Comment on the Federal Aviation Administration’s Operation of Small Unmanned Aircraft Systems Over People, 84 FR 3856 (proposed February 13, 2019)

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Executive Summary

On February 13, 2019, the Federal Aviation Administration (FAA) published a notice of proposed rulemaking entitled “Operation of Small Unmanned Aircraft Systems Over People.” In conjunction with another proposed rulemaking published on the same date (“Safe and Secure Operations of Small Unmanned Aircraft Systems”), the FAA’s proposed rule seeks to establish a number of regulations relating to operation of small unmanned aircraft systems (UAS) (colloquially referred to as “drones”). These include rules on drone operation over people, operating drones at night, training requirements for drone operators, drone performance limitations, and stand-off distance requirements.

With regard to drone privacy considerations, the FAA has declined to specifically regulate, stating in its proposed rule that “Proposed regulations to address privacy concerns are beyond the scope of the FAA's mission.” Our comment addresses this component of the FAA’s proposed rulemaking. We argue that the FAA has the ability to regulate privacy concerns relating to drones based on its broad grant of statutory authority. We also argue that the FAA should consider privacy concerns more directly in light of the potential that federal drone...
regulations can preempt state drone privacy statutes, even if the FAA intends to leave privacy concerns to the states. Finally, we recommend that the FAA require drone operators to receive training on drone privacy issues through the FAA’s certification system.
Table of Contents

Executive Summary 1

Table of Contents 3

Introduction 4
   A. Who We Are 4
   B. The Federal Aviation Administration’s Request for Comments 5
   C. Privacy Concerns with UAS: The Harm to Public Safety 5

Recommendations for the FAA to Act Within UAS Privacy Regulation 6
   The FAA has the Authority and Responsibility to Act with Respect to Privacy Concerns 6
      The FAA’s Stated Role within UAS Operation and Privacy 7
      2. The FAA’s Privacy Role Granted by Congress 8
      3. The FAA’s Privacy Role Based Upon Noise Abatement 9
      4. The FAA’s UAS Operations “Over Human Beings” as a Foundation for Privacy Regulation 15
      5. A Reasonable Expectation of Privacy for UAS Usage 16
      6. State and Local Attempts to Regulate UAS and Privacy 18
         A. An Overview of State and Local UAS Operation Laws 19
         B. Preemption of State Drone Regulations: Singer v. City of Newton 22
         7. Potential Safeguards for Privacy via Certification Training Programs 26

V. Conclusions and Recommendations 26
I. Introduction

A. Who We Are

The Duke Science Regulation Lab (SciReg Lab)\(^2\) is composed of graduate students from a variety of disciplines at Duke University, including science, law, ethics, and policy. The SciReg Lab was originally inspired by the traditional role of amicus curiae: to provide a court with unbiased information necessary to reach a binding decision. As an extension of that concept, we now provide government agencies with the scientific information necessary to undertake effective rulemaking.

Modern society requires our government to handle increasingly complex scientific issues when deciding cases or making policy. We, the Duke Science Regulation Lab, believe that the general public benefits from judgments that are based on sound scientific knowledge. To assist decision makers in understanding a scientific matter at hand, the students of the Science Regulation Lab combine their expertise to offer a non-partisan, accurate, and accessible explanatory brief or comment.

The members of the Duke Science Regulation Lab vary in their academic backgrounds. \textbf{E. Scott Brummel} is a researcher with Duke University Robotics and is Lead Editor for Robotics and AI policy coverage at SciPol.org, \textbf{Fernanda Catão de Carvalho} is an LLM candidate, \textbf{Ashle Page} is an MA candidate in Bioethics and Science Policy, and \textbf{Cole Wilhelmi} is a JD candidate who is jointly pursuing an MA in Bioethics and Science Policy.

\(^2\) Michael B. Waitzkin, JD, J. H. Pate Skene, JD, PhD, and Sarah Rispin Sedlak, JD, are the faculty members who lead the SciReg Lab and who oversaw the preparation of this Comment.
B. The Federal Aviation Administration’s Request for Comments

This comment responds to the Federal Aviation Administration’s (FAA) request for comments and supporting data related to the operation of UAS (unmanned aerial systems) over people. Such operations are of great concern to individuals throughout the United States as the use of UAS becomes more widespread. The FAA specifically requests comments related to a number of issues concerning UAS flight over people, primarily regarding the safety of onlookers and private citizens uninvolved with the operation of UAS. Within this inquiry into safety, the FAA’s request for comments includes questions concerning operational compliance with physical UAS standards (including speed, altitude, materials, and fail-safe measures), responsibilities for various actors within UAS manufacture and operation, pilot training and certification, waivers, violation fines, distance from people, flight over vehicles, restricted operations, night flying precautions, privacy, and cost-benefit analysis of safety concerns. Within this comment, we plan to address the intersection of safety and privacy concerns with the operation of UAS over people, specifically relating to the FAA’s request for comments regarding UAS distance from people, restricted operations, and pilot certification and training, within an overall discussion of the impact of privacy upon safety.

C. Privacy Concerns with UAS: The Harm to Public Safety

A violation of privacy is a harm to person and society. Without regulation of privacy within UAS operations, the protection and safety of people on the ground cannot be accomplished. The small and unassuming nature of some UAS creates a dangerous environment when operating over people and at close distances to private property. No regulation on the
operations of UAS over people could enable operators to utilize UAS as mechanisms for being a “peeping Tom” or even closer images of private property available via Google Maps,\(^3\) when UAS are flown near the windows of homes or other infrastructure. Necessarily, such allowance of these operations will result in significant violations of privacy and will require extreme lifestyle changes to private citizens practicing their reasonable expectations of privacy, even in their own homes. Invasions of privacy can also lead to further harm to a person’s safety. For example, a UAS gathering information concerning when a person arrives home, how many people live in a house, and even information from peering into windows, such as the location of valuable items, a UAS operator can gain significant amounts of information to make a home invasion and burglary more easily accomplishable. Ultimately, without the FAA’s regulation of UAS within privacy concerns, private individuals will inevitably experience violations of their privacy and harm to their safety and security.

**I. Recommendations for the FAA to Act Within UAS Privacy Regulation**

**A. The FAA has the Authority and Responsibility to Act with Respect to Privacy Concerns**

The FAA derives its authority from the United States Government’s “exclusive sovereignty of airspace of the United States.”\(^4\) As part of the FAA’s duties, the Administrator of the FAA is tasked with prescribing “air traffic regulations on the flight of aircraft (including regulations on safe altitudes) for . . . protecting individuals and property on the ground” among


\(^4\) 49 U.S.C. § 40103.
other things. With the advent of widespread use of UAS, the FAA has established regulations for the operation of these systems within its overall authority to regulate airspace. We assert in this comment that as part of its statutory duty to protect individuals and property on the ground and its authority over UAS operations, the FAA has the authority to regulate the privacy of UAS in accordance with ensuring the protection and safety of individuals.

1. The FAA’s Stated Role within UAS Operation and Privacy

Despite the significant role that the FAA can play within regulating UAS privacy, in its request for comments, the FAA states that, while it acknowledges the pressing privacy issues that UAS are likely to pose, it is not its role to address them because the agency’s only focus is providing and maintaining safe UAS use. Moreover, the FAA argues that not only is it not in the Administration’s jurisdictional purview to ensure privacy, it also has no authority to do so. Though the FAA asserts that privacy issues fall outside of his jurisdictional purview, according to this proposed rule itself, “the FAA has consistently recognized the importance of stakeholder engagement regarding privacy implications associated with UAS integration and incorporated privacy considerations into the UAS Test Site Program and the UAS Integration Pilot Program, under its contracting authority.”

Through these programs, the FAA works to accommodate multiple stakeholders from operators, industry, and government alike to integrate UAS usage into society. Specifically, the

7 See Operation of Small Unmanned Aircraft Systems Over People, 84 FR 3856 (proposed February 13, 2019).
8 Operation of Small Unmanned Aircraft Systems Over People, 84 FR 3856 (proposed February 13, 2019).
UAS Integration Pilot Program involves “[a]ddressing security and privacy risks” as part of its programming.\(^{10}\) Likewise, the FAA previously conducted a privacy impact assessment (PIA). As part of the PIA, “the FAA analyzed the effect . . . [certain rules] might have on collecting, storing, and disseminating personally identifiable information (PII) of manufacturers and UAS operators. The FAA also examined and evaluated protections and alternative information-handling processes in developing the proposed rule to mitigate potential privacy risks.” Through these efforts, the FAA has availed itself of the capacity to address privacy concerns for UAS. With the expertise of registration data on UAS usage, the FAA is also well-suited to address privacy issues arising from the increasing use of UAS.

On other occasions, the FAA maintained its position that it is not tasked with addressing privacy concerns, stating that its only task is “ensuring a safe and efficient national airspace.”\(^{16}\) The agency’s explanation was that it “intend[ed] to continue addressing privacy concerns through engagement and collaboration with the public, stakeholders and other agencies with authority and subject matter expertise in privacy law and policy. Privacy is beyond the purview of its mission of safety and efficiency.”

2. The FAA’s Privacy Role Granted by Congress

In December of 2015, however, the FAA released a fact sheet regarding “State and Local Regulation of Unmanned Aircraft Systems (UAS).”\(^{11}\) The fact sheet initially sheds some light on

\(^{10}\) UAS Integration Pilot Program, FED. AVIATION ADMIN. (Nov. 7, 2018), https://www.faa.gov/uas/programs_partnerships/integration_pilot_program/.

the FAA’s regulatory authority. Congress has vested the FAA with “authority to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source.”\textsuperscript{12} Moreover, the FAA was directed to “develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace.”\textsuperscript{13} Congress has further vested the FAA with authority to “prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes)” for navigating, protecting, and identifying aircraft; protecting individuals and property on the ground; using the navigable airspace efficiently; and preventing collision between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.\textsuperscript{14}

Therefore, it seems that the language of the statute grants the agency a broad scope of regulatory authority when it comes to safeguarding public safety. This seems particularly true when the statute states that the FAA has jurisdictional authority to “prescribe air traffic regulations on the flight of aircraft for protecting individuals and property on the ground.”\textsuperscript{15}

3. The FAA’s Privacy Role Based Upon Noise Abatement

Accordingly, we turn our attention to the FAA’s regulation of aircraft noise. Equipped with its broad rule-making authority, the FAA has actually long safeguarded public safety by regulating aircraft noise for the benefit of the population. Rebecca Cointin, manager of the

\textsuperscript{12} 49 U.S.C. §§ 40103, 44502, 44701-44735.
\textsuperscript{13} 49 U.S.C. § 40103(b)(1).
\textsuperscript{14} 49 U.S.C. § 40103(b)(2).
\textsuperscript{15} Id.
FAA’s Noise Division, in a presentation at the Public Meeting for the Center of Excellence for Alternative Jet Fuels and Environment, demonstrated that the key drivers for the FAA’s noise regulation is the annoyance that aircraft noise causes, and the health impacts attributed to it.\textsuperscript{16} The dose and metric of the noise was measured by health effects, impact on children’s learning, sleep disturbance, community annoyance, and other impact measurements.\textsuperscript{17}

By analyzing the statute that grants the regulatory authority to the FAA, it seems clear that the statutory basis for regulating aircraft noise was the agency’s power to regulate air traffic to protect individuals on the ground. The main factor motivating noise abatement is that aircraft noise significantly intrudes on normal homelife and disrupts the public’s ability enjoy the privacy of their homes. The FAA seems to have relied on the privacy disturbance that loud aircrafts cause when flying close to communities to justify its regulation. Ultimately, the main factor motivating noise abatement is that aircraft noise significantly intrudes on normal homelife and disrupts the public’s ability enjoy the privacy of their lives, homes, and other property. Like the disruptions produced by aircraft noise, drone-mounted cameras or microphones are intrusive in a way that disrupts the ability of people to engage in normal life and to secure enjoyment of their homes and property. As the FAA has long recognized its authority to protect the public from aircraft noise, the same interpretation of the FAA’s authorizing statute enabling the regulation of larger aircraft for noise abatement also applies to regulating UAS to address other privacy concerns that intrude upon the private lives of citizens.


\textsuperscript{17} \textit{Id.}
In Subtitle D – Airport Noise and Environmental Streamlining of the FAA

Reauthorization Act of 2018 ("2018 Reauthorization Act"),\(^{18}\) the agency set forth clear restrictions on aircraft noise. For instance, the 2018 Reauthorization Act focused on (1) addressing community noise concern,\(^{19}\) (2) conducting airport noise mitigation and safety studies,\(^{20}\) (3) designating a Regional Ombudsman to serve as regional liaison with the public on issues regarding aircraft noise and safety,\(^{21}\) (4) reviewing the relationship between aircraft noise exposure and its effects on communities around airports,\(^{22}\) (5) studying the metrics of day-night level standards to address community airplane noise concerns,\(^{23}\) and finally (6) studying the potential health and economic impacts of overflight noise.\(^{24}\)

According to the 2018 Reauthorization Act’s regulation of noise, the provisions’ main focus is ensuring that communities are not bothered by aircraft noise, in other words, the FAA was concerned with aircrafts' potential to intrude in people's homes through loud noises, disturbing the secure enjoyment of their home. This interpretation seems to be inferred by the FAA's reasoning behind noise regulation. In the case at hand, avoiding disturbance can be compared to preventing intrusion. Thus, the FAA used its broad regulatory power to prevent aircrafts from disturbing or intruding upon people in their home, guaranteeing the protection of a widely recognized privacy right: the right not to be disturbed in your own home.

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\(^{19}\) Id. at sec. 175.
\(^{20}\) Id. at sec. 179.
\(^{21}\) Id. at sec. 180.
\(^{22}\) Id. at sec. 187.
\(^{23}\) Id. at sec. 188.
\(^{24}\) Id. at sec. 189.
Following this rationale, it seems clear that, when ensuring public safety through the prevention of noise intrusion, the FAA was concerned about mitigating aircraft's potential to intrude on people's privacy, specially in their own home. Nonetheless, the argument here is not intended to state that the FAA is only focused on preventing privacy infringement of noise intrusion. Since aircrafts are large in size, the agency could not have attributed to them any other personal intrusion other than the disturbing noise they make. However, the focus, regardless of the source of the intrusion, was ensuring that people were allowed to enjoy their homes freely. When it comes to UAS, while they do not impose sound intrusion, their potential to hinder people's enjoyment of their home is even greater.

Almost 50 years ago, when analyzing “why privacy is important,” James Rachels already had in mind the potential issues that people face when they are not in charge of who has access to them.\(^\text{25}\) In his analysis, Rachels focused on people’s relationships with different individuals and how each person is allowed to conduct themselves according to the nature of the relationships.\(^\text{26}\) He went on to conclude that if people do not have control over who has access to them, they are unable to control the patterns of behavior that they need to adopt.\(^\text{27}\) Drawing a comparison between Rachels’ theory of privacy and unbounded UAS use, UAS have the potential to change the way people behave in public, causing an unprecedented chilling effect due to the constant “threat” of being observed or worse, intruded in your own home.

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\(^{26}\) *Id.* at 326.
\(^{27}\) *Id.* at 331.
UAS have the technology to “present fairly unique privacy challenges, relative to other surveillance technologies.” The fact that UAS have an aerial nature and do not require a human on-board in order to fly allows for access of unexpected vantage points of the ground below. “The technology not only can collect enormous amounts of information from the ground below, it can also feel invasive and enter into one’s personal space.” Applying this threat to specific scenarios, UAS use can prove harmful in a variety of circumstances. For instance, “the media could make widespread use of drones to cover unfolding police activity or traffic stories” and the paparazzi industry would have increasing power to harass celebrities for lucrative stories.

Moreover, while drone technology is not the cause of street harassment or stalking, the technology has the potential to increase its occurrence. The features of UAS make them more apt for use in escalated forms of harassment. UAS’s ability to fly without a human on-board allows for anonymous stalking and its aerial capabilities combined with its small size enable UAS to access “unexpected or difficult to shield vantage points.”

These examples are just a small illustration of what technology, especially UAS technology, is capable of doing when it comes to hindering people’s right to privacy. In United States v. Jones, a case about deciphering global positioning system’s impact on privacy laws, Justice Alito emphasized in his concurrence that “new technology may provide increased convenience or security at the expense of privacy, and many people may find the tradeoff worthwhile. And even if the public does not welcome the diminution of privacy that new
technology entails, they may eventually reconcile themselves to this development as inevitable.”  

However, if people start accepting diminished privacy expectations, UAS operators would not have to consider the privacy of others, creating a world “where one would have nearly no privacy, unless they were inside a room with no windows so that drone cameras could not see them (at least until drone technologies had the capability to see through walls).”

As the law is written, Congress has given the FAA the authority to ensure public safety and, by regulating noise to mitigate intrusions and to ensure people's enjoyment of their own home, the FAA interpreted that public safety is related to securing that aircrafts do not disturb people's privacy. This authority makes sense in given the paradigm of flight for previous years when the FAA was mainly focused on jets, planes, and other large aircraft. Due to the size, cost, and flight requirements of aircraft up until the debut of cheap and relatively capable drones, it makes sense to limit the FAA's conception of intrusion to noise as noise was reasonably the only means by which these larger aircraft could affect the lives of the public.

Given the current ubiquity and availability of UAS and the fact that they are extremely small in size and operated without a human on board, the scope of ways in which the aircraft can reasonably intrude on the lives of the public has expanded to include the constant surveillance of people. This change in the scenario enables the possibility of UAS and their operators to cause intrusion upon seclusion of the public whose privacy is key to the safety that the FAA has the authority to protect.

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It is reasonable to assume then that the FAA has the authority to interpret and enforce the authorities in a way that includes privacy concerns in the definition of public safety.

4. The FAA’s UAS Operations “Over Human Beings” as a Foundation for Privacy Regulation

The language of the FAA’s “Operation Over Human Beings” provision, 14 C.F.R. § 107.39, itself contains only language as to the physical security of bystanders. The regulation states: “No person may operate a small unmanned aircraft over a human being unless that human being is: (a) Directly participating in the operation of the small unmanned aircraft; or (b) Located under a covered structure or inside a stationary vehicle that can provide reasonable protection from a falling small unmanned aircraft.”\(^{34}\)

Within its guidelines the FAA also defines “over people” from Section 107.39 very narrowly, noting that the “term ‘over’ refers to the flight of the small unmanned aircraft directly over any part of a person. For example, a small UAS that hovers directly over a person's head, shoulders, or extended arms or legs would be an operation over people. Similarly, if a person is lying down, for example at a beach, an operation over that person's torso or toes would also constitute an operation over people. An operation during which a small UAS flies over any part of any person, regardless of the dwell time, if any, over the person, would be an operation over people.”\(^{35}\) The confounding language of this guideline appears to allow for UAS to fly relatively close to a person before becoming an issue, yet also notes that flying over any part of a person for any amount of time constitutes an “operation over people.” Consequently, the FAA should

\(^{34}\) 14 C.F.R. § 107.39.
clarify its determination of how close a UAS can be to a person before becoming problematic. The FAA should also address that not only do these close flights result in hazards to a person’s physical safety, but also to a person’s privacy and security. The closer UAS are allowed to operate near people, the more invasive they can become to an individual’s privacy, creating even more nuisances and barriers to individual safety.

5. A Reasonable Expectation of Privacy for UAS Usage

In an attempt to maintain its duty to public safety, the FAA has explicitly sought the aid of state and local law enforcement to accomplish its aviation safety goals for UAS.36 Additionally, while the FAA’s primary purview is that of civil aviation, the FAA does maintain an “operating system of air traffic control and navigation for both civil and military aircraft[.]”37 As a result, law enforcement’s incorporation of UAS, including its use of UAS for surveillance could pose additional privacy issues under the Fourth Amendment. The Fourth Amendment of the United States Constitution provides that “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . . .”38 Based upon this amendment and on non-government concerns of privacy violations, Samuel Warren and Louis Brandeis, a future Justice of the United States Supreme Court, published an article in the Harvard Law Review in 1890 outlining their view of a “right to privacy.” The authors ultimately recognized privacy as a method “to be let alone[.]”39

37 What we do, FED. AVIATION ADMIN. (June 27, 2016), https://www.faa.gov/about/mission/activities/.
38 U.S. CONST. amend. IV.
Relatedly, in *Katz v. United States*, a 1967 United States Supreme Court case, the majority in the case held that a wiretap of an individual in a public telephone booth violated the Fourth Amendment and “recognized that the Fourth Amendment protects people—and not simply ‘areas’—against unreasonable searches and seizures . . . [making it] clear that the reach of that Amendment cannot turn upon the presence or absence of a physical intrusion into any given enclosure.”

Justice Harlan also commented in a concurrence that he did not consider the ruling in *Katz* a radical departure from the holding in *Olmstead*. In the concurrence, he also introduced the concept of a reasonable expectation of privacy that many assert as the standard for evaluating privacy concerns today. This standard involves analyzing potential Fourth Amendment violations through a number of steps. The process of establishing a violation ultimately includes first determining if a search or seizure occurred. Following this determination, courts utilize a reasonability standard. If an expectation of privacy was both reasonable to the individual in the situation and the expectation is one that society would recognize as reasonable, a reasonable expectation of privacy, and likely the Fourth Amendment, have been violated. Since then, the “reasonable expectation of privacy” standard has been adopted in many other civil and criminal settings, with many state privacy statutes tracking the language of the constitutional standard.

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41 *Id.* at 360.
42 See, e.g., Mississippi Code § 97-29-61: “Any person who looks through a window, hole or opening, or otherwise views by means of any instrumentality, including, drones, into the interior of a bedroom, bathroom, changing room, spa, or tanning booth, or the interior of any other area in which the occupant has a reasonable expectation of privacy, with the intent to invade the privacy of a person inside and without the consent or knowledge of every person present, for the lewd, licentious and indecent purpose of spying, shall be guilty of a felony.” The tort of intrusion upon seclusion also embraces the reasonable expectation standard.
Applying these principles to the increasing concerns of UAS usage, it is clear that UAS technology presents numerous security and privacy issues for individuals and may constitute violations of a reasonably expectation of privacy. UAS may cause both physical and non-physical trespass depending on the closeness of its stand-off distance. Even coming within considerable distance of a person’s home or other property, including flying over a person’s home, could constitute trespass. In particular, courts have held that real property rights of ownership extend at least 500 feet into the air above a person’s land in some cases. To avoid increasing litigation in these areas and to protect individual privacy, the FAA should establish standards to regulate UAS usage and its impact upon privacy. Not only UAS flying over another’s property can result in privacy issues, however. Even if a UAS is flying over one’s own property or public property, cameras on UAS can “peer into” the property or person of another. Relatedly, misdemeanor “Peeping Tom” statutes could be used to criminalize invasions of privacy through the use of UAS. For example, in North Carolina, a person secretly peeping “through the use of a mirror or other device” or through taking photographs or video are guilty of a misdemeanor. A UAS could potentially qualify as an “other device” under such statutes.

6. State and Local Attempts to Regulate UAS and Privacy

The states have taken a great interest in regulating the use of drones in order to protect the safety and privacy of its citizens. In developing its regulatory framework, the FAA should consider how best to harmonize federal regulations with state privacy laws and privacy considerations in general. The FAA should also consider the preemptive effect that a

43 See Operation of Small Unmanned Aircraft Systems Over People, 84 FR 3856 (proposed February 13, 2019).
44 See Lacey v. United States, 595 F.2d 614 (Fed. Cir. 1979).
A comprehensive regulatory framework might have on state privacy laws, which would harm local privacy interests and deprive the states of the full ability to regulate in that area.

A. An Overview of State and Local UAS Operation Laws

State and local governments have passed a broad range of laws and ordinances that affect a person’s ability to operate a drone. Although the laws are diverse in their application and purpose, they generally fall into one of three categories:

**Location-Based Regulation:** Laws and ordinances that prevent individuals from operating drones in a predefined area. Many states and municipalities restrict operation of drones on specific properties, for reasons of privacy, public safety, or both. Common regulations of this type include:

- Prohibiting the operation of drones over correctional facilities.\(^{46}\)
- Prohibiting use of drones in local parks and other public spaces.\(^{47}\)
- Prohibiting operation of drones over military installations.\(^{48}\)
- Blanket bans against drone operations in certain municipalities.\(^{49}\)

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\(^{48}\) For example, South Dakota has made it a Class 1 misdemeanor to operate drones over correctional facilities and military installations. *South Dakota Drone Regulations*, UAV Coach, https://uavcoach.com/drone-laws-south-dakota/.

Distance-Based Regulations: These laws establish maximum distances that drones may fly near certain events and locations. These may include both horizontal distance restrictions and altitude restrictions. Examples include:

- Ordinances preventing drones from flying within 25 feet of another person (excluding the drone operator).\(^{50}\)
- Barring drones from flying within a certain distance of certain public events.\(^{51}\)
- Barring drones from flying within a certain distance of critical infrastructure.\(^{52}\)
- Barring drones from flying in close proximity to airports.\(^{53}\)

Conduct-Based Regulations: A large number of states have made it illegal for individuals to use drones to engage in some undesirable conduct that harms a personal or public interest. In many cases, these regulations target wrongdoers who may attempt to use drones to violate one’s privacy interests.

- Many states have passed laws barring the use of drones from conducting surveillance on another person’s property, without the person’s consent and in the absence of a warrant.\(^{54}\)


\(^{51}\) The City of Green Bay bans drones from flying below 400 feet within the boundaries of a designated special event. Green Bay, Wisconsin Municipal Code Sec. 27.310, https://library.municode.com/wi/green_bay/codes/code_of_ordinances?nodeId=CH27PUPEGOOR_SUBCHAPTER_IIPUPLEVPVR_S27.310DRUSSPEV.


\(^{54}\) Id.
- Regulations that limit the ways in which law enforcement may use drones.\textsuperscript{55}
- Prohibitions against the use of drones to look through peepholes, windows, etc. to invade one’s privacy where the reasonable expectation of privacy exists.\textsuperscript{56}
- Laws that make it illegal to interfere with emergency responder activity using drones.\textsuperscript{57}
- Barring the use of drones to hunt, fish, scout game, or to interfere with others engaged in those activities.\textsuperscript{58}

As the above list demonstrates, several local governments have established drone spacing requirements that are not unlike the “stand-off distance” proposals forwarded in the FAA rulemaking. The FAA can consult with these localities to inform their own standard-setting, especially if the relevant state and local governments have supported their regulations with scientific evidence relating to drone performance.

However, the FAA should also be aware that the states have regulated in a large number of areas relating to UAV operation; many of these laws secure important privacy and safety protections for individual citizens. The FAA should be conscientious of these laws while considering how new federal rulemaking will interfere with existing state regulations and restrict the states’ ability to regulate in this area in the future.

\textsuperscript{55} Id.
\textsuperscript{56} Mississippi Code § 97-29-61: “Any person who looks through a window, hole or opening, or otherwise views by means of any instrumentality, including, drones, into the interior of a bedroom, bathroom, changing room, spa, or tanning booth, or the interior of any other area in which the occupant has a reasonable expectation of privacy, with the intent to invade the privacy of a person inside and without the consent or knowledge of every person present, for the lewd, licentious and indecent purpose of spying, shall be guilty of a felony.” Id.
\textsuperscript{57} California Penal Code § 402 makes it a misdemeanor to use a drone to impede police, medical, and emergency personnel in the performance of emergency services. Id.
\textsuperscript{58} For example, West Virginia state law prohibits use of drones to hunt; Wisconsin prohibits use of drones to interfere in hunting, fishing, and trapping activities. See Drone Laws in West Virginia, Drone Laws in Wisconsin, UAV Coach, https://uavcoach.com/drone-laws/.
B. Preemption of State Drone Regulations: Singer v. City of Newton

Although the FAA seems to decline to regulate privacy concerns in its proposed rulemaking, it should nonetheless recognize that its broad regulatory authority over U.S. airspace can affect privacy, even if inadvertently, based on the potential that state drone laws may be preempted by federal law. For example, an individual who has violated a state or municipal drone privacy statute may seek to invalidate the state law on field preemption grounds, where he or she would argue that “the scheme of federal regulation is ‘so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it’”\(^{59}\)—in other words, that the federal government, not the states, occupies the entire regulatory field. Also available is a conflict preemption argument, in which a state law would be invalidated and superseded by federal law to the extent that the state law conflicts with the federal regulatory regime, “either where compliance with both laws is impossible or where state law erects an ‘obstacle to the accomplishment and execution of the full purposes and objectives of Congress.’”\(^{60}\)

Both of these implied preemption principles are relevant to the FAA’s proposed rulemaking. As the FAA’s regulatory scheme becomes increasingly comprehensive with respect to UAVs, combined with the FAA’s broad statutory mandate to develop a “comprehensive plan” to “safely” integrate drones into the national airspace, there is a strengthening inference that the federal authorities are occupying the entire field of drone regulation, to the exclusion of state laws.

\(^{60}\) Bell v. Cheswick Generating Station, 734 F.3d 188 (3rd Cir. 2013).
law, giving rise to a viable field preemption argument. Likewise, as the FAA adopts additional regulations in this space (regarding flight over people and stand-off distances, for instance), it increases the likelihood that these regulations will begin to either directly conflict with state drone laws, or lead courts to conclude more readily that state regulations are frustrating the federal regulatory objectives (conflict preemption).

A recent case on exactly this kind of preemption problem illustrates why the FAA should take notice of and carefully consider privacy issues. In Singer v. City of Newton, a local drone operator challenged the validity of several drone ordinances passed by the legislature of Newton, Massachusetts. The ordinances included:

- Local registration requirements for all owners of pilotless aircraft;
- Prohibition on operation of a drone below 400 feet over any city or private property without permission;
- Prohibition on operation of a drone beyond the visual line of sight of the operator; and
- Prohibition on flying a drone over any city property at any altitude without the permission of the city of Newton.61

Singer challenged these ordinances on both field preemption and conflict preemption grounds.62 Singer argued that “because the federal government regulates unmanned aircraft and local aircraft operations, there is federal intent to occupy the field,” giving rise to field

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62 Id.
preemption; he also argued that Newton’s drone laws conflicted with the federal regulatory scheme.\(^{63}\)

The court rejected Singer’s field preemption argument, but invalidated the Newton drone laws on conflict preemption grounds.\(^{64}\) According to the court, the drone registration requirement is preempted because the FAA has already established itself as the exclusive authority for registering drones for operation in national airspace.\(^{65}\) The court determined that the ban on drone flight over city property or private property under an altitude of 400 feet, without the property owners’ permission, created an effective ban on drone flight within Newton city limits that impermissibly conflicts with the federal regulatory scheme:

“Congress tasked the FAA with ‘develop[ing] a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.’ In so doing, the FAA mandated that drone operators keep drones below an altitude of 400 feet from the ground or a structure. Newton’s choice to restrict any drone use below this altitude . . . thwarts not only the FAA’s objectives, but also those of Congress for the FAA to integrate drones into the national airspace.”\(^{66}\)

The court invalidated Newton’s visual line-of-sight restriction using similar reasoning:

“The [visual line-of-sight] Ordinance limits the methods of piloting a drone beyond that which the FAA has already designated, while also reaching into navigable space. Intervening in the FAA’s careful regulation of aircraft safety cannot stand; thus [the ordinance] is preempted.”\(^{67}\)

\(^{63}\) Id.
\(^{64}\) Id.
\(^{65}\) Id.
\(^{66}\) Id.
\(^{67}\) Id.
This case helps demonstrate why the FAA must carefully consider the effect that its regulations may have on the states’ ability to protect the privacy of its citizens. Extensive federal regulation of drones formed the basis of the preemption argument that ultimately invalidated the Newton drone ordinances; the City of Newton had developed those drone regulations with privacy considerations in the front of its mind. The preamble to the challenged drone regulations observed that “[i]t is important to allow beneficial uses of these devices while also protecting the privacy, safety and quality of life of residents throughout the City.” City council members stated that privacy concerns were the “impetus” for introducing legislation on the topic, and at oral argument, counsel for the city stated that the 400 foot flight minimum that the city had established was intended to prevent drones from “taking . . . picture[s] and invading privacy.”

Singer serves as a powerful reminder that the line where state regulatory control begins and federal control ends is yet blurry and undefined, and is sure to become even murkier as the federal government continues to regulate in the UAS field. Singer offers precedent supporting the viability of conflict preemption as a means of striking down state drone privacy laws; the FAA should consider the preemptive effect that its proposed rules may have on state privacy laws, even if it purports to leave privacy regulations to the state governments. In addressing these concerns, the FAA can work more closely with states and municipalities to adopt laws that work in coordination, rather in conflict, with each other, pass provisions that expressly protect state

68 “Laws traditionally related to state and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – generally are not subject to federal regulation.” Federal Aviation Administration, Office of the Chief Counsel, State and Local Regulation of Unmanned Aircraft Systems (UAS): Fact Sheet (Dec. 17, 2015).

69 Newton, Massachusetts Ordinance Sec. 20-64, http://www.newtonma.gov/civicax/filebank/documents/45829 (emphasis added).

70 Singer v. City of Newton, Case Standing Hearing, 1:17-cv-10071.
privacy protections from federal preemption, or directly regulate privacy at the federal level to guarantee those protections.

7. Potential Safeguards for Privacy via Certification Training Programs

Safeguards for protecting privacy could include instituting a stand-off distance and notifying UAS operators of these standards through certification programs. Currently, while recreational flying (even in one’s own backyard) requires registration if a UAS weighs more than 0.55 pounds under FAA protocols, recreational flying does not require certification. Without the necessity to review required certification materials or to take examinations on the subject matter, recreational UAS operators may lack knowledge of necessary protections for flying over people, including privacy. Likewise, privacy is also not currently covered within FAA certification programming, leading even those operators who needs certification to lack essential information about respecting privacy.

Conclusions and Recommendations

Congress has vested the FAA with the broad authority to regulate aircraft to ensure public safety. Just as the FAA regulates aircraft noise to guarantee people's safe enjoyment of their homes, the agency should exercise its rulemaking authority to address the myriad of privacy concerns that have been introduced by the expanded use of drones in the national airspace. The agency should at least consider ways in which the federal regulatory scheme can be harmonized with state privacy regimes, and recognize how federal inattention to privacy concerns can lead to

71 https://www.faa.gov/uas/recreational_fliers/
negative outcomes through preemption of state privacy laws. By addressing these issues, the FAA will ensure that it continues to protect people as the operations of UAS become more and more ubiquitous.