authorized uses of the Flock system, Norfolk's 30(b)(6) designee and an NPD executive disagreed on whether officers could use the system for other, unspecified purposes. *Compare* JA1925-1926, *with* JA1621.

Whatever the scope of this new policy, NPD has never required a warrant to collect information with Norfolk's Flock Cameras, access data in Flock's system, or download Flock data. *Compare* JA95, *with* JA107; *see* JA1904, JA1927. It has never required probable cause. *Compare* JA95, *with* JA107; *see* JA1904-1905, JA1927. And it has never required officers to get prior approval before searching the Flock system. *Compare* JA95, *with* JA107; *see* JA1904, JA1924-1925, JA1927.

Norfolk has also done very little after-the-fact oversight. Although Flock customers can download "audit" files containing records of searches and the reasons given for them, JA2080, no NPD official looked at the audit files until May 2025, JA1918, JA1954. During that time, there were ***over 230,000 searches***. *See* JA1164. The top three reasons officers entered were "cj," "stolen," and "inv," accounting for nearly 75,000 searches. JA1164. One officer repeatedly searched for "***protestor identification***" without anyone asking why. JA1962-1963, JA1967-1969 (emphasis added). Another just wrote "***la la la la***" again and again. JA1972-1974 (emphasis

added). Even today, NPD's "audits" are cursory. Norfolk's Rule 30(b)(6) designee admitted that 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." JA1938-1939.[5]

Unsurprisingly, NPD's minimal oversight means that it has discovered just two instances of misuse, JA1156-1157, JA1645-1655, JA1949, neither of them through an audit, *see* JA1955.[6]

E. Plaintiffs get caught in Norfolk's dragnet.

Plaintiffs are two law-abiding people whose movements have been tracked and collected in this police database for nearly three years.

Lee Schmidt is a Navy veteran who lives in Norfolk. JA370. Lee drives to the supermarket, the shooting range, hardware stores, classes, church, doctors' appointments, his daughter's high school, and other locations in Norfolk. JA371. During the timeframe covered by the data produced in this case, Lee had just retired

[5] Flock does not monitor these searches automatically—for instance, the way banks monitor customer accounts for suspicious activity—and instead relies on customers like NPD to audit their own records. JA2081-2084. Nor does Flock monitor for unusual access patterns, like whether "a City of Norfolk user name" is accessing Norfolk's data from "Fairbanks, Alaska." JA2084.

[6] Recent investigative journalism reports that the new Virginia law and NPD policies have had little effect on how NPD officers use the system; the use of vague, unverifiable search reasons remains common. *See* Kunle Falayi, *Virginia Police Search Vehicle Surveillance Data 24/7. "Why" Isn't Always Clear.*, WHRO (Apr. 2, 2026), https://bit.ly/4bQbVLZ.

from the Navy and was driving less often, but he plans to drive more in the future. JA371.

Lee often sees Norfolk's Flock Cameras as he drives. JA371-372. Trying to navigate around them would be inconvenient and impossible without memorizing the location of every ALPR. JA371-372. 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. JA371-373. All told, Norfolk's Flock Cameras tracked Lee at least 475 times from February 19 to July 2, and Flock ALPRs across the region (including Norfolk's Flock Cameras) tracked him at least 526 times. JA1163.

Crystal Arrington is a healthcare worker who lives in Portsmouth. JA375. She grew up in Norfolk, and visits friends and family there often. JA375-376. Crystal became a healthcare worker because she wanted to treat elderly and dying people with dignity and compassion. JA375. She often picks up clients or takes them to appointments in Norfolk. JA376.

For Crystal to navigate around Norfolk's Flock Cameras during these trips would be inconvenient and impractical, especially since she could not memorize all the locations. JA376-377. 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. JA376-378. All told, Norfolk's Flock Cameras

tracked Crystal at least 324 times from February 19 to July 3, and Flock ALPRs across the region (including Norfolk's Flock Cameras) tracked her at least 849 times. JA1163.

F. Procedural history.

Seeking to end this pervasive surveillance, Lee and Crystal filed a complaint for declaratory and injunctive relief asserting a Fourth Amendment claim through 42 U.S.C. § 1983. JA58, JA92-95. Norfolk filed a motion to dismiss for lack of standing and failure to state a claim, which the district court denied. *See* JA59-60.

After discovery, Plaintiffs moved for partial summary judgment as to liability, and Norfolk moved for summary judgment. JA11. The district court denied Plaintiffs' motion and granted Norfolk's motion. JA51. It first ruled that Plaintiffs had standing to challenge the collection and storage of data about their movements. *See* JA19. But it rejected their claim on the merits. The district court reasoned that surveillance qualifies as a Fourth Amendment search only when it "crosses the line into cataloging the whole, or nearly the whole, of a person's movements." JA36. It then concluded that Norfolk's Flock Cameras could not "'track' the whole of a person's movements" because they captured people only sporadically and only at specific locations, with supposedly large gaps between captures. *See* JA36-47. Accordingly, the district court entered final judgment in Norfolk's favor. JA52.

G. The parties' expert reports on the capabilities of Norfolk's Flock Cameras.

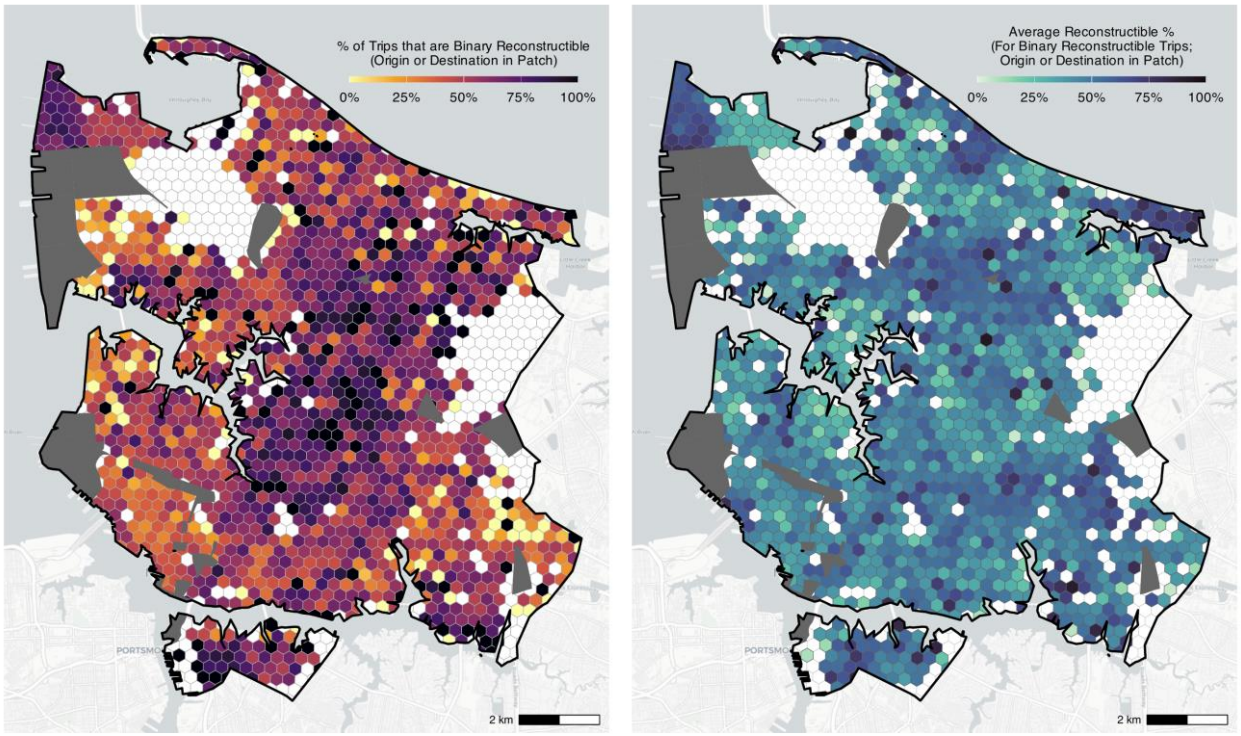
The district court's summary judgment opinion depended heavily on its assessment of the parties' expert reports, which reflected starkly different approaches to assessing the surveillance capabilities of Norfolk's Flock Cameras. Given how central this expert evidence was, Plaintiffs summarize it here.

Plaintiffs' expert reports. Plaintiffs submitted two expert reports. The first used mathematical models to assess the Flock Cameras' surveillance capacity under ideal operating conditions. The second examined the data Norfolk produced about Plaintiffs and used examples to show how an officer could use the data to make deductions.

Chad Higdon-Topaz, a professor of applied mathematics, prepared the first report. JA2159-2160.

His first analysis found that Norfolk's Flock Cameras could pervasively track where people drove and enable anyone with access to infer people's habitual routes. To reach those conclusions, he generated over 15,000 representative routes in Norfolk. JA2166. He did so using the same data the regional transportation authority uses to, for instance, plan roads and highways, as well as federal and open-source data. JA2161-2162. He then created pairs of destinations proportional to known, real-world transit patterns and trip types (for instance, residence to residence, residence to business, and so on). JA2167-2169. Next, he calculated how many trips

passed Norfolk's Flock Cameras and what portion of the route fell between the first and last capture (making the route reconstructible through inference). JA2170-2172. Around 79 percent of trips passed at least one camera, and 55 percent were reconstructible. JA2178. Because Norfolk's Flock Cameras are not evenly spread across the city, he calculated these same figures for smaller areas. JA2180. In many areas of Norfolk, virtually all routes were reconstructible (left, showing the percentage of reconstructible routes), and, in some, the average route could be inferred almost in its entirety (right, showing the average percent that could be inferred):



JA2181, JA2184. Higdon-Topaz's analysis was not limited to individual routes, though. He recognized that people repeatedly drive a set of habitual trips every week,

so he calculated the probability that one or more of those trips could be reconstructed with Flock data. Assuming a total of six unique trips driven repeatedly, the probabilities were 99.4 percent for one, 94.4 percent for two, and 77.9 percent for three. JA2187-2188.[7]

Higdon-Topaz's second analysis assessed whether it was possible to model where a person could have gone during unexpected gaps between ALPR captures. JA2189-2190. To start, he identified anomalous gaps—that is, gaps where the time between captures was longer than the time needed to drive between two ALPRs. JA2189-2190. He was then able to map the general area someone could have reached during the gap through driving, walking, or some combination of the two; he could even identify places of interest and calculate how long someone could spend at each of them. JA2191.

Andrew Wheeler, a crime analyst and police data consultant who has published peer-reviewed research on ALPRs, prepared Plaintiffs' second report. JA2223, JA2243, JA2247. Through examples, he explained how law enforcement could draw inferences from Norfolk's Flock data. For instance, he explained that he could deduce when and how often Lee went to his local supermarket based on patterns of Flock captures. JA2229-2230, JA2261-2262. And he explained how an

[7] Higdon-Topaz's analysis included only Norfolk's Flock Cameras, excluding all other Flock ALPRs NPD can access. JA2162.

officer could follow Crystal on a day when she was captured fourteen times, which would allow the officer to see when and even for how long Crystal visited her father. JA2234-2239, JA2258-2259. Although Wheeler acknowledged these inferences were not certain, he explained that officers and crime analysts would analyze Flock data in much the same way, sometimes using personal experience and other sources of information to sharpen their deductions. JA2256, JA2259, JA2262.

Norfolk's primary expert report. Valentin Estevez is a labor economist who works as a consulting and testifying expert in employment disputes. JA1169-1170, JA2308-2313.[8]

He opined that the "Flock Raw data" do not allow "tracking of the whole of an individual's movements" because Norfolk's Flock Cameras directly cover only a small portion of its land area and "capture images of vehicles only sporadically." JA2275-2276, JA2278-2284. For instance, he calculated that, within rolling 21-day retention periods, Norfolk's Flock Cameras on average captured Lee and Crystal 3.2 and 2.1 times per day, respectively. JA2281. These averages include days with zero captures and are limited to Norfolk's Flock Cameras. *See* JA2353. On days with captures, Estevez calculated that Norfolk's Flock Cameras captured Lee three or

[8] Norfolk disclosed an expert on GPS and cell-site location information, but the district court did not rely on this expert's testimony. That is unsurprising given that Supreme Court precedents already address those technologies and that this expert had virtually no experience with ALPRs. *See* JA528-529, JA533.

more times on about 75 percent of days and Crystal on about 73 percent of days. *See* JA2353. He also calculated an average daily time and distance between captures of (i) 47.5 minutes and 3.5 miles for Lee and (ii) 49.5 minutes and 2.5 miles for Crystal. JA2283. In deposition, Estevez admitted that, before conducting these analyses, he discarded "a large fraction"—"about half"—of the Flock raw data because the license plate was incomplete or missing, JA1176-1178, even though, as explained above, Flock's technology still enables officers to track cars when a license plate number is incomplete. He also eliminated captures that occurred less than a minute after a prior capture on the same ALPR. JA2276-2277.

Estevez then reviewed the same Flock data about Plaintiffs that Wheeler used and opined that Wheeler's opinions were speculative. *See* JA2286-2295. To reach those conclusions, Estevez largely relied on Google Maps and Street View to examine the area around Flock Cameras where Plaintiffs were captured. *E.g.*, JA2287, JA2294, JA2336. In deposition, Estevez admitted that, unlike Wheeler, he had never worked in law enforcement. JA1172. When pressed to identify the economic concepts he applied in this part of his analysis, all he could offer was "working with the data" and "getting your hands in the data." JA1211-1212.

SUMMARY OF THE ARGUMENT

I. Norfolk's operation of the Flock Cameras contravenes Plaintiffs' reasonable expectation of privacy in the sum of their public movements.

A. To determine when surveillance contravenes this expectation, the Supreme Court and this Court consider several factors rooted in Founding-era privacy expectations. These factors include whether the surveillance (i) has the capacity to enable deductions about intimate habits and patterns; (ii) is cheap, easy, and efficient compared to traditional investigative techniques; and (iii) enables retrospective tracking. Contrary to the district court, this test does not require surveillance to capture the literal whole of people's movements to qualify as a search.

B. There is no genuine dispute of material fact that Norfolk's operation of the Flock Cameras contravenes a reasonable privacy expectation under the *Carpenter* factors: **1.** Norfolk's Flock Cameras have the capacity to pervasively track where people drive, typically collecting enough information to enable police to infer people's routes. Although there are gaps in the data, those gaps are irrelevant under this Court's precedent because police can still use Flock data, in combination with other information, to deduce habits and patterns. **2.** Norfolk's Flock Cameras are also cheap, easy, and efficient. They capture every passing car, instantly convert the images into searchable data, and upload them to a central repository, all at far lower cost than human surveillance. **3.** Finally, this retrospective surveillance is indiscriminate and runs against everyone, not just those suspected of crimes. Taken together, these factors signal that Norfolk's use of the Flock Cameras is inconsistent with Founding-era expectations of privacy.

II. The Fourth Amendment's ordinary, original meaning confirms that Norfolk's use of the Flock Cameras is an unreasonable search.

A. "Search" was not a term of art at the Founding. Instead, it meant a purposeful, investigative act. Because Norfolk's stated purpose in using the Flock Cameras is to investigate crime, their use is a search.

B. The Fourth Amendment does not prohibit all searches, just "unreasonable" ones. At the Founding, "unreasonable" was shorthand for "against the reason of the common law." Courts should therefore decide whether searches are unreasonable based on whether they share key features of abusive Founding-era search practices, like general warrants. Norfolk's Flock Cameras share those key features: they track people indiscriminately, without any requirement of individualized suspicion, and grant unfettered discretion to individual officers.

STANDARD OF REVIEW

This Court reviews decisions on motions for summary judgment de novo, applying the same standard as the district court. *See, e.g.*, *Dean v. Jones*, 984 F.3d 295, 301 (4th Cir. 2021). "Under that standard, summary judgment is appropriate '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.'" *Sheet Metal Workers' Health & Welfare Fund v. Stromberg Metal Works, Inc.*, 118 F.4th 621, 631 (4th Cir. 2024) (quoting Fed. R. Civ. P. 56(a)). A dispute is "genuine" if a reasonable factfinder could

find for the nonmovant, and a fact is "material" if it "might affect the outcome of the suit under the governing law.'" *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). When parties file cross motions, the Court must "resolve all factual disputes and any competing, rational inferences in the light most favorable to the party opposing [each] motion." *Defs. of Wildlife v. N.C. Dep't of Transp.*, 762 F.3d 374, 392-93 (4th Cir. 2014).

ARGUMENT

I. Norfolk's Flock Cameras contravene Plaintiffs' reasonable expectation of privacy in their long-term public movements.

A. *Carpenter* requires courts to consider several factors to determine when surveillance contravenes a reasonable expectation of privacy.

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).[9] Because the Fourth Amendment

[9] As the district court noted, Norfolk did not challenge Plaintiffs' subjective expectations of privacy, *see* JA31, so Plaintiffs' evidence was undisputed, *see* JA371-373, JA376-377, and they were entitled to summary judgment on this element, *see, e.g.*, *Robinson v. Wix Filtration Corp.*, 599 F.3d 403, 409 n.8 (4th Cir. 2010).

"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 that aim, the Fourth Amendment protects against not only 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)).

These considerations led the Supreme Court to "recognize[] that individuals have a reasonable expectation of privacy in the whole of their physical movements." *Id.* at 310. That follows from *Jones v. United States*, where the Court held that tracking a car with a GPS device for 28 days was a search. 565 U.S. 400, 401, 403-04 (2012). The majority opinion so held because attaching the device was a physical intrusion on the defendant's property. *See id.* at 404-05. But five concurring justices endorsed a privacy-based approach. *See Carpenter*, 585 U.S. at 307, 310. Four reasoned "society's expectation has been that" the government "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." *Jones*, 565 U.S. at 430 (Alito, J., concurring). Justice Sotomayor explained that in a different case she would

reconsider "even short-term monitoring" that allowed police to track people "in the absence of any oversight from a coordinate branch." *Id.* at 415-16.

The upshot of the *Jones* concurrences, *Carpenter* later explained, is that "individuals have a reasonable expectation of privacy in the whole of their physical movements." 585 U.S. at 310. But the *Carpenter* Court still had to consider whether "[a]llowing government access to cell-site records *contravenes* that expectation." *See id.* at 311 (emphasis added). Unlike GPS, cell-site location information ("**CSLI**") sporadically places a cellphone "within a wedge-shaped sector ranging from one-eighth to four square miles." *Id.* at 312.

Despite the gaps and lack of precision, the Supreme Court held that warrantless access to CSLI contravened Founding-era expectations of privacy in three key ways. *First,* "time-stamped [location] data provides an intimate window into a person's life, revealing not only his particular movements, but through them his" associations. *Id.* at 311. The lack of pinpoint precision did not change that conclusion because "inference [does not] insulate a search" and "the Government could, in combination with other information, deduce a detailed log of [someone's] movements" from CSLI. *Id.* (citation omitted). *Second*, using CSLI to deduce a person's movements "is remarkably easy, cheap, and efficient compared to traditional investigative tools," so it evades the resource constraints that usually prevent abusive surveillance. *Id.* And *third*, "the retrospective quality of the data"

created the danger of a surveillance state because "this newfound tracking capacity runs against everyone." *Id.* at 312.

After *Carpenter*, this Court clarified that surveillance can "contravene" an expectation of privacy even when it falls short of capturing the literal "whole" of people's movements in *Leaders of a Beautiful Struggle v. Baltimore Police Department*, 2 F.4th 330 (4th Cir. 2021) (en banc).

Beautiful Struggle involved the AIR program, which used multiple unmanned aircraft to photograph Baltimore from above. *See id.* at 333-34. At best, the images depicted "people and cars . . . as blurred dots or blobs." *Id.* at 334. The aircraft captured only outdoor areas during the daytime and in good weather, yielding "shorter snippets of several hours or less." *Id.* at 334, 342. The aircraft could not follow people into buildings or during overnight gaps. *Compare Beautiful Struggle*, 2 F.4th at 334, 342 (maj. op.), *with id.* at 360 (Wilkinson, J., dissenting). Piecing together those snippets was a "labor-intensive process," *id.* at 345 (maj. op.), "requiring hours of work by an analyst" just to "reconstruct a couple of hours of [a] person's public movements," *id.* at 361 (Wilkinson, J., dissenting). Even so, this Court held that "*Carpenter* applie[d] squarely." *Id.* at 341 (maj. op.). Like "the raw CSLI in *Carpenter*," virtually all surveillance technologies have "gaps in their coverage." *Id.* at 342-43. *Carpenter* held those gaps did not matter because

"inference" does not "insulate a search." *Id.* at 345. *Beautiful Struggle* therefore "consider[ed] not only the raw data, but what that data can reveal." *Id.* at 344.

Viewed through that lens, the aerial surveillance was a warrantless search. *First*, it could reveal intimate information through habits and patterns. *See id.* at 342. Location data are inherently revealing because people's movements are predictable and unique. "[M]any people start and end most days at home, following a relatively habitual pattern in between." *Id.* at 343. And the overnight gaps were immaterial because "most people do most of their moving during the daytime." *Id.* at 343. Beyond those commonsense inferences, police could fill in gaps using "the context of specific investigations," "publicly available information[,] and, even more valuably, their own data systems." *Id.* at 344. That allowed them to "deduce" habits and patterns even without a "continuous, uninterrupted track." *Id.* at 342-43 & n.9. *Second*, despite the difficulty of analyzing the data, the AIR program "transcend[ed] mere augmentation of ordinary police capabilities" by collecting far more data far more efficiently than any conventional surveillance technique or technology. *See id.* at 345-46. *Finally*, as in *Carpenter*, the surveillance yielded "a retrospective database of everyone's movements across the city." *Id.* at 341, 345.

Carpenter and *Beautiful Struggle* recognize a reasonable expectation of privacy in the whole of people's movements. But they do more than that. They explain how to identify technologies that *contravene* this expectation of privacy. *See*

United States v. Moore-Bush, 36 F.4th 320, 340 (1st Cir. 2022) (en banc) (Barron, C.J., concurring). As Judge Wynn has explained, these cases "laid the foundation for a new, multifactor test to determine when government surveillance using digital technologies constitutes a search." *United States v. Chatrie*, 136 F.4th 100, 119-21 & n.4 (4th Cir. 2025) (en banc) (Wynn, J., concurring). As explained above, that test considers the technology's capacity to reveal intimate information, its cost and efficiency, and its retrospective quality.

B. Undisputed evidence shows that all of the *Carpenter* factors overwhelmingly favor Plaintiffs.

The district court identified the right privacy expectation but ignored *Carpenter* and *Beautiful Struggle*'s guidance on how to "identify an *invasion* of [that] reasonable privacy expectation." 2 F.4th at 344 (emphasis added). It reasoned that surveillance invades an expectation of privacy only when the surveillance "crosses the line into cataloging the whole, or nearly the whole, of a person's movements." JA36. But that reasoning conflicts with the "line" *Beautiful Struggle* draws, which is:

> between short-term tracking of public movements—akin to what law enforcement could do prior to the digital age—and prolonged tracking that can reveal intimate details through habits and patterns. The latter form of surveillance invades the reasonable expectation of privacy that individuals have in the whole of their movements . . . .

2 F.4th at 341 (cleaned up). Far from demanding that surveillance capture "nearly the whole" of people's movements, *Carpenter* and *Beautiful Struggle* lay down guideposts to compare surveillance to traditional expectations of privacy. The district court overlooked these guideposts and veered off course.

Charting the same course as *Carpenter* and *Beautiful Struggle*, Plaintiffs proved that Norfolk's Flock Cameras upset Founding-era expectations of privacy. They have the capacity to pervasively track where people drive, often collecting enough information to enable police to deduce habits and patterns. The district court concluded otherwise only because it failed to consider the *capabilities* of Norfolk's Flock Cameras and allowed inference to insulate a search. Worse, it slammed the brakes before reaching the remaining *Carpenter* factors. Norfolk's Flock Cameras enable surveillance that is cheaper, easier, and more efficient than CSLI or the AIR program. And Flock data have the same "retrospective quality." Following *Carpenter* and *Beautiful Struggle* to their logical conclusion demonstrates that Norfolk's operation of Flock Cameras is an unlawful warrantless search.

1. *Carpenter* Factor 1: Norfolk's Flock Cameras have the capacity to enable deductions about intimate habits and patterns.

The first *Carpenter* factor favors Plaintiffs because Norfolk's Flock Cameras have the capacity to reveal intimate information through pattern-based deductions.

This factor requires evaluating "what [the] technology ha[s] the *capacity* to reveal." *Chatrie*, 136 F.4th at 150 (Berner, J., concurring); *accord id.* at 123 n.8

(Wynn, J., concurring). "A search is a search, even if it happens to disclose nothing" intimate. *Arizona v. Hicks*, 480 U.S. 321, 325 (1987). So a search is a search as long as it *potentially could* reveal intimate information, regardless of whether it actually did. *Cf. Kyllo v. United States*, 533 U.S. 27, 38 (2001) (thermal imaging that revealed only drug paraphernalia was a search because it theoretically could reveal intimate details). That explains why *Beautiful Struggle* held that the AIR program was a search even though it did not "allow[] perfect tracking of all individuals it captures across all the time it covers." 2 F.4th at 342. Police could "*at least sometimes*" pick up the trail and follow people over consecutive days. *Id.* at 343 (emphasis added). Although the only real-world example of that was "not in the record," the record nonetheless "showed that the AIR program was *capable* of [multi-day] surveillance." *Id.* at 343 n.9 (emphasis added). *Beautiful Struggle* thus considered both the technology's actual use and its future potential. *Cf. Carpenter*, 585 U.S. at 313 (considering technological improvements and the proliferation of new cell sites).

Only Plaintiffs cited evidence of the ultimate capabilities of Norfolk's Flock Cameras. Defendants and the district court, by contrast, rested their arguments on broad summary statistics that "require[] putting one's head in the sand of the [Flock Cameras'] capabilities." *Leaders of a Beautiful Struggle v. Balt. Police Dep't*

("Beautiful Struggle Panel"), 979 F.3d 219, 241 (4th Cir. 2020) (Gregory, C.J., dissenting), *rev'd*, 2 F.4th 330.

Start with Dr. Higdon-Topaz's simulation analysis. He simulated over 15,000 representative routes fully within Norfolk to measure the surveillance capabilities of Norfolk's Flock Cameras against a known truth (the precise routes). This created a pure test of the system's overall capabilities, rather than a mere assessment of what Norfolk's Flock Cameras happened to capture about a given person at a given time. *See* JA544. His results showed Norfolk's Flock Cameras have the capacity to capture virtually every car trip and, most of the time, to generate enough datapoints for police to infer people's routes, sometimes almost in their entirety. JA2175-2176, JA2178, JA2180-2184. Because people repeatedly drive a set of habitual and "highly predictable" routes every week,[10] the likelihood that police could infer habits and patterns is near certain. JA2187-2188. In other words, Norfolk's Flock Cameras have the capacity to capture enough information to enable police to reconstruct many people's habitual routes, again and again over multiple weeks.

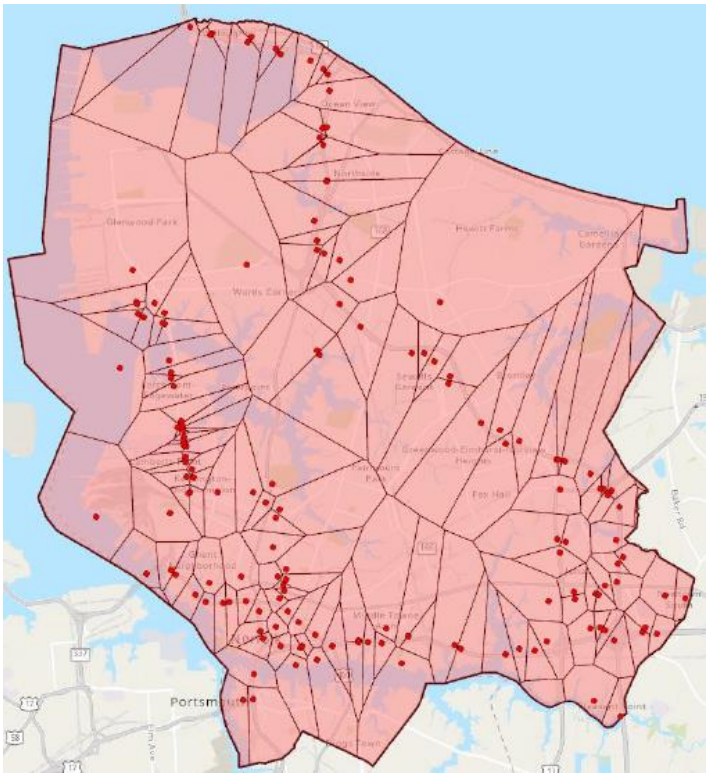
[10] *E.g.*, Ilse M. Harms et al., *The Role of Route Familiarity in Traffic Participants' Behaviour and Transport Psychology Research: A Systematic Review*, 9 Transp. Rsch. Interdisc. Persps., Mar. 2021, at § 1.1, https://bit.ly/4trUGGQ ("[P]eople repeatedly visit the same areas, using the same routes and the same transport modes. Because of this routine behaviour, human patterns of mobility are highly predictable."); *cf. Beautiful Struggle*, 2 F.4th at 343 (noting that "many people . . . follow[] a relatively habitual pattern").

From there, NPD can deduce habits and patterns. *Beautiful Struggle* held that "prolonged tracking . . . can reveal intimate details through habits and patterns." 2 F.4th at 341. Because "the source of the underlying location data is entirely irrelevant," *id.* at 343-44, that holding is not a proposition that must be reestablished in every successive case. *Beautiful Struggle* held that habits and patterns are inherently intimate, *see* 2 F.4th at 341; it did not parse them into "intimate" and "non-intimate" habits and patterns, *cf. Kyllo*, 533 U.S. at 38-39 (rejecting a "jurisprudence specifying which home activities are 'intimate' and which are not"). As a matter of law, "the insight provided by locational data into individuals' private lives is profound," *Beautiful Struggle*, 2 F.4th at 344 n.11 (cleaned up), and the ability to deduce habits and patterns from location data is a search, regardless of the underlying technology.

But Plaintiffs did more than just make this argument in the abstract. They showed how Norfolk could use its Flock Cameras to deduce intimate details. For instance, Dr. Wheeler explained how an NPD officer could follow Crystal on a day when Flock ALPRs tracked her ***fourteen times***. *See* JA2235-2239. Using those data, Wheeler could tell not just *when* she visited her father, but even *how long* their visit lasted. *See* JA2236, JA2258-2259. He could also spot the pattern of Lee's trips to his local grocery store, JA2229-2231, and distinguish those from trips to other places, JA2261-2262. These are the paradigmatic "places, people, amusements, and chores"

that make up most ordinary people's otherwise "private routine[s]." *Beautiful Struggle*, 2 F.4th at 345 (citation omitted). Although these examples do not exhaust every conceivable routine, they nonetheless show how police could deduce patterns from Norfolk's voluminous Flock data. At any given time, NPD has tens of millions of datapoints from just its own Flock Cameras, not to mention all the other Flock ALPR networks available to it. *See* JA136. Plaintiffs alone were tracked by Flock ALPRs between 500 and 800 times in a few months. *See* JA1163.

"In some ways, automatic license plate reader data can be more granular than cell-site location information" and AIR data. *See United States v. Sturdivant*, 786 F. Supp. 3d 1098, 1113 (N.D. Ohio 2025). For instance, based on publicly available data, Verizon's approximated cell-tower coverage areas in Norfolk average 0.4 square miles, roughly following the density of Norfolk's Flock Cameras:



See JA2260. "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*, 786 F. Supp. 3d at 1113. That establishes that the person is driving and even shows which direction they are heading. "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 or relative, will usually be the driver of the car." *Id.*; *cf. Beautiful Struggle*, 2 F.4th at 343 (police can use "context clues to distinguish individuals" who emerge from the same residence).

To be sure, ALPRs do not shadow a driver all the way to their final destination. But Norfolk's system of 175 ALPRs enables officers to infer where drivers go even after they leave an ALPR's direct field of view. When a driver passes multiple

ALPRs, police can infer the route using the location, timestamp, and direction of travel. *See* JA261-265, JA283-284, JA304. Because the coverage of Norfolk's Flock Cameras is so extensive, police can also use the absence of captures to exclude places a driver could not have reached without passing a camera, allowing them to home in on where the driver went after a capture. JA262, JA265, JA2190. And although ALPRs cannot literally follow people into buildings, they can place them in a general area for a time. *See* JA1716, JA1737, JA1878-1880, JA2191. From there, police can often deduce, in combination with other information, where a person likely went—as with Crystal's visit to her father, *see* JA2258-2259.

That is no different from deducing from sporadic tower pings where someone was or what they were doing—be it robbing a Radio Shack or attending church—in a cell-tower sector encompassing thousands of buildings and outdoor areas. *Compare Carpenter*, 585 U.S. at 312-13, *with id.* at 336 (Kennedy, J., dissenting). Or what someone was doing during large gaps in AIR data. *See Beautiful Struggle*, 2 F.4th at 342-43. None of these "technolog[ies] produce[] an 8-by-10 Kodak glossy that needs no analysis (*i.e.*, the making of inferences)." *Kyllo*, 533 U.S. at 36. Yet their use is a search in part because police "could, in combination with other information, deduce" intimate details from them. *Carpenter*, 585 U.S. at 312.

The district court ignored all this evidence because it rooted its analysis in the wrong legal standard. So it never considered whether Norfolk's Flock Cameras have

the capacity to reveal habits and patterns. In fact, it mentioned "habits and patterns" just once—in a summary of *Plaintiffs'* arguments. *See* JA31.[11] The district court thus used the wrong yardstick. And just as importantly, it measured the wrong thing by focusing on "the raw data," thereby echoing arguments *Carpenter* and *Beautiful Struggle* rejected.

By focusing on the raw data alone, the district court lost sight of *what* Norfolk's Flock Cameras track and *how*. Like a GPS tracker on a car, they only generate data about people while driving. *See Beautiful Struggle*, 2 F.4th at 342. Although they generate those data only sporadically, *Carpenter* established that a trail of breadcrumbs can be as revealing as a solid line,[12] and *Beautiful Struggle* established that "gaps in the data" do not insulate a search. *See id.* at 342-43. The gaps the district court identified are immaterial for the same reason they were in *Beautiful Struggle*: they largely reflect stretches of time when people are not moving much. *See id.* at 343. The district court cited the average time and distance between captures for the *entire day*, calculated as if Plaintiffs spend all day in their cars. Obviously, they do not, nor is it relevant that ALPRs do not track people when they

[11] For comparison, the term "ankle monitor" appears five times in the district court's opinion, JA7, JA29, JA37, JA39, JA49, but just once in *Carpenter*, 585 U.S. at 312, and *Beautiful Struggle*, 2 F.4th at 341.

[12] *Cf. Mexican Gulf Fishing Co. v. U.S. Dep't of Com.*, 60 F.4th 956, 962, 967, 970 (5th Cir. 2023) (requirement that charter boats "transmit the[ir] vessel's GPS location 'at least once per hour'" raised "serious concerns" because it "appear[ed] to be a search").

are not driving. Driving is how "most people do most of their moving" in Norfolk. *Cf. id.* Defendants' own expert conceded as much, *cf.* JA2274 (about 83 percent of commuters drive or carpool), and Plaintiffs testified that alternative transportation options would be impractical, JA371, JA376. The "gaps," then, are "no different from the gaps in *Carpenter* between phone calls or in *Jones* between car rides" or in *Beautiful Struggle* "overnight or when a suspect is indoors." *Beautiful Struggle Panel*, 979 F.3d at 240 (Gregory, C.J., dissenting).[13]

Accepting the district court's myopic approach would draw arbitrary distinctions between functionally equivalent surveillance. Take the day Crystal was captured fourteen times. Wheeler could infer when and for how long she visited her father because she was captured heading into his neighborhood and then once again about an hour later heading out of his neighborhood. JA2258-2259. Viewed only as raw data (as the district court would have it), all that shows is that Crystal was at two different intersections, with a "lengthy gap[] of time unaccounted for by Defendants' ALPR system." JA38; *see also* JA39 (emphasizing that the "average time gap was 45 to 50 minutes"). But in context, the natural inference is that she spent an hour

[13] By including time when Plaintiffs were not driving, Defendant's expert and the district court vastly inflated the gaps between captures. Suppose a person were captured twice, fifteen minutes apart on the way to work and then twice, fifteen minutes apart on the way home eight-and-a-half hours later. Counting the time the person was not moving, there are three gaps averaging three hours—(8.5 + 0.25 + 0.25) ÷ 3 = 3. But only counting the time the person was *driving*, there are two gaps averaging just *fifteen minutes*—(0.25 + 0.25) ÷ 2 = 0.25.

with her father, which is the type of "intimate window" into a person's "familial . . . associations" that *Carpenter* protects. *Cf.* 585 U.S. at 311. Sure, her cellphone may have pinged a tower during that gap, but all those datapoints would have no additional practical value. Instead, they would just show that Crystal remained in the area before moving again—precisely what Norfolk's Flock Cameras showed. *Cf. Jones*, 565 U.S. at 417 n.* (Sotomayor, J., concurring) (tracking a "bugged container" that "was stationary for much of the Government's surveillance" was less invasive). Even though each technology would yield the same insight, the district court would treat them differently based solely on the *number* of datapoints.

That outsized focus on the number of raw datapoints also neglected "what that data can reveal." *Beautiful Struggle*, 2 F.4th at 344. To that end, both *Carpenter* and *Beautiful Struggle* held surveillance schemes to be searches even though police had to fill in gaps to draw inferences about people's movements. In *Carpenter*, the "government needed to use additional information, beyond the CSLI, to deduce the suspect's movements." *Id.* at 345. Likewise, in *Beautiful Struggle*, police needed to use the "context of specific investigations," "publicly available information" and other surveillance tools like ALPRs and security cameras both to identify the "dots" and to pick up the trail when "the tracking . . . [was] interrupted." *See id.* at 344-45. But the need for "additional information" and "analysis (*i.e.*, the making of

inferences)" did not yield "hodgepodge search[es]" where CSLI and AIR data were "just 'one more investigative tool.'" *Id.* (citation omitted).

So too here. That NPD must rely on inference and additional information does not make Norfolk's Flock Cameras a trivial piece of "a larger investigative jigsaw puzzle," JA49, because "it [is] the [Flock Cameras] that enable[] the deductions," *Beautiful Struggle*, 2 F.4th at 345.[14] By "creati[ng] a retrospective database of everyone's movements across the city," Norfolk's Flock Cameras exceed the capabilities of a "hodgepodge" of "discrete" investigative tools aimed at "individual targets." *Id.* Without Norfolk's Flock Cameras, police do not even know where to look unless they are already surveilling a known suspect. *Cf.* JA1993-1994 (officers tracked a suspect to a neighborhood using Flock ALPRs and then referenced nearby video footage to locate the suspect in a residence).

Finally, the district court's quantitative comparison not only disregards precedent, it fails on its own terms. Directly comparing raw numbers between *Carpenter* and this case is comparing apples to oranges because people spend only about an hour per day driving. *See* JA559. A more apt comparison would be to the *rate* of collection. After all, *Carpenter*'s 101 datapoints per day "equates to a little over 4.2 per hour." *In re Four Applications for Search Warrants*, 2025 WL 603000,

[14] Notably, these "puzzle" pieces, JA49, were largely the same ones the government identified in *Carpenter*. *See* Br. for the United States at 24, *Carpenter*, 585 U.S. 296 (No. 16-402), 2017 WL 4311113, at *24.

at *5 (S.D. Miss. Feb. 21, 2025). And Norfolk's expert calculated that, on days they were captured, Lee was captured three or more times per day about 75 percent of the time and Crystal about 73 percent of the time. *See* JA2353.[15] So even if the raw number were material, Norfolk's Flock Cameras generate data at roughly the same *rate* as cellphones generate CSLI. And even those calculations likely *undercount* how often Lee and Crystal were tracked because Norfolk's expert discarded a "large fraction"—"about half"—of the raw data. JA1176-1178. He also excluded consecutive captures within one minute, even though the publicly available portions of CSLI from *Carpenter* include many datapoints less than one minute apart. *See* J. App'x at 135-36, *Carpenter v. United States*, No. 16-402 (U.S. Aug. 7, 2017), https://bit.ly/4d0iNHt.

In short, the undisputed record showed that Norfolk's Flock Cameras enable police to deduce habits and patterns by collecting multi-week blocks of data on where people drive. The district court concluded otherwise by applying the wrong legal standard and giving dispositive weight to facts that *Beautiful Struggle* held immaterial.[16]

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[15] The statistics the district court cited include days with zero captures (drawing the average down) and exclude all captures on cameras of third parties that share their data with Norfolk. *Compare* JA10, JA37, *with* JA2353.

[16] The district court suggested in passing that data "that are never accessed or analyzed reveal[] nothing," so Plaintiffs may not have suffered any injury since an officer never searched for their license plates. JA34. But "[a] bathtub is a less private area when the plumber is present even if his back is turned." *Kyllo*, 533 U.S. at 39

2. *Carpenter* Factor 2: Norfolk's Flock Cameras are easy, cheap, and efficient compared to analogous human surveillance.

The second *Carpenter* factor favors Plaintiffs because tracking drivers using Norfolk's Flock Cameras "is remarkably easy, cheap, and efficient compared to traditional investigative tools." *Carpenter*, 585 U.S. at 311. Relative cost and ease matter because "low-cost surveillance technologies could lead to more surveillance and less accountability." *Chatrie*, 136 F.4th at 124 (Wynn, J., concurring). Traditional surveillance is difficult to scale up because it encounters "limited police resources and community hostility." *See Illinois v. Lidster*, 540 U.S. 419, 426 (2004). Surveillance technologies that eliminate this friction "evade[] the ordinary checks that constrain abusive law enforcement practices." *See Jones*, 565 U.S. at 415-16 (Sotomayor, J., concurring).

(citation omitted). Under *Kyllo*, the "search" is the *collection* of raw data (there, heat readings), even if the data only reveal intimate details through later "analysis." *Id.* at 36-37 & n.4.

That explains why this Court has held that plaintiffs can challenge the "collection, and maintenance in a government database, of records relating to" them, regardless whether anyone ever reviews those records. *Wikimedia Found. v. NSA*, 857 F.3d 193, 210 (4th Cir. 2017) (citation omitted); *see also Beautiful Struggle Panel*, 979 F.3d at 225 ("It is enough to confer standing that plaintiffs are likely to be photographed."); *Leaders of a Beautiful Struggle v. Balt. Police Dep't ("Beautiful Struggle District Court")*, 456 F. Supp. 3d 699, 709 (D. Md. 2020) ("[I]t matters not that the BPD may never review the 'dots' associated with these Plaintiffs."), *rev'd*, 2. F.4th 330. Otherwise, the government could capture a daily thermal image of every home and record every phone call provided it got a warrant before it "accessed or analyzed" the images and recordings.

Undisputed evidence shows that this factor favors Plaintiffs. Norfolk pays $2,500 per ALPR per year, for a total of $437,500, *see* JA163—far less than the over $32 million it would cost to hire 525 entry-level officers to cover all of those locations day and night.[17] Beyond the cost, no "traditional" surveillance method could realistically achieve the same end result. Unlike an officer posted at a street corner, Norfolk's Flock Cameras do not blink, take breaks, or sleep. They photograph every car that passes (even at high speeds), see in the dark, quickly convert images into data using AI, alert almost instantly if they spot a car on a hotlist, and upload their data to the cloud.

In addition to the low cost of operation, Flock makes accessing and analyzing the collected information a breeze. "With just the click of a button," *Carpenter*, 585 U.S. at 311, NPD officers can pull up weeks of ALPR data by searching for a full or partial license plate or filtering images using the "Vehicle Fingerprint" fields. JA1324-1328; *cf. Moore-Bush*, 36 F.4th at 347 (Barron, C.J., concurring) (pole camera footage was "easily searchable," unlike human surveillance). They can quickly flip through all of the images that come up. With just a few more clicks, they can output the results to a spreadsheet for further analysis, JA249-50, or generate a "Vehicle Journey Map" that "provides the vehicle's journey in the last 30 days."

[17] The starting NPD officer salary is $61,200. *See* Home, *Join Norfolk Police Department*, https://npdjobs.com/. The calculation assumes eight-hour shifts with one entry-level officer per camera and 24-hour coverage.

JA1331, JA1333, JA1366-67. 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. Officers also have direct, unmediated access to Flock data, without having to get a court order, *see Carpenter*, 585 U.S. at 301-02, or submit a request to a third-party contractor, *see Beautiful Struggle District Court*, 456 F. Supp. 3d at 704.

"Plainly, [ALPR] monitoring is vastly cheaper and easier to deploy than traditional investigative tools." *Chatrie*, 136 F.4th at 125 (Wynn, J., concurring). There is no genuine dispute that this factor overwhelmingly favors Plaintiffs.

3. *Carpenter* Factor 3: Norfolk's Flock Cameras enable police to reconstruct people's past movements.

The third *Carpenter* factor favors Plaintiffs because "the retrospective quality of the [Flock] data" means "this newfound tracking capacity runs against everyone." *Carpenter*, 585 U.S. at 312. At its core, the Fourth Amendment is a ban on indiscriminate, suspicionless searches. *See Payton v. New York*, 445 U.S. 573, 583-84 & n.21 (1980); *Bourgeois v. Peters*, 387 F.3d 1303, 1311-13 (11th Cir. 2004). "Awareness that the government may be watching chills" even lawful conduct. *See Jones*, 565 U.S. at 416 (Sotomayor, J., concurring). The Framers thus "designed" the Fourth Amendment "to place obstacles in the way of a too permeating police surveillance, which they seemed to think was a greater danger to a free people than the escape of some criminals from punishment." *Di Re*, 332 U.S. at 595.

Like CSLI and AIR data, Flock data are retrospective. Norfolk's Flock Cameras photograph everything that passes them, and they store records in a database for at least 21 days. "Unlike with the GPS device in *Jones*, police need not even know in advance whether they want to follow a particular individual, or when." *Carpenter*, 585 U.S. at 312. Norfolk's Flock Cameras overcome the "dearth of records and the frailties of recollection" that long plagued attempts to reconstruct people's movements, "giv[ing] police access to a category of information otherwise unknowable." *Id.* By doing so, they create the specter of a surveillance state—the "[a]wareness that the government may be watching," *Jones*, 565 U.S. at 416 (Sotomayor, J., concurring)—which undermines everyone's security, *cf. Beautiful Struggle Panel*, 979 F.3d at 240 n.11 (Gregory, C.J., dissenting) ("The most problematic aspect of the AIR program is its dragnet nature, surveilling *every individual's* public movements across Baltimore.").

The "retrospective quality" of Flock data means this new form of surveillance runs against everyone, innocent and suspected alike. *Carpenter*'s final factor favors Plaintiffs.

* * *

The district court missed *Carpenter*'s guideposts and lost sight of the finish line: preserving Founding-era expectations of privacy. *See Carpenter*, 585 U.S. at 305. In a footnote, it reasoned that Norfolk's Flock Cameras are like traditional

"outpost[s]" or "watchtower[s]." JA46. But it cited no historical evidence for that because there is none. No system of "outposts" or "watchtowers" monitored and recorded people's movements at the Founding. *See generally* Wesley MacNeil Oliver, *The Neglected History of Criminal Procedure, 1850-1940*, 62 Rutgers L. Rev. 447, 449-53 (2010). Although night watchmen might look for people out after dark (which was inherently suspicious then) and detain them until morning if they could not account for themselves, *see* Thomas Y. Davies, *The Fictional Character of Law-and-Order Originalism*, 37 Wake Forest L. Rev. 239, 328-29 & nn.266-68, 345 & nn.333-35 (2002),[18] they did not create records of *everyone's* movements for later review.

This is not to say police surveillance was unimaginable. One of the plaintiffs in the English general warrant cases, John Wilkes,[19] was shadowed by police "spies." *See* 2 Thomas Erskine May, *The Constitutional History of England Since the Accession of George Third, 1760-1860*, at 275-76 (N.Y., W. J. Widdleton 1874), https://bit.ly/4bajITm. But that type of surveillance was considered "repugnant to the liberal policy of" Anglo-American law even well into the nineteenth century. *See id.*

[18] This was not a special power; every private person had the same authority. *Minnesota v. Dickerson*, 508 U.S. 366, 381 (1993) (Scalia, J., concurring).

[19] *See generally Carpenter*, 585 U.S. at 391-92 (Gorsuch, J., dissenting) (summarizing the "trio of 18th-century cases" behind the Fourth Amendment).

Carpenter's factors seek to preserve these "Founding-era understandings." *See* 585 U.S. at 305. No surprise, then, that they all point to the same answer here: Norfolk's warrantless system of AI-enhanced surveillance cameras violates the Fourth Amendment. Norfolk's Flock Cameras enable police to infer habits and patterns from where people drive, they make dragnet surveillance cheap and easy, and their retrospective quality means the surveillance runs against everyone. They 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 (cleaned up). Concluding otherwise, the district court misinterpreted *Carpenter* and *Beautiful Struggle*, and ignored "the lessons of history." *Carpenter*, 585 U.S. at 320 (citation omitted). It should have granted Plaintiffs' motion, denied Norfolk's motion, and requested briefing on the scope of injunctive relief.

II. Norfolk's Flock Cameras effect an unreasonable search within the original meaning of the Fourth Amendment.

Applying the Fourth Amendment's ordinary meaning at the Founding confirms that outcome. Norfolk's use of the Flock Cameras is purposeful, investigative conduct that would have been considered a "search" at the Founding. And it would have been an unreasonable one because, like a general search, Norfolk surveils people indiscriminately, without any requirement for police to prove probable cause and obtain a specific warrant from a neutral judge. As a result,

Norfolk's use of the Flock Cameras violates "[t]he right of the people to be secure in their persons . . . against unreasonable searches." U.S. Const. amend. IV.

A. Norfolk's use of the Flock Cameras is purposeful investigative conduct that would have qualified as a "search" at the Founding.

At the Founding, "search" was not a legal term of art. *See Carpenter*, 585 U.S. at 347 (Thomas, J., dissenting). Courts should therefore give it the same "normal" meaning it had "to ordinary citizens in the founding generation." *District of Columbia v. Heller*, 554 U.S. 570, 577 (2008). To discern that meaning, the Supreme Court has examined Founding-era dictionaries and texts. *See, e.g.*, *id.* at 581-82.

Those sources converge on the same meaning: purposeful investigative conduct. *See generally* John Wrench, *The Original Meaning of "Searches,"* 29 U. Pa. J. Const. L. (forthcoming 2027), https://bit.ly/4dBAOMJ. Samuel Johnson's dictionary defines a "search" as an "Inquiry by looking into every suspected place," "Examination," "Inquiry; act of seeking," and "Quest; pursuit." 2 Samuel Johnson, *Dictionary of the English Language* (4th ed. 1773), https://bit.ly/4aT5qrj; *accord* 2 Noah Webster, *An American Dictionary of the English Language* 66 (1828), https://bit.ly/4bi6bZY ("1. A seeking or looking for something that is lost, or the place of which is unknown; with *for* or *after* . . . . 2. Inquiry; a seeking. . . . 3. Quest; pursuit for finding."); *see also Kyllo*, 533 U.S. at 32 n.1 (citing Webster). Thus, a "search" is an effort to acquire information or find something—that is, "purposeful, investigative" conduct. *Morgan v. Fairfield Cnty.*, 903 F.3d 553, 568 (6th Cir. 2018)

(Thapar, J., concurring in part and dissenting in part). Focusing on investigative purpose is consistent with the Founding-era cases that motivated the Fourth Amendment. Although these cases involved trespass, they identified the core injury as the wrongful acquisition of information. *See, e.g.*, *Entick v. Carrington*, 19 How. St. Tr. 1029, 1066 (CP 1765) ("[T]hough the eye cannot by the laws of England be guilty of a trespass, yet where private papers are removed and carried away, the secret nature of those goods will be an aggravation of the trespass, and demand more considerable damages in that respect."). And the earliest Supreme Court case on the issue emphasized the same points. *See Boyd v. United States*, 116 U.S. 616, 630 (1886) ("It is not the breaking of his doors, and the rummaging of his drawers, that constitutes the essence of the offense; but it is the invasion of his indefeasible right of personal security, personal liberty, and private property . . . .").

Ordinary citizens at the Founding would also have understood an effort to find a *person* to be a "search." *See* Webster, *supra*, 66 ("[T]o *search* the wood for a thief . . . ."). So would officers and jurists. Eighteenth-century justice of the peace manuals included templates for warrants "to search for a lost child." James Parker, *Conductor Generalis: or, the Office, Duty and Authority of Justices of the Peace* 461 (1764), https://bit.ly/4bEcyYR.[20] Likewise, an officer could raise a hue and cry to

[20] This was a primary reference for Founding-era justices and constables. *See Dobbs v. Jackson Women's Health Org.*, 597 U.S. 215, 245 (2022).

"search in his town for suspected persons." *Id.* at 220. Ordinary people, jurists, and officers in the Founding era would therefore have viewed an attempt to locate a person as a "search" that sometimes required a warrant. *See* Laura K. Donohue, *The Original Fourth Amendment*, 83 U. Chi. L. Rev. 1181, 1233-35 (2016) (constables were sometimes required to refer complainants "to a justice of the peace, and act upon his warrant" before raising hue and cry (citation omitted)); *cf.* Thomas Y. Davies, *Recovering the Original Fourth Amendment*, 98 Mich. L. Rev. 547, 652 n.294 (1999) (noting "[t]he traditional hue and cry appears to have fallen into disuse in late eighteenth-century America" and justice manuals recommended "procur[ing] a hue and cry warrant").

Norfolk's use of the Flock Cameras plainly fits this definition of "search." The "sole[]" defined "Purpose" of its contract with Flock is "the awareness, prevention, and prosecution of crime, bona fide investigations by police departments, and archiving for evidence gathering." JA164. NPD's policy permits using Norfolk's Flock Cameras for three purposes: investigating crimes, locating missing or endangered people, and tracking down stolen vehicles. JA187. And Norfolk's Rule 30(b)(6) designee testified that its Flock Cameras provide "clues" that help solve crimes or track down people. JA1716, JA1737, JA1880. Those all fit comfortably within the Founding-era meaning of "search." *Cf. Jones*, 565 U.S. at 404-05 (attaching GPS "for the purpose of obtaining information . . . would have

been considered a 'search' within the meaning of the Fourth Amendment when it was adopted").

Under the ordinary meaning test, Norfolk's operation of the Flock Cameras is a Fourth Amendment "search."

B. Norfolk's suspicionless surveillance of every driver is an unreasonable search.

The Fourth Amendment does not prohibit all searches, just "unreasonable" ones. This is not a free-floating reasonable analysis that "weigh[s]" the burden on the people's security "against the claims of police efficiency." *Cf. Riley v. California*, 573 U.S. 373, 401 (2014) (citation omitted). At the Founding, "unreasonable' was shorthand for "against the reason of the common law," in this case the common law of search and seizure. *See* Donohue, *supra*, at 1270-76; *accord* Davies, *Original Fourth Amendment*, *supra*, at 555 n.5, 687-93.[21]

Consistent with the Framers' expectations, the common-law rules of 1791 should set a baseline, but not a ceiling. *Cf. Riley*, 573 U.S. at 385-86, 393-98, 403 (declining to apply common-law search-incident-to-arrest rule to cellphones). The

[21] This is not to say that other sources of law, like property and tort, are irrelevant. *See Case v. Montana*, 146 S. Ct. 500, 512 (2026) (Gorsuch, J., concurring). Warrantless Founding-era officers had little more authority to invade the people's security than private parties. *See* Davies, *Original Fourth Amendment*, *supra*, at 629-30 & n.218, 640. Thus, it often makes sense to ask whether a private person could engage in the same conduct and set that as a constitutional "floor." *See* Richard M. Re, *The Positive Law Floor*, 129 Harv. L. Rev. F. 313, 332-34 (2016).

common law of the Framers' time was not set in stone but instead reflected a rapidly evolving consensus against abusive search practices, like general warrants. *See, e.g.*, Tracey Maclin, *Informants and the Fourth Amendment: A Reconsideration*, 74 Wash. U. L.Q. 573, 582-83 (1996). A common-law approach consistent with the Framers' expectations would therefore identify searches that threaten "[t]he right of the people to be secure in their persons, houses, papers, and effects" by asking whether they share features of those abusive practices. *See* Donohue, *supra*, at 1270 n.513.

The paradigmatic abuse was the indiscriminate general search. *See, e.g.*, Maclin, *supra*, at 582. General warrants were "unreasonable" because they granted officers discretion to search without individualized suspicion. *See, e.g.*, *United States v. U.S. Dist. Ct.*, 407 U.S. 297, 316 (1972); *cf.* Thomas K. Clancy, *The Role of Individualized Suspicion in Assessing the Reasonableness of Searches and Seizures*, 25 U. Mem. L. Rev. 483, 489-90 (1995) ("[H]istory discloses that the chief vice the framers sought to prevent was suspicionless searches and seizures."). Courts should therefore ask whether a law-abiding person would feel less secure if the government had discretion to conduct a particular type of search without judicial oversight. *See, e.g.*, Jed Rubenfeld, *The End of Privacy*, 61 Stan. L. Rev. 101, 131 (2008) ("Judges must ask what the effect would be on the people's right of security if the surveillance . . . power the government has asserted were to be systematically

implemented."). That broad perspective reflects the grant of a collective right of the *people*, rather than an individual right, *see, e.g.*, Davies, *Original Fourth Amendment*, *supra*, at 679 n.363, 697 n.432, and the prophylactic guarantee of *security* against unreasonable searches, *see* Luke M. Milligan, *The Forgotten Right to Be Secure*, 65 Hastings L.J. 713, 736-37, 743-46 (2014).

Although expanding the definition of "search" draws more conduct into the Fourth Amendment's ambit, many of those searches will be "reasonable." Googling a suspect's name is a warrantless "search," but a "reasonable" one because no law-abiding person feels less secure knowing officers can run warrantless Google searches, like any private person could. *Cf.* Re, *supra*, at 332-33. Likewise, a search incident to a lawful arrest is "reasonable" because the requirement of a *lawful* arrest means that the search does not affect *law-abiding* people's security. *See* Rubenfeld, *supra*, at 129. But letting an officer record anyone's phone call without judicial oversight would cross the line because people could reasonably fear that officers might listen based on a hunch, idle curiosity, or ill-will. *See id.* at 132-33. Knowing that officers must go to a judge, prove probable cause, and get a specific warrant eases that insecurity.

Norfolk's use of the Flock Cameras for indiscriminate, suspicionless mass surveillance is unreasonable. Its Flock Cameras do not just flag cars reported stolen or registered to people with open warrants—criteria that definitionally exclude law-

abiding people and so do not affect their security. Instead, they scan every passing car, use AI to create a searchable record, and save the data to a massive database in 21-day increments. They 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 (citation omitted). Any officer can then pull up those records without having to demonstrate probable cause to a neutral judge. Norfolk's indiscriminate, suspicionless use of the Flock Cameras to gather information about everyone is therefore an "unreasonable search."[22]

[22] Although not dispositive, that a private person could not lawfully accomplish the same thing reinforces this conclusion. *See* Re, *supra*, at 332-34. Setting up a citywide camera system would be impossible and likely unlawful. And any effort to generate records resembling Flock data would amount to stalking. *See generally* 2 Wayne R. LaFave, *Substantive Criminal Law* § 16.4(c), Westlaw SUBCRL (3d ed. Oct. 2025 update) ("overwhelming majority" of states criminalize repeated "following, pursuing, and/or placing under surveillance" (footnotes omitted)); *cf. Commonwealth v. Blacker*, 2016 WL 10880213, at *3 & n.2 (Va. Cir. Ct. July 18, 2016) (even though device tracked car "sporadically," "the statute only requires that the device be sufficient to permit a person to remotely determine or track the position and movement of another person"). Imagine someone received an anonymous email attaching dozens of images of their car in public over the past few weeks. They would reasonably worry they had a stalker and likely call the police. Indeed, numerous officers have been disciplined, arrested, and even convicted for using Flock ALPRs to stalk people. *See, e.g.*, Hannah Ziegler, *Police Officer Accused of Tracking Partner Using License Plate Reader*, N.Y. Times (Feb. 25, 2026), https://bit.ly/4dnDVaS; *GBI Arrests Braselton Police Chief for Harassment and Stalking*, Ga. Bureau of Investigation (Nov. 19, 2025), https://bit.ly/3NJqGa9; Michael Stavola, *Kansas Police Chief Used Flock License Plate Cameras 164 Times to Track Ex-Girlfriend*, Wichita Eagle (Aug. 17, 2024), https://bit.ly/4bdVJDZ.

* * *

Putting the two parts together, Norfolk's use of the Flock Cameras is purposeful investigative conduct that qualifies as a Fourth Amendment search. And like the searches condemned as "unreasonable" during the Founding era, Norfolk's use of the Flock Cameras undermines the people's security by searching indiscriminately. The Fourth Amendment's ordinary meaning at the Founding confirms that Plaintiffs should prevail under *Carpenter*.

STATEMENT REGARDING ORAL ARGUMENT

This appeal presents an issue of first impression for this Court, one with Circuit- and nationwide importance. Oral argument would benefit the Court given the complex factual and legal issues.

CONCLUSION

This Court should vacate the judgment, reverse the denial of Plaintiffs' summary judgment motion, and remand for entry of an injunction consistent with this Court's opinion.

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Respectfully submitted,

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