

# A RESPONSE TO THE CONCERNS OF CIVIL LIBERTIES GROUPS ON LAW ENFORCEMENT'S USE OF UNCREWED AERIAL SYSTEMS

By:

Rutgers University Miller Center on Policing and Community Resilience

Global Consortium of Law Enforcement Training Executives, Inc.

Life Safety Alliance

April 11, 2025



# Contents

Executive Summary	3
About the Authors	5
Background	7
Civil Libertarian Arguments	8
Federal drone laws, regulations, and policies	11
State and local drone laws, regulations, and policies	11
Case Law	13
Law Enforcement Policies	14
Analysis and Discussion	17
Conclusion	23
A Sample Policy for Responsible Use of Drones by Law Enforcement	26
Bibliography	29

## Executive Summary

As law enforcement agencies continue to lose officers without bringing in capable candidates to replace them, American communities small and large are bearing the consequences. These consequences include longer wait times for service—or no response at all—fewer crimes solved and cleared, and the proliferation of overworked and burned-out officers.

Our nation’s police and sheriffs seek innovative ways to continue their duties with fewer officers on the street and fewer detectives conducting investigations.

One approach is via uncrewed aerial systems (UASs), also known as drones. Law enforcement agencies have been increasingly using drones to perform routine and specialized tasks including first response to reported incidents, search and rescue, criminal apprehension, and SWAT operations. Similarly, police have touted benefits such as lives saved and injuries reduced, more efficient deployment of resources, time saved, and enhanced situational awareness.

Yet, some privacy and civil liberties advocates, such as the Electronic Frontier Foundation and the American Civil Liberties Union (ACLU), fear that law enforcement will deploy drones improperly as their availability increases. Most notably, a July 2023, report released by the ACLU, called *Eye-in-the-Sky Policing Needs Strict Limits*, raises concerns that “drones will usher in an era of pervasive, suspicionless mass aerial surveillance” and recommends that communities refrain from initiating drones as a first responder (DFR) programs “until we have a better sense of how this technology is playing out in the real world.”

In a follow-up report released in March 2024, the ACLU doubled down by arguing that U.S. law enforcement agencies are “gravitating towards” routine use of drones over public gatherings. It says the need for drones to prevent violence at gatherings is “dubious at best,” warning that drone oversight and recording will discourage people from exercising their rights to gather and express themselves.

Most recently, on April 8, 2025, the ACLU of New York (NYCLU) released a report called *Prying Eyes: Government Drone Data Across New York State*, calling for the New York legislature to more strongly regulate law enforcement drones. The report notes that the NYPD alone has increased its drone arsenal from 19 to 99 in just the past two years, arguing that “The dangers posed by these incredibly powerful spying devices are hard to overstate, and they’re being used with virtually no regulation.”

Given the mounting evidence that drones provide a substantial benefit to law enforcement and their communities, and in light of the warnings by civil liberties groups, the Rutgers University Miller Center on Policing, the Global Consortium for Law Enforcement Training Executives (GCLETE), and the Life Safety Alliance examined the ACLU’s and other groups’ analyses and conclusions and now offer an independent evaluation of their work.

This report catalogs the various groups’ concerns, then documents drone laws, regulations, ordinances, and policies already in place at the federal, state, municipal, and department levels. This report then examines the “Five Cs” issued by the nonprofit DRONERESPONDERS, which articulates an approach for responsible use of drones that doesn’t undermine privacy rights or civil liberties. (The Five C’s are Community Engagement and Transparency, Civil Liberties and Privacy Protection, Common Operating Procedures, Clear Oversight and Accountability, and Cybersecurity.) Next, our report assesses relevant case law on privacy and responsible use of drones by law enforcement.

We then analyze the ACLU’s and others’ criticisms concerning ‘mission creep’, data collection and storage, the “psychological effect” of the presence of drones, the chilling effect on free speech, and police “transparency.” Finally, we address the recommendation that law enforcement cease creating new DFR programs until more real-world effects of drones are understood.

While the ACLU and the other groups make valid points and raise important questions—and law enforcement agencies should pay heed—we conclude that most of the concerns are speculative. Moreover, given the information available to date, the successes and promise of drones overwhelm the negative speculation the ACLU and other organizations paint with a broad brush in their reports and public releases.

Back in 2014, a report by the Brookings Institute titled *Drones and Aerial Surveillance: Considerations for Legislators* concluded the following: “While a robust public debate over the use of domestic drones in warranted, the conclusion that widespread privacy violations are imminent is premature.” Eleven years later, we still don’t see widespread privacy violations. Either the concerns are still premature, or they are not justified. While some of the ACLU’s concerns might materialize in isolated situations, we strongly recommend not undermining an initiative that preserves precious police resources, saves lives, prevents injuries, and gives communities a powerful response to help protect themselves.

(In December 2024, thousands of reports emerged of sightings of drones—some the size of cars or SUVs—either alone or in swarms, over New Jersey and nearby states. Even some state and local officials personally reported such sightings. Federal authorities dismissed many of these sightings as misidentification of small planes, hobbyist drones, or stars. While this phenomenon falls outside the scope of the current report, it bears mention because it involves the issues of government accountability and transparency, which this report argues are critical to a viable law enforcement drone program.)

## About the Authors

**Michael Gips** is a security professional, attorney, business executive, researcher, consultant, and writer. He has written and spoken extensively about the use of drones by law enforcement agencies. A graduate of Tufts University (Phi Beta Kappa, summa cum laude) and Harvard Law School, he holds graduate certificates in security from Wharton, IE Business School, University of Tel Aviv International, and other institutions. Gips holds multiple certifications and designations, including Certified Protection Professional, Chartered Security Professional, Security Risk Management Certified Professional, Certified Insider Risk Programme Manager, Registered Resilience Practitioner, and Certified Association Executive. Formerly he served as the Chief Global Knowledge & Learning Officer at ASIS International and its first de facto head of security. Gips is currently the President of the Life Safety Alliance, an officer of the Global Consortium of Law Enforcement Training Executives, and a fellow at the Rutgers University Miller Center on Policing and Community Resilience.

**Paul Goldenberg** has dedicated nearly three decades to law enforcement, beginning his career patrolling the streets of Irvington, New Jersey. He later spent nearly six years deep undercover in South Florida before becoming the chief of the nation's first state office dedicated to domestic terrorism and hate crimes. For a decade, he served as a senior advisor to the Secretary of Homeland Security. For the past 20 years, Goldenberg has worked globally with police agencies across Europe, Scandinavia, the UK, and the Middle East. As Chief Advisor of the Rutgers University Miller Center on Policing and Community Resilience, he has facilitated and shaped international law enforcement strategies. He currently acts as international liaison for the National Sheriffs Association Border Council and previously collaborated with the Organization for Security and Cooperation in Europe—the world's largest regional security organization—to develop its inaugural international police training program focused on domestic terrorism, hate crimes, and human rights. Goldenberg is also a Distinguished Visiting Fellow at the University of Ottawa's Professional Development Institute for Transnational Security, a senior officer with the Global Consortium of Law Enforcement Training Executives, CEO of Cardinal Point Strategies, and a former senior member of the New Jersey Attorney General's Office. Since 2022, he has been actively engaged in advancing AI, drone technology, and other innovations in policing.

**David A. Grantham**, Ph.D. currently serves as a Senior Fellow with the Center for a Secure Free Society where he researches and publishes on the crime-terror nexus in Latin America and advises public and private sector groups on intelligence matters and strategies. Dr. Grantham previously served as Senior Fellow of National Security at the National Center for Policy Analysis (NCPA) and before that as an officer in the United States Air Force and Special Agent with the Air Force Office of Special Investigations (AFOSI). While on active duty, Dr. Grantham conducted and managed counterintelligence and counterterrorism investigations and operations, both stateside and abroad.

Dr. Grantham holds a PhD in History from Texas Christian University where he taught courses on Latin America and Middle East history. He earned his Master of Science in International Relations from Troy University and Bachelor of Art in History from University of South Florida in 2004. Dr. Grantham is the author of *Consequences: An Intelligence Officer's War*.

## **Sidebar: Unexplained Drone Sightings Across the Northeast U.S.**

In late 2024, reports flooded townships across New Jersey of drone sightings. Residents, including public officials, described drones the size of cars or SUVs, drones maneuvering and accelerating unlike any other recognizable aircraft, a swarm of 50 drones arriving from the Atlantic Ocean. They have been seen flying over critical infrastructure, such as military bases and nuclear facilities. Soon, similar sightings were reported in New York, Pennsylvania, Maryland, Virginia, Connecticut, and elsewhere.

The FBI alone received more 5,000 tips involving drone sightings but dismissed the vast majority as misidentification of small planes, hobbyist or law enforcement drones, helicopters, or astronomical features, such as stars. In a joint statement issued on December 16, 2024, the FBI, Department of Defense, Federal Aviation Administration, and the Department of Homeland Security said that they had “not identified anything anomalous and do not assess the activity to date to present a national security or public safety risk over the civilian airspace in New Jersey or other states in the northeast.”

While this phenomenon falls outside the scope of the current report, it bears mention because it dominated the news for several weeks in November and December 2024, highlighting the novelty of drones to most Americans. The issue relates to the current report because it involves the issues of government accountability and transparency, which we argue are critical to a viable law enforcement drone program.

## Background

As law enforcement agencies continue to hemorrhage resources, lose officers, face funding reductions and suffer tenured officer “knowledge drain” without onboarding new candidates to replace them, American communities are already bearing the consequences: longer response times—and in many cases no response at all—for calls for service; fewer crimes solved and cleared; and greater numbers of active active-duty officers who are burned out, all of which compromise the quality of life in our communities and erodes our democracy.

One solution to aid understaffed agencies is uncrewed aerial systems (UASs). U.S. law enforcement organizations have been using UASs—commonly known as drones—since the mid-2000s. Their intended benefits have been extensively documented, including saving precious time, conserving and more strategically deploying staff resources, removing personnel from danger (and thus reducing injuries and deaths), better documenting crime scenes, enhancing situational awareness, and improving cost-effectiveness.

Many applications have emerged, to include:

- Drones as a first responder (DFR)
- Pre-tactical deployment reconnaissance
- SWAT operations
- Hostage situations
- Suspect pursuit
- Interior searches
- Forensic investigations
- Traffic-accident response
- Crowd control
- Search and rescue operations

The benefits and value of police drones have spurred a boom in acquisitions. From Abilene, Texas, to Zebulon, Georgia, more than 1,500 sheriff’s offices and police departments use drones as of December 2024, up from about 1,100 in March 2020 and 600 in May 2018, an approximately 150% increase in five years.

Along with this increase come concerns among some civil liberties advocates, such as the Electronic Frontier Foundation (EFF) and the American Civil Liberties Union (ACLU), that law enforcement is using (or will use) drones for improper purposes, such as to observe groups that are



More than  
1,500  
sheriff’s  
offices and  
police  
departments  
use drones  
as of  
December  
2024, up  
from about  
1,100 in  
March 2020  
and 600 in  
May 2018.

peacefully gathering or to constantly surveil marginalized communities without an articulable threat. Specifically, a July 2023, report produced by the ACLU, called *Eye-in-the-Sky Policing Needs Strict Limits*, expresses fears that “drones will usher in an era of pervasive, suspicionless mass aerial surveillance” and recommends that communities refrain from initiating drones as a first responder (DFR) programs “until we have a better sense of how this technology is playing out in the real world.”

Given the mounting evidence that law enforcement drone use provides substantial benefits to law enforcement and their communities (see sidebar: Documenting the Benefits of Drones), we decided to specifically examine the ACLU’s analysis and conclusions and offer an independent judgment.

This report will not address the Federal Aviation Administration regulatory environment that governs the licensing of drone pilots and rules under which drones can operate. Instead, it will focus on federal, state and local regulation, as well as case law and internal law enforcement policies, that pertain to issues of responsible use of drones, data security, and citizen privacy.

## Civil Libertarian Arguments

In *Eye-in-the-Sky Policing Needs Strict Limits*, the ACLU notes that police departments are generally not allowed to operate drones beyond visual line of sight (BVLOS) absent a special waiver. Given the increasing number of drones used by U.S. law enforcement, and in light of the FAA’s work on a “revolutionary rulemaking” that would enable operators who meet specific criteria, the organization warns that the number of drones in our skies will multiply. Specifically, the ACLU predicts that the rulemaking will “open the door to many more police DFR programs, and to whatever other uses of aerial robots might be dreamed up by America’s law enforcement agencies, and by the growing ecosystem of drone companies hungry for markets.”

The ACLU continues, writing that “police departments will push their use of drones beyond emergency response,” citing examples in which Chula Vista (California) police deployed drones for domestic disputes, wellness checks, mental health evaluations, shoplifting, loud music, a water leak, and noise complaints.

The ACLU downplays public concern of crime and disorder by emphasizing “a potential future in which law enforcement officers routinely use drones to follow suspected shoplifters, surveil locations with high crime, and



The ACLU contends in a report that “police departments will push their use of drones beyond emergency response,” citing examples in which Chula Vista (CA) police deployed drones for domestic disputes, wellness checks, and loud music.



patrol high-crime areas.” The author points to examples in diverse cities such as Beverly Hills, California; Omaha, Nebraska; and Elizabeth, New Jersey.

The ACLU adds that video and other data captured by drones could be used “without limit”: “There will be a constant incentive on the part of both government and private contractors to run video datasets through machine learning algorithms for AI training purposes and to search for particular violations of the law or other facts of interest to law enforcement that might be buried within.”

Significantly, the ACLU understands the value of police drones: “We don’t object to the use of drones for specific emergencies, or in bounded situations where there are specific and articulable grounds to believe that the drone will collect evidence relating to criminal wrongdoing” or in cases of accident or crime scene photography, the ACLU writes. But the ACLU fears a forthcoming regime of mass government surveillance.

IN A FOLLOW-UP REPORT RELEASED IN MARCH 2024, THE ACLU ADDED ANOTHER CONTENTION: THAT U.S. LAW ENFORCEMENT AGENCIES ARE “GRAVITATING TOWARDS” ROUTINE USE OF DRONES OVER PUBLIC GATHERINGS.

The ACLU’s prescription: “[W]e recommend that communities hold off on creating DFR programs until we have a better sense of how they play out in the communities that have already deployed them.”

It says the need for drones to prevent violence at gatherings is “dubious at best,” warning that drone oversight and recording will discourage people from exercising their rights to gather and express themselves.

Other organizations have weighed in as well. Jake Wiener, an attorney with the Electronic Privacy Information Center (EPIC), has expressed concern over police drones in an interview with the Milwaukee Fox affiliate. “One of the most powerful impacts of surveillance technologies – drones included – is that they make it possible for the police to do a lot more,” Wiener told the news agency. “Overpolicing. Wrongful arrests. These things all increase when you have – when it’s easier to find, identify and arrest people.”

Further, an August 2024 article by the EFF (“Backyard Privacy in the Age of Drones”) questioned whether police drone operators could, well, police themselves, lacking enforcement mechanisms:

In response to the concerns regarding drone surveillance voiced by civil liberties groups and others, some law enforcement agencies, like the [NYPD](#), have pledged to abide by internal policies to refrain from warrantless use over private property. But without

enforcement mechanisms, those empty promises are easily discarded by officials when they consider them inconvenient, as NYC Mayor Eric Adams did in announcing that drones would, in fact, be deployed to indiscriminately [spy on backyard parties](#) over Labor Day.

Most recently, days before this report was published, the ACLU of New York (NYCLU) registered its concerns about law enforcement drones in a report called *Prying Eyes: Government Drone Data Across New York State*. The NYCLU calls for the New York legislature to more heavily regulate law enforcement drones, noting that the NYPD alone has recently increased its drone arsenal from 19 to 99. It concludes: “The dangers posed by these incredibly powerful spying devices are hard to overstate, and they’re being used with virtually no regulation.”

## Federal drone laws, regulations, and policies

A July 2023 report by the Congressional Research Service provides a comprehensive overview of federal rules governing law enforcement drones. While the Federal Aviation Administration has exclusive authority over aviation safety and airspace efficiency, there is “no specific legislative framework that governs federal law enforcement use of drones.” The report continues:

Generally, federal law does not direct or prohibit specific tools and technologies—such as UAS—used by federal law enforcement agencies to aid investigations. Rather, there are laws and policies broadly governing law enforcement investigations and intelligence gathering. Additionally, there are a number of policies directing the use of drones by federal agencies, including law enforcement, and pertinent guidance resources.

They include (1) a 2015 presidential memorandum that ensures that law enforcement protect privacy, civil rights, and civil liberties; guarantee accountability of agencies using UAS; and promote transparency of UAS programs; (2) the Department of Justice Policy on the Use of Unstaffed Aircraft Systems, which guides the department’s use of this technology. DOJ’s UAS programs are managed by each agency with a UAS program, such as the FBI and ATF; (3) DHS’s Best Practices for Protecting Privacy, Civil Rights & Civil Liberties in Unstaffed Aircraft Systems Programs (DHS’s drone activities are also managed at the department level, such as at CBP and ICE). These documents generally cover privacy, civil rights and liberties, data retention, transparency, accountability, and stakeholder engagement.



## State and local drone laws, regulations, and policies

State and local drone laws generally involve statutes that require law enforcement to obtain a warrant prior to using a drone to perform a search of or surveillance on a suspect. But state laws also cover a panoply of issues that pertain to responsible use of drones by law enforcement. These issues include, for example, surveillance of crowds, use of force, use of facial recognition, training operations, counterterrorism, data collection, and reporting.

For example, in June 2023, Illinois passed the Drones as First Responder Act, which, among other things, allows police to observe public events with drones. It also bans the use of facial

recognition software and requires agencies to destroy any data collected by drones within 30 days.

Similarly, in 2021 Florida passed a law that allows law enforcement agencies to use drones to gain an aerial perspective of a crowd of 50 or more persons. The policies and procedures regarding the use of such drones must address the storage, retention, and release of images or videos captured by the drone, along with the personal safety and constitutional protections of persons being observed. (National Conference of State Legislatures, 2023). In the same year, Washington State passed a statute that prohibits law enforcement agencies from acquiring or using certain “military equipment,” including armed or armored drones.

Minnesota’s statute details the nine situations in which law enforcement can use drones:

- During an emergency involving the risk of death or bodily harm to a person
- At public events where there are safety risks
- To counter terrorism in light of credible risk
- To prevent loss of life/perform rescue operations in natural or manmade disasters
- To conduct a threat assessment for a specific event
- To collect information from a public area if there is reasonable suspicion of criminal activity
- To perform crash reconstruction
- For officer training or PR purposes, if it is over a public area
- Pursuant to specific written requests by other government agencies

At the same time, it specifically prohibits certain uses. It may not use drones:

- With facial recognition, except with a warrant
- With weapons
- To collect data on public protests or demonstrations, except with a warrant

(2023 Minnesota Statutes 626.19)

Minnesota law, like that of many other states, requires the public reporting of the number of times drones are used without a warrant, the date of each deployment, the authorized use of each deployment, and the total cost of each agency’s drone program.

In the absence of—or to complement—state laws, many cities have enacted their own ordinances. For example, Alaska has a very brief yet broad statute on police drones. It authorizes them to gather evidence for a criminal investigation, to be used pursuant to a warrant, and “in situations and for uses not involving a criminal investigation, and not intended

to lead for the production of evidence for use in a criminal investigation, if the use does not constitute and unwarranted invasion of personal privacy....” (Alaska Stat. Section 18.65.902)

Anchorage, Alaska, has passed a much more restrictive ordinance. It bans the use of drones:

- For routine patrols
- For warrantless searches that are specifically seeking evidence as part of a criminal investigation
- That violates someone’s reasonable expectation of privacy, absent a warrant
- That are weaponized
- To surveil persons or groups involved in constitutionally protected activity
- For traffic enforcement, other than accident investigations
- With facial recognition technology

(Anchorage Code of Ordinances, Chapter 3.102)

What is clear from this broad range of protective measures is that states, municipalities, and other jurisdictions have been carefully considering drone laws and balancing competing concerns. Where state laws are deemed not to meet municipal concerns, cities have stepped in with their own ordinances. This exemplifies the proper workings of government.

## Case Law

Case law dealing specifically with privacy implications of police use of drones is scant, though a few cases exist. The touchstone trio of relevant Supreme Court cases on the issues goes back to the 1980s, each finding that warrantless manned aerial surveillance of private property by the government does not violate the Fourth Amendment.

Some state courts have weighed in on the constitutionality of drones. In *Long Lake Township v. Todd Maxon* (Michigan Supreme Court, 2024), the plaintiff argued that when the township took drone photos over his house showing junk cars on his property to prove that he had violated zoning ordinances, it had committed an illegal search. The trial court rejected his argument, but the appellate court overruled the trial judge. The appellate wrote: [P]ersons have a reasonable expectation of privacy in their property against drone surveillance, and therefore a governmental entity seeking to conduct drone surveillance must obtain a court warrant or

satisfy a traditional exception to the warrant requirement.” The case made it to the Michigan Supreme Court, but that court didn’t rule on whether the use of the drone constituted a warrantless search, instead deciding the case on other grounds. In another case from that same year, in *Alaska v. McKelvey* (Alaska Supreme Court, 2024), law enforcement flew a plane over the defendant’s remote, heavily wooded property, using a telephoto lens to obtain evidence of illicit drug cultivation. That evidence led to a search warrant, which turned up marijuana plants, methamphetamine, scales, plastic bags, an AK-47, and significant amounts of cash. The superior court denied McKelvey’s motion to suppress that evidence, but the appellate court reversed that decision, insisting that a warrant was necessary for the use of surveillance. The Alaska Supreme Court agreed, writing that the “Alaska Constitution requires law enforcement officials to obtain a warrant before using aircraft and vision-enhancing technology (such as a camera with zoom lens or binoculars) to observe the curtilage of a person’s home that is protected from ground-level observation.”

In a 2021 case in Maryland (*Leaders of a Beautiful Struggle v. Baltimore Police Department*), the defendant contracted with a private aviation photography company to track movements linked to serious crimes. The program “obtained about twelve hours of coverage of around ninety percent of Baltimore every day of the week, weather permitting, using surveillance planes that flew at least forty hours a week and were equipped with aerial cameras able to capture one image of up to thirty-two square miles per second,” according to the Harvard Law Review. “Imagery data was retained for forty-five days, while reports and associated imagery data were retained indefinitely....” The court found that the activity violated the public’s reasonable expectation of privacy and that Baltimore police couldn’t retain the data collected.”

## Law Enforcement Policies

Communities have been keeping their sheriff’s offices and police departments accountable for their use of drones. According to a 2020 report by the U.S. Department of Justice, “Of the 123 agencies that reported using drones, nearly 90 percent reported having a written policy governing their department’s drone use,” though some respondents “were hesitant to implement a written policy because of a lack of guidance on what a policy should include.”

### *The Five Cs*

The last three years have seen great strides towards standardizing policies. In the same year that the DOJ issued the aforementioned report, DRONERESPONDERS, a nonprofit that studies the use of drones in public safety, released its “Five Cs,” which directly address this need for standards and best practices. In fact, it adopted much of the language proposed in the DOJ report.

The Five Cs comprise (with abbreviated descriptions provided here):

- Community Engagement and Transparency:

“[A] methodical process of explaining [proposed] plans publicly; holding public meetings and other forums in which community members can express their concerns; and working with the community to reach acceptable compromises or consensus approaches to issues such as defining the purposes of police drones, managing the use and possible storage of video or other data obtained by drones, and addressing the public’s legitimate concerns and questions.”

And “creating a website with up-to-date information on the use of drones, along with relevant policies. Agencies should continue to hold media briefings and conduct community outreach on an ongoing basis.”

- Civil Liberties and Privacy Protection

“Drone programs must be consistent with the bedrock obligation to uphold civil liberties, especially--but not exclusively--the liberties expressed in the First and Fourth Amendments. The First Amendment protects, among other things, the freedom of speech, the freedom of the press, and the right to peaceably assemble and petition for change. Public safety agencies should use drones in a manner that protects these fundamental freedoms and avoids chilling free expression and assembly.”

“Privacy is often the foremost concern surrounding the use of drones. Agencies should address that concern head on, developing safeguards and training procedures that ensure the protection of privacy at every level of a drone program. In particular, agencies must have policies in place that protect privacy across the full operational lifecycle: acquisition, use, dissemination, and retention. The third principle on common operating procedures discusses measures designed to limit the acquisition of potentially private information, which must be directly related to an authorized mission.”

- Common Operating Procedures

“Every program needs a clear policy outlining the responsible, safe, and effective use of drone technology. We strongly recommend that departments develop and adopt common operating procedures consistent with templates and best practices presented in reports issued by PERF, DOJ COPS, NIJ, and IACP. 16 Effective policies will cover a wide range of critical topics, including FAA compliance; safety procedures (before, during, and after flight operations); reporting requirements; training, proficiency and credentialing requirements; accident and incident reporting procedures; authorized missions; approval processes; video management procedures; and language prohibiting weaponization.”

- Clear Oversight and Accountability

“Policies alone are insufficient to ensure responsible use. Agencies need to establish robust oversight measures designed to ensure compliance and accountability. Agencies should establish clear oversight processes that combine both internal and external measures.”

Internal measures include a process for handling complaints, routine compliance audits, and strong executive oversight.

External measures include regular briefings and reports to the city council and the creation of a community advisory panel.

- Cybersecurity

“When operating a drone program, follow recommended cybersecurity guidelines, such as the *Framework for Improving Critical Infrastructure Cybersecurity* published by the National Institute of Standards and Technology.”

“When developing or expanding a drone program, factor cybersecurity into the acquisition process.”

The Five Cs provide much more detail on developing these policies and standards, addressing the concerns articulated by privacy advocates, civil libertarians, community leaders, cybersecurity experts, and other stakeholders. For example, the Police Executive Research Forum describes this process as follows:

Working directly with stakeholder groups before implementing a drone program is another promising practice that agencies recommended. Building strong relationships with stakeholders through solicitation of feedback and guidance helped agencies gain community-wide support for their drone programs. The Prince William County (Virginia) Police Department, for example, shared a draft version of its drone policy with 40 different community stakeholder groups such as the ACLU, local attorneys, and church groups and asked for feedback before writing a final version. (Drones: A Report on the Use of Drones by Public Safety Agencies—and a Wake-Up Call about the Threat of Malicious Drone Attacks, 2012) These sorts of events and relationships aren’t rare. In late November 2023, the New Orleans Police Department hosted a public information event at its Training & Education Academy to discuss plans to begin using drones. The technology would be used for such purposes as disaster response, grid searches, and weather events. The department also welcomed public input for its draft use policies.

However, as mentioned previously, the EFF has questioned what recourse citizens would have for invasions of privacy if the police are asked to self-regulate and there is no outside mechanism or group to enforce the standards.



## Analysis and Discussion

To review, civil libertarians’—particularly the ACLU’s—current concerns about police drones are:

- Mission creep, leading to a regime of mass, suspicionless surveillance, including:
  - Surveillance of suspects
  - Anticipatory surveillance or intelligence-based crime locations
  - Routine patrols of particular neighborhoods
  - Routine patrols of an entire city (low-income, or wealthy enclaves, for example)
- Capture and storage of data
  - Recording policies
  - Data sharing and retention
  - Sharing data with private contractors
- The psychological effect of having drones overhead
- The chilling effect on public gatherings and free speech
- Lack of transparency about:
  - Capabilities and sensor payload
  - Drone policies
  - Performance and results
  - Video of public interest
- Law enforcement’s willingness and ability to follow its own policies

To begin, the ACLU, NYCLU, EFF, and EPIC make some thoughtful and relevant arguments. Our analysis of these arguments follows.

### ***Mission Creep and Police Abuse***

The ACLU’s categories for potential mission creep seem to include uses that are valid and justifiable in many circumstances. When lawful authorities receive a substantive tip from a reliable source that someone is planning to bomb a certain synagogue and police officers can’t get to him quickly, for instance, anticipatory drone surveillance may be an appropriate application. In addition, there’s a fine line between anticipatory surveillance and intelligence-based crime prediction.

For its assertions of potential police abuse, the ACLU report cites four main examples: the use of drones for routine patrols in Beverly Hills, California; Chicago legislation that would allow

police use of drones over “special events”; the use by Omaha police to monitor protests; and, in Elizabeth, New Jersey, the use of drones to monitor a protest by local students.

But the concerns are mostly speculative, while many benefits have been documented. In an interview with a local newspaper, a Beverly Hills police spokesman assured citizens that their “pilots are well aware of the expectation of privacy and the drones are only used to patrol public areas unless there is a specific call for service that would necessitate the use at a private residence or other area where there would be a normal expectation of privacy.” The department has a detailed policy on drone use, including privacy concerns, and officers are continually trained on and reminded about these policies.

Departments also include procedures for citizens to file complaints related to misuse or overuse of drones. For example, complaints to the Grand Rapids (Michigan) Police Department go to the city’s Office of Oversight and Public Accountability.

(<https://www.grandrapidsmi.gov/files/assets/public/v/1/departments/police/files/uas-info/uas-faq.pdf>)

By contrast, the Airborne Public Safety Association documents hundreds of beneficial and successful uses of drones by law enforcement (see sidebar: Documenting the Benefits of Drones). They include SWAT missions, search and rescue events, suspect identification, criminal apprehension, crime scene investigation, tracking of threatening or disruptive drones, and more.

In *Drone as First Responder Programs: A New Paradigm in Policing* (2023), The MITRE Corporation cites other benefits of DFR programs relating to faster response times, drones as a force multiplier, and cost effectiveness. For example, it notes that in 2022 New Jersey’s Elizabeth Police Department cleared 21 percent of the 1,400 calls in which drones served as first responders, allowing “the department to reallocate those officers to more pertinent calls.”

### ***Capture and Storage of Data***

The 2023 ACLU report suggests that acquisition of personal data is not only a current threat to privacy but poses an increasing ongoing issue. The ACLU writes: “[W]ith advances in artificial intelligence, video is becoming far more searchable, accessible, and analyzable—and therefore dangerous—set of data than it used to be.” It warns that law enforcement will be tempted to use AI to “search for particular violations of the law or other facts of interest to law enforcement that may be buried within.”

However, police are still bound by rules of evidence, and, ultimately, the U.S. and state constitutions. Judges accept or throw out video evidence all the time based on whether evidence was legally collected or not. There is no indication that will change with drone data.

In many jurisdictions, policies or laws regulate police drone acquisition, transfer, and storage of video. Eugene, Oregon’s Police Department’s Policy 908.13 states the following (emphasis added):

Video recordings and photos will only be taken during missions where there is a reasonable expectation that the data will contain evidentiary value, or in situations where it may provide transparency of police department operations. Officers shall not edit, alter, erase, duplicate, copy, share, or otherwise distribute in any manner digital content captured by drone operations without prior written authorization from the Chief of Police, or designee.

Another example is Maine, where a statute (25 MRSA Pt. 12) requires police to establish procedures to “minimize the inadvertent audio or visual recording of private spaces of 3<sup>rd</sup> parties who are not under investigation” and for “destroying unnecessary audio or visual recordings without further duplication or dissemination.”

### ***Psychological Effect of Drones***

One ACLU paper warns that living under surveillance makes people feel stressed and powerless. “When we know we are being watched, we monitor ourselves—we think about what we’re doing, how it might appear to others, and how it could be taken out of context or mistaken for suspicious behavior. We’re more likely to censor ourselves and less likely to dissent....[W]e’re just less free.

However, the limited research on this subject is far from definitive. A 2016 article by the British Psychological Society pointed out the dearth of specific research on the psychological effects of surveillance in a world in which surveillance, especially CCTV, is ubiquitous. In fact, at least one study indicates that the presence of security cameras promotes positive social behavior (“The Eye of the Camera: Effects of Security Cameras on Prosocial Behavior,” *Environment and Behavior*, Volume 41, Issue 1, 2008).

In addition, the ACLU report indicates that “the large body of writing by psychologists and those who have lived in totalitarian regimes” indicates that “living under surveillance creates feelings of powerlessness and is inherently stressful and stifling.” But our federal system government is not a totalitarian regime, and the report fails to specify any of the “writing” it mentions, so those documents can’t be analyzed for relevance and credibility. It’s unclear if any of them relate to drones and video at all, much less constitute peer-reviewed research.

### ***The Chilling Effect on Public Gatherings and Free Expression***

The ACLU’s March 2024 report alleges that police use drones to intimidate protesters, and that UASs’ affordability will lead to additional use of low-flying drones to harass crowds that assemble to make their views known. The organization writes, “We worry that this low cost may tempt some law enforcement agencies to create repositories of video of protesters, allowing those protesters to be systematically identified and cataloged. Such mass surveillance also lends itself to over-policing — for example, spotting and directing police resources toward minor and technical transgressions during an event.”

The paper calls for the following “guardrails”:

- Limits on drone operations over gatherings, based on
  - The size of the event
  - The likelihood of disorder
  - The free-speech-sensitivity of the event
  - The views of community members
- Limits on when recording can take place
- Limits on the use of recordings
- Public accessibility of recordings
- Police operations must not preclude other (nonpolice) drone flights

Yet, as described below in the “Transparency” discussion, jurisdictions starting drone programs are often allowing residents to weigh in on specific draft policies before putting those policies in effect. When the New Orleans Police Department issued draft regulations for use of small UASs—or sUASs—it attracted 350 pages of comments—positive, negative, and neutral.

In fact, the draft policy addresses the very issue that the ACLU warns about, requiring special provisions for the use of drones at public gatherings:

If an sUAS is used to observe police or civilian actions during any first amendment assembly the supervisor approving the use of the sUAS, or their designee must notify the OPCD (Orleans Parish Communications District) of the drone use during the first amendment assembly and the area in which the drone is being used in. The supervisor, or their designee, must also ensure NOPD's Public Information Office (PIO) is aware of the drone use and posts public announcement informing the public that an sUAS be used during the event in the area to observe the actions of both police and civilians during the event. This announcement shall be posted publicly prior to the use of the sUAS.

### ***Transparency***

As far as policies and procedures are concerned—related to privacy, civil liberties, transparency, and accountability—law enforcement is doing well. A report by the Police Executive Research Forum (Drones—A Report on the Use of Drones by Public Safety Agencies—And a Wake-Up Call About the Threat of Malicious Drone Attacks), as well as the research for this report, suggests high percentages of law enforcement have and use such policies. In many cases, such policies are mandated by law. (The Maine statute mentioned previously, for example, requires the Commissioner of Public Safety to submit an annual report documenting

all police deployments of drones, with descriptions of the purposes, the nature of the investigations, and the number of search warrants sought and obtained for drone surveillance.

Policies have also been recognized as an exemplary practice to obtain citizen understanding and buy-in, which exemplifies law enforcement transparency. A 2022 report by the Police Executive Research Forum (Community Engagement Strategies for State, Local, Tribal, and Territorial Law Enforcement Aircraft System Programs) cites best practices for community engagement:

- Creating a UAS program homepage
- Hosting community presentations with Q&A sessions
- Reaching out directly to community stakeholders and city leaders
- Conducting drone demonstrations
- Involving law enforcement public information officers

As just one of many examples of these best practices, the report mentions the Virginia Beach Police Department’s practice of presenting at a public meeting of the city council. The department outlined its intentions, “mission capabilities, budget challenges, and plans for community engagement. Next, the department conducted focus groups with community members and posted information on its website and social media accounts.”

Virginia Beach is not an exception. In an article written in response to the 2023 ACLU report, Matt Sloane of Skyfire Consulting noted that “The majority of the 10-15 DFR programs in operation today have made significant efforts towards releasing all of the data they possibly can to their public—including drone video where appropriate—and we will continue to counsel agencies considering DFR programs to do so.”

In fact, the 2023 ACLU report admits that “Chula Vista has been quite transparent about its drone program.” Administrators gave the author a tour of their operations and answered his questions openly.

Jurisdictions ranging from Wichita, Kansas, to Montgomery County, Maryland, offer online access to their police drone flight records. For example, Montgomery County citizens can find flight [maps](#) and descriptions of drone use. Wichita’s version is [here](#).

In addition, lack of litigation on police drone use suggests that few cases are filed or survive preliminary scrutiny by the courts.

### ***Police Self-Regulation***

The EFF takes a cynical view of a police department following its own drone policies. In “Backyard Privacy in the Age of Drones” (June 27, 2024), the organization indicates that it looks askance at agencies that “have pledged to abide by internal policies to refrain from warrantless use over private property.” The EFF contends that those pledges are “empty promises” that “are easily discarded by officials when they consider them inconvenient.”

Even if some agencies do overstep, however, the public has ample recourse. They can file complaints against the specific agency, seek assistance from local representatives, obtain legal counsel to file suits or injunctions, or reach out to the media.

### ***The ACLU's Call for a Halt on New DFR Programs***

Experts interviewed for this report overwhelmingly agreed with the need for controls over police use of drones but disagreed with the ACLU's conclusion that we should throw the baby out with the bathwater, that is, "not initiate DFR programs until we have a better sense of how this technology is playing out in the real world."

"Privacy is something we can't take for granted," says Matthew Silver, founding partner of Civica Law Group, which focuses on civic-oriented legal services. "We have to err on the side of being more cautious and particular in our policies."

Yet he disagrees with the ACLU's "preemptive recommendation to not use drones entirely for the potential for misuse," calling it "overly cautious."

For example, the ACLU warns about the use of drones over demonstrations, but Silver points out that drones sometimes are appropriate in those environments. Drones were deployed during the 2017 Charlottesville "Unite the Right" rally. "They spotted people with long guns there," he says.

And what about potential mission creep? "A tightly drafted policy will negate those concerns," he adds. "Courts will take care of the rest over time."

Silver says that the ACLU's arguments, while flawed, are useful. "It gives us insight into potential points of litigation" and lets public agencies buttress their policies and procedures accordingly. "If I can avoid the lawsuit, that's a better use of taxpayer money than litigating it," he says.

Sloane, of Skyfire Consulting, also sympathizes with the ACLU's concern that while the agencies with drone programs now "are being careful," as the number of agencies multiplies, bad practices are bound to arise. But he says that "things will be worked out" in local jurisdictions without curtailing DFR. A few bad actors shouldn't halt a successful initiative, he says.

Reminding law enforcement of its responsibilities is critical. "We are clear with agencies about not using proactive surveillance [as in the Baltimore *Leaders of a Beautiful Struggle* case], the importance of record keeping...that they should expect FOIA [Freedom of Information Act] requests," Sloane says. "A lot of law enforcement agencies might say, we don't reveal our methods. We tell them at the jump, you have to be transparent about it, you're going to have to hold public information sessions,"

"Be specific with the public," Sloane advises. "Be explicit that you are looking for trampling in crowds, not identifying people who [peacefully] assemble," he adds.

Sloane acknowledges the fine line between appropriate and questionable police activity.

He calls the 5 Cs "a good guideline for how to do this appropriately. It's important for everyone to have a guideline document in place. If you don't have that, you can't hold yourself accountable to it."

## Conclusion

Back in 2014, a report by the Brookings Institute titled *Drones and Aerial Surveillance: Considerations for Legislators* concluded the following: “While a robust public debate over the use of domestic drones in warranted, the conclusion that widespread privacy violations are imminent is premature.” Eleven years later, we still don’t see widespread privacy violations. Either the concerns are still premature, or they are not justified.

It's fitting to end this report with the ACLU’s own injunction:

As we always stress, it’s important not to make policy by anecdote. Anyone can come up with scenarios about how a technology will improve people’s lives and the life of a community. The real question is how it will play out over time in this complex and messy world, where it’s likely to have cascading effects that we can only dimly anticipate.

To be sure, police use of drones is bound to have unexpected effects. But more than a decade in, the successes of drones overwhelm the negatives. Even the most strident reports and articles on law enforcement drones focus on the hypothetical rather than the actual. Litigation is rare, as are public complaints. The case law cited in this report is proof that appropriate checks and balances are in place to ensure proper use of drones. The judicial system will continue to balance the interests at stake. States, cities, and law enforcement departments have put into effect statutes, ordinances, rules, and policies that take into account their unique needs and balance the various considerations at hand. And they will evolve.

The ACLU and other civil liberties groups raise valid and important questions. But we remind the ACLU that it’s bad practice to make policy by anecdote. In fact, the rather meager parade of horrors presented in its two recent reports is itself all anecdotal. Let’s not use isolated incidents, speculation, and fear-mongering to undermine an initiative that preserves precious police resources, saves lives, prevents injuries, and gives law enforcement a powerful tool.

## Sidebar: Documenting the Benefits of Drones

Date	Incident Details	Location
Mar 13, 2025	Drone finds missing 86-year-old man in 17 minutes.	Plainville, MA
Feb 28, 2025	Thermal-imaging drone helps capture stabbing suspect who fled into a wooded area.	Glynn County, GA
Feb 25, 2025	Heat-sensing drone and K-9 find package thieves hiding in the woods.	Upper Providence, PA
Feb 21, 2025	Oklahoma City police deploy drone to locate passenger fleeing from a stolen car	Norman, OK
Feb 3, 2025	Drone helps police locate lost hiker at night on mountain.	Kings Mountain, NC
Jan 7, 2025	Drone traps art thief with stolen Picasso and Warhol paintings on roof of art gallery.	Scottsdale, AZ
Dec 3, 2024	Enfield police use drone in neighboring Windsor to capture a larceny suspect who ran away after crashing a vehicle.	Windsor, CT
Oct 4, 2024	Suspects involved in an assault with a weapon are located by police using a drone.	Silver Spring, MD
Aug 9, 2024	Public safety officials use drones to help emergency responders determine which streets, homes, and cars are flooded after Hurricane Debby.	Stroudsburg, PA
Jul 26, 2024	San Francisco police use a drone to capture suspects on dirt bikes breaking into cars near the Embarcadero.	San Francisco, CA
Jun 6, 2024	Centralia police use a drone to follow and capture a car thief trying to flee by river on a kayak.	Centralia, WA
Mar 22, 2024	Tracy police deploy a drone to help capture two armed suspects holding a hostage in a home.	Tracy, CA
Jan 13, 2024	Three conspirators fleeing in a getaway car are tracked by a police drone.	Murrietta, CA
Jan 11, 2024	Cheshire Constabulary's Drone Unit achieves 1,576 deployments, finds 50 missing persons, searches 33,885 acres, and assists 216 arrests in 2023.	Cheshire, UK
Dec 21, 2023	Chula Vista Police drones respond to 17,969 calls, assist in 2,436 arrests, reduce patrol unit dispatched 4,137 times, saving over 2,000 officer-hours since 2018.	Chula Vista, CA
Dec 2023	Police use a drone to locate a larceny suspect hiding under leaves.	Horry County, SC
Dec 2023	A drone helps police find a thief hiding in the woods.	Spring Hill, TN



<b>Nov 2023</b>	Del City police track and apprehend three car thieves using a drone; later find a gun and ski masks in the vehicle.	Del City, OK
<b>Sep 2023</b>	Sumter County Sheriff's Office credits drones with saving about 20 lives in the county since 2020.	Sumter County, FL
<b>Sep 2023</b>	Ashland County Sheriff's Office uses a drone to capture puppy thieves.	Ashland County, OH
<b>Aug 2023</b>	Vermont State Police drone rescues a lost 2-year-old boy near a creek by detecting his heat signature.	Vermont
<b>Jun 2023</b>	Dutchess County sheriffs use a drone to locate two lost hikers.	Dutchess County, NY
<b>Dec 2022</b>	Bullitt County Sheriff's Office uses a drone to find a woman lost in the woods.	Bullitt County, KY
<b>Oct 2022</b>	Nebraska State Patrol uses drones to help locate and battle wildfires.	Nebraska
<b>Jun 2022</b>	Madison SWAT team sends a drone into a theater to find five auto theft suspects hiding behind the screen.	Madison, WI
<b>Sep 2019</b>	Daytona Beach authorities use a drone to confirm a barricaded suspect's hollowed-out grenade threat, allowing for non-lethal resolution.	Daytona Beach, FL
<b>2018</b>	Police in Ensenada attribute a 30% drop in home robberies to the addition of a single drone.	Ensenada, Mexico

# A Sample Policy for Responsible Use of Drones by Law Enforcement

The following is adapted from the Chula Vista Police Department's Policy 613, with adjustments made by experts—officers, attorneys, privacy advocates, policy makers—in law enforcement drone use.

## ***Unstaffed Aerial System (UAS) Operations, Anytown Police Department Policy 101***

### PURPOSE AND SCOPE

The purpose of this policy is to establish guidelines for the use of an unstaffed aerial system (UAS) and for the storage, retrieval and dissemination of images and data captured by the UAS.

### DEFINITIONS

Definitions related to this policy include:

Unstaffed Aerial System (UAS) - An unstaffed aircraft of any type that is capable of sustaining directed flight, whether preprogrammed or remotely controlled (commonly referred to as an unstaffed aerial vehicle (UAV)), and all of the supporting or attached systems designed for gathering information through imaging, recording or any other means. Unstaffed aerial systems may be utilized to enhance the department's mission of protecting lives and property when other means and resources are not available or are less effective. Any use of a UAS will be in strict accordance with constitutional and privacy rights and Federal Aviation Administration (FAA) regulations.

### PRIVACY

The use of the UAS potentially involves privacy considerations. Absent a warrant or exigent circumstances, operators and observers shall adhere to FAA use regulations and shall not intentionally record or transmit images of any location where a person would have a reasonable expectation of privacy. Operators and observers shall take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy. Reasonable precautions can include, for example, deactivating or turning imaging devices away from such areas or persons during UAS operations.

### PROGRAM COORDINATOR

The Chief of Police will appoint a program coordinator who will be responsible for the management of the UAS program. The program coordinator will ensure that policies and procedures conform to current laws, regulations and best practices and will have the following additional responsibilities:

- Ensuring that all authorized operators and required observers have completed all required FAA and department-approved training in the operation, applicable laws, policies and procedures regarding use of the UAS.

- Developing uniform protocols for submission and evaluation of requests to deploy a UAS, including urgent requests made during ongoing or emerging incidents. Deployment of a UAS shall require authorization by the Chief of Police or the authorized designee, depending on the type of mission.
- Developing protocols for conducting criminal investigations involving a UAS.
- Implementing a system for public notification of UAS deployments during critical incidents.
- Developing an operational protocol governing the deployment and operation of a UAS including, but not limited to, safety oversight, use of visual observers, remote operations, establishment of lost link procedures and communication with air traffic control facilities.
- Developing a protocol for fully documenting all missions.
- Developing a UAS inspection, maintenance and record-keeping protocol to ensure continuing airworthiness of a UAS, up to and including its overhaul or life limits.
- Developing protocols to ensure that all data intended to be used as evidence are accessed, maintained, stored and retrieved in a manner that ensures its integrity as evidence, including strict adherence to chain of custody requirements. Electronic trails, including encryption, authenticity certificates and date and time stamping, shall be used as appropriate to preserve individual rights and to ensure the authenticity and maintenance of a secure evidentiary chain of custody.
- Ensuring that the department adheres to—and receives—an annual audit for compliance with—the National Institute of Standards and Technology’s Framework for Improving Critical Infrastructure Cybersecurity.
- Developing protocols that ensure retention and purge periods are maintained in accordance with established records retention schedules.
- Handling law enforcement access to images and data captured by the UAS.
- Recommending program enhancements, particularly regarding safety and information security.
- Ensuring that established protocols are followed by monitoring and providing periodic reports on the program to the Chief of Police.
- Developing and managing a process to address input, concerns, recommendations, and complaints from the public, such as developing a citizen advisory panel, and/or holding town hall meetings, demonstrations, open forums, and public reviews, and providing opportunities for written comments and mandatory response to the comments. This shall include requests by the media, civil liberties and privacy advocates and organization, civic leaders, and the public at large.
- Developing and overseeing a formal complaint process in accordance with agency protocols for conducting internal investigations.

## USE OF THE UAS

Only authorized operators who have completed the required training shall be permitted to operate the UAS.

Use of vision enhancement technology (e.g., night vision equipment not generally available to the public) is permissible only where there is no protectable privacy interest or when in compliance with exigent circumstances, a search warrant, or court order. In all other instances, legal counsel should be consulted.

UAS operations should only be conducted within FAA regulations.

**PROHIBITED USES** The UAS equipment shall not be used:

- To conduct random surveillance.
- To harass, intimidate, spy on, or discriminate against any individual or group.
- To infringe on a group's right to assemble, provided that there is no credible expectation of: violence, significant public disturbance, or danger posed by environmental factors such as weather, overcrowding, or substantial infrastructure concerns.
- To conduct personal business of any type.

The UAS shall not be weaponized without public input, approval, and oversight.

## RETENTION OF UAS DATA

Data collected by the UAS shall be retained as provided in the established records retention schedule.

## JOINT OPERATIONS OR UNIFIED COMMAND WITH OTHER MUNICIPAL PUBLIC SAFETY AGENCY

In the event that UAS operators of another municipal public safety agency (e.g. fire department) are assisting the police department with the operation of a UAS at a crime scene, any and all data/evidence obtained from the UAS will be provided to the police department for chain of custody. This data will be retained according to the department's retention standards.

## Bibliography

For this analysis, we reviewed dozens of reports, articles, white papers, presentations, blog posts, legal analyses, and other documents and audiovisual materials related to the use of drones by law enforcement. The following are the most relevant and salient:

Bentley, Jennifer M. "Policing the Police: Balancing the Right to Privacy Against the Beneficial Use of Drone Technology," *Hastings Law Journal*, Issue 1, 2019.

Best Practices for Protecting Privacy, Civil Rights & Civil Liberties in Unstaffed Aircraft Systems Programs. U.S. Department of Homeland Security Privacy, Civil Rights & Civil Liberties Unstaffed Aircraft Systems Working Group, December 18, 2015.

Boyer, Jeremy. "Syracuse Seeks Public Input on Police Plan to Use Drones as First Responders," *Syracuse.com*, January 31, 2025.

Burnett, Em. "Maine Is Flying Blind with Police Technology," *Maine Morning Star*, October 1, 2024.

Cities and Drones: What Cities Need to Know About Unstaffed Aerial Vehicles (UAVs), National League of Cities, 2016.

Community Engagement Strategies for State, Local, Tribal, and Territorial Law Enforcement Unstaffed Aircraft System Programs, Police Executive Research Forum, 2022.

DHS, FBI, FAA & DoD Joint Statement on Ongoing Response to Reported Drone Sightings. Department of Homeland Security, December 16, 2024 (<https://www.dhs.gov/news/2024/12/16/dhs-fbi-faa-dod-joint-statement-ongoing-response-reported-drone-sightings>)

Does the 4th Amendment Prohibit Warrantless Drone Surveillance? Cato Institute, March 24, 2021.

Drones—A Report on the Use of Drones by Public Safety Agencies—And a Wake-Up Call About the Threat of Malicious Drone Attacks, Police Executive Research Forum, 2020.

Ellis, Darren, and Harper, Dave. "Experiencing the Surveillance Society," *The Psychologist*, August 2, 2016.

The Five C's: Principles on the Responsible Use of Drones by Public Safety Agencies, DRONERESPONDERS, 2020.

“FOX 6 Milwaukee: Law Enforcement Drones; Privacy Questions Over ‘Eye in the Sky’ Policing,” Electronic Privacy Information Center, November 28, 2022.

Geary, Michael T. “Considering Privacy Issues Raised by the Use of Unstaffed Aerial Vehicles,” Police Chief, 2016.

Greenwood, Faine. How to Regulate Police Use of Drones, The Brookings Institute, September 24, 2020.

Guariglia, Matthew. How Are Police Using Drones? Electronic Frontier Foundation, January 6, 2022.

Harter, Clara. “BHPD Launches New ‘Hawkeye’ Drone,” The Beverly Hills Courier, January 5, 2023.

Kane, Robert, and Hyatt, Jordan. “Lessons From Stop and Frisk Can Help Philly Police Use Drones to Improve Safety Without Compromising Civil Liberties,” Yahoo! News, January 21, 2025.

Karsten, Jack, and West, Darrell M. How Emergency Responders Are Using Drones to Save Lives, The Brookings Institute, December 4, 2018.

“Key Considerations for a Law Enforcement Drone Policy,” Police1/Lexipol, March 11, 2024.

King, Steve, Major, Shay, and McCollum, Marlis. Drone as First Responder Programs: A New Paradigm in Policing, The Mitre Corporation, August 11, 2023.

Kitchenman, Andrew. "Alaska Supreme Court Bars Police Zoom-lens Aerial Photos of Residents' Lawns Without Warrants," Alaska Beacon, March 8, 2024.

Kransz, Michael. “Grand Rapids Plans to Have Police Drones by Mid-September,” MLive, August 22, 2023

Lartey, Jamiles. “It’s a Bird. It’s a Plane. It’s the Police Responding to a 911 Call,” The Marshall Project, July 29, 2023.

Law Enforcement and Technology: Use of Unstaffed Aircraft Systems. Congressional Research Service, August 22, 2023.

“Leaders of a Beautiful Struggle v. Baltimore Police Department: Fourth Circuit Holds Warrantless Access of Aerial Surveillance Data Unconstitutional,” Harvard Law Review, January 2022.

Levinson, Kaitlyn. “Policing Police Drones: How Regulations Can Protect Privacy While Expanding Public Safety,” RouteFifty, August 14, 2023.

Lipton, Beryl. "Drone As First Responder Programs Are Swarming Across the United States," Electronic Frontier Foundation, June 27, 2024.

McKinney, India. "Better Regulating Drone Use Requires Communication, Not Surveillance," Electronic Frontier Foundation, October 19, 2022.

McNabb, Miriam. "ACLU Calls for Strict Limits on Police Drones. Skyfire Consulting Asked Them Why," DRONELIFE, July 27, 2023.

McNeal, Gregory. Drones and Aerial Surveillance: Considerations for Legislatures, The Brookings Institute, November 2014.

"New Drone Laws in the USA." The Drone U. Updated January 17, 2024 (<https://www.thedroneu.com/blog/usa-drone-laws-regulations-by-state/>).

"NOPD Holds Public Meeting to Discuss Implementation of Drone Technology." NOPDNews, November 29, 2023.

Policy Framework: Police Robots, NYU School of Law Policing Project, 2025.

Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unstaffed Aircraft Systems, The White House, 2015.

Prying Eyes: Government Drone Data Across New York State, ACLU of New York, April 8, 2025.

Sievert, Ron. "Drones and the Law: Can They Hover Over Your House or Property?" Ontic, 2023 <https://ontic.co/resources/article/drones-and-the-law-can-they-hover-over-your-house-or-property/>

Sisson, Patrick. "Welcome to Chula Vista, Where Police Drones Respond to 911 Calls," MIT Technology Review, February 27, 2023.

Smalstig, Madison. "New Police Drone Program Sparks Debate Over Privacy and Policing in Santa Rosa," The Press Democrat, January 22, 2025.

Stanley, Jay. Curbs Needed on Police Drone Surveillance of Public Gatherings, American Civil Liberties Union, March 14, 2024.

Stanley, Jay. Eye-in-the-Sky Policing Needs Strict Limits, American Civil Liberties Union, July 27, 2023.

Stanley, Jay, and Crump, Catherine. Protecting Privacy from Aerial Surveillance: Recommendations for Government Use of Drone Aircraft, American Civil Liberties Union, December 2011.

Stromquist, Kat. "New Orleans Residents Are Uneasy About the NOPD's Planned Drone Program, Documents Show," WBHM, January 5, 2024.

Unstaffed Aircraft Systems: Considerations for Law Enforcement Action, CISA, undated.

Updated Fact Sheet (2023) on State and Local Regulation of Unstaffed Aircraft Systems (UAS), Federal Aviation Administration, July 14, 2023 (<https://www.faa.gov/sites/faa.gov/files/State-Local-Regulation-of-Unmanned-Aircraft-Systems-Fact-Sheet.pdf>)

Van Rompay, Thomas J.L., Vonk, Dorette, J., and Fransen, Marieke L. "The Eye of the Camera: Effects of Security Cameras on Prosocial Behavior," *Environment and Behavior*, Volume 41, Issue 1, 2008.

What Is a Public Safety Drone? The Best Public Safety Drones of 2025, 54 Use Cases for Drones in Public Safety, and More, UAV Coach, 2024 (<https://uavcoach.com/public-safety-drone/>)

Willis, Simon. "Drone Cops Are Coming for Small-Town America," *The Economist*, June 1, 2023.

Zhao, Anna. "Backyard Privacy in the Age of Drones," *Electronic Frontier Foundation*, August 27, 2024.