Keep Out! The Efficacy of Trespass, Nuisance and Privacy Torts as Applied to Drones

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KEEP OUT! THE EFFICACY OF TRESPASS, NUISANCE AND PRIVACY TORTS AS APPLIED TO DRONES

Hillary B. Farber*

INTRODUCTION

A few years ago one might have seen a small object flying overhead without any idea what it could be. Today, it is fairly commonplace to see drones flying around our neighborhood skies. The Federal Aviation Administration (FAA) predicts there will be seven million drones populating our skies by 2020.1 In 2015 hobbyists, recreational users, and commercial businesses purchased unmanned aerial vehicles, commonly referred to as drones, in record-breaking numbers.2 Estimates reveal that over 4.3 million drones were sold worldwide in 2015.3 Trade industry experts predicted that more than 2.8 million drones would be sold in the U.S. in 2016 and 4.8 million in 2017.4 The surge in drone sales means more drones in the sky. The FAA estimates that by the end of this decade 30,000 drones will occupy our skies.5 Drones are being used for commercial and recreational purposes.6 Commercial users such as real estate

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1. FED. AVIATION ADMIN., FAA AEROSPACE FORECAST 31 (2016).
2. Id. at 30.
4. FED. AVIATION ADMIN., supra note 1, at 31; Joshua Brustein, How Drones Are Adapting to New U.S. Rules, BLOOMBERG TECH. (Jan. 6, 2016, 2:36 PM), https://www.bloomberg.com/news/articles/2016-01-06/how-drones-are-adapting-to-new-u-s-rules. At this year’s annual Consumer Electronic Show (CES), the biggest electronic show in the world, “CES organizers said the U.S. market reached $105 million in revenue last year, an increase of more than 50 percent from the year before.” Id.
agents, videographers, farmers, and engineers are capitalizing on this relatively inexpensive technology to take aerial photographs, monitor crops, and inspect infrastructure. Hobbyists and recreational drone users fly drones for the sheer fun of it—deploying out-of-the-box drones to shoot the most authentic “selfies” and building drones for competitions. There are endless civil applications for drones, and the possibilities will continue to grow at even higher rates as the technology develops and becomes more accessible to the public.

In response to this unprecedented growth, the FAA increased regulation and oversight of drone operation for not only commercial operators but recreational users, too. In December 2015, the FAA instituted a registration requirement for all recreational drone operators. The registration process is designed to make it easier for the FAA to keep track of and identify the thousands of drones populating our skies. On June 28, 2016, the FAA issued new rules for the operation of commercial drones weighing less than fifty-five pounds. These new rules simplify the licensing process for commercial operators to fly unmanned aircraft at altitudes below four hundred feet. Until these new rules took effect, commercial users could not operate drones without a Certificate of Authorization (COA) from the FAA. On average, applicants waited four to six


12. See id.

13. FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 333, 125 Stat. 11 (2012). Obtaining a COA from the FAA is a lengthy process whereby one must apply for an exemption under § 333 of the 2012 FAA Modernization and Reform Act. Id.
months to obtain a COA from the FAA once they submitted all documents. The new rules eliminate the waiting period and much of the bureaucratic process. Now that the rules have been finalized, the volume of drones in our skies will increase exponentially.

Drones are poised to bring endless commercial benefit to many industries. They are also fun recreational gadgets with more capabilities than their predecessors, remote-controlled helicopters. But along with the benefits of new technologies comes misuse. Concerns are mounting over drones snooping, spying, and crashing.

News stories abound with reports of people observing drones buzzing by their windows, hovering over their backyards, and invading their privacy at parks, beaches, and sporting events. In some instances,


residents call the police. Yet in many cities and towns, no pertinent laws exist to regulate this activity, leaving some people to resort to self-help remedies such as shooting the drone down or throwing objects at it.\textsuperscript{17}

The privacy concerns relating to drones stem from their capabilities. These aerial observers enable operators to gather information about people and places via cameras, live video-streaming capability, and sensory-enhancing technologies that can be mounted to the drone.\textsuperscript{18} Once collected, information can be stored forever and broadly disseminated electronically.\textsuperscript{19} Moreover, the drones’ aerial positioning makes it difficult for anyone without prior notice to avoid being caught on their cameras.\textsuperscript{20}

The FAA’s mandate to integrate unmanned aircraft into U.S. airspace focuses on safety, not privacy.\textsuperscript{21} The sheer volume of drones

\begin{flushleft}(ABC television broadcast Mar. 4, 2015); South Park: The Magic Bush (Comedy Central television broadcast Oct. 29, 2014).
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\textsuperscript{21} Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,190 (June 28, 2016) (to be codified at 14 C.F.R. pts. 21, 43, 61, et al.) (“[T]he FAA notes that its mission is to provide the safest, most efficient aerospace system in the world, and does not include regulating privacy.”); Cecilia Kang, F.A.A. Issues Commercial Drone Rules, N.Y. TIMES (June 21, 2016), http://www.nytimes.com/2016/06/22/technology/drone-rules-commercial-use-faa.html?smprod=nytcore-ipad&smid=nytcore-ipad-share&r=1 (“Pilots and privacy groups that pushed hard for greater safety provisions and strong surveillance rules expressed fear that clearing the way for more of the flying machines posed new dangers and few protections from spying.”).
in our skies makes accidents inevitable. At alarming rates, pilots of passenger jets are reporting drones flying near airports, flying in restricted airspace, and interfering with the flight paths of commercial airliners, especially during take-off and landing.22 There have been reports of drones malfunctioning and falling from the sky, causing injury and damage to people and property.23 The insurance industry is beginning to respond to this new market as the number of manufacturers, commercial operators, and homeowners seeking to protect themselves from risk and liability grows.24 Homeowner


24. See, e.g., UAS UAV Drone Insurance, TRANSPORT RISK MGMT., www.transportrisk.com/uavcrfilm.html (last visited Sept. 22, 2016). UAS insurance is comparable to insurance for planes and helicopters. See Drone Insurance Guide: UAV, UAS, & Quadcopter Liability Coverage, UAV COACH, http://uavcoach.com/drone-insurance-guide/ (last updated Oct. 2016). Insurance may include party property coverage for theft or damage to drones. Id. It may also include third party liability coverage for property damage and bodily injury caused by drones. Id. Manufacturers, retailers, service providers make may seek product liability insurance. Id. In other words, the insurance market for drones has enormous potential and is applicable to drones just as it is to many motorized vehicles with some additional coverage such as system hacking.
policies for community associations have started including “risks from drones” as an option in underwriting. Eventually, insurance may become mandatory for unmanned aircraft, similar to insurance requirements for motorized vehicles in most states. As claims for drone related accidents become more common, so too will the number of lawsuits filed against operators and manufacturers for not only injury to persons, but also for interference with the use and enjoyment of property and intrusions into privacy.

With the advent of drones, we have entered a new frontier of aerial observation with the unmanned aircraft. Enthusiasts want to know which operations are lawful and which are prohibited. Homeowners who are watching drones fly over their yards and peer into windows are asking what rights and remedies they have to curtail intrusive drone use. The question on many lawmakers’ minds is whether existing laws provide adequate remedies or whether this technology falls through a legal gap. As is often the case with any new and prolific technology, unmanned aircraft is outpacing the law. Controversies over whether a drone can hover above one’s property at low altitudes, whether it is legal to capture images of those on the ground without consent, and whether one may destroy a drone intruding upon one’s privacy are mounting legal issues.

28. See Should You Be Allowed to Prevent Drones From Flying Over Your Property?, WALL STREET J. (May 22, 2016, 10:03 PM), http://www.wsj.com/articles/should-you-be-allowed-to-prevent-drones-from-flying-over-your-property-1463968981; See Blitz et al., supra note 7, at 53
29. Id.
31. See Rule, supra note 26, at 157.
32. Id. at 163–64, 169–70.
33. See id. at 170; A. Michael Froomkin & P. Zak Colangelo, Self Defense Against Robots and Drones, 48 CONN. L. REV. 1, 3 (2015).
remedies. If laws do not provide legal redress for those negatively impacted by drone operations, then people will assuredly take matters into their own hands. In some instances where the law is perceived as a fairly blunt tool, people will increasingly resort to self-help remedies. Not only are these measures dangerous, but many will result in criminal prosecutions and civil suits over damaged property.

This article sets out to answer these questions at a time when lawmakers are feverishly proposing drone specific legislation. Presently, forty-nine states have considered legislation seeking to regulate drones. Thirty-one states have passed laws that limit the use of drones. The majority of these laws provide for civil penalties and causes of action for capturing images and recordings of individuals via drone without consent. Before the ink dries on these newly minted bills and incidents ripen into lawsuits, we should be asking whether our long-standing common law torts offer remedies of equal or greater value than these rapidly developing new laws. To the extent that common law torts fall short of providing adequate remedies at law, understanding their shortcomings will strengthen future drone legislation.

Part I of this article explains the FAA’s current and proposed rules for drone operators in the wake of the massive popularity of drones.

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34. Rapp, supra note 27, at 645.
35. Frooomkin & Colangelo, supra note 33, at 6.
36. See Matyszczyk, supra note 17; Hoffer, supra note 17.
39. Id. Every state in the country, except for South Dakota, has considered some kind of rule-making. Id. Thirty-two states have taken legislative action to regulate unmanned aircraft. Id.
42. See infra Part I.
Part II describes the capabilities of unmanned aircraft to help understand the growing concern over privacy intrusions. Part III examines the legislative activity among states seeking to limit drone use as a means of protecting privacy. Part IV explains the application of the torts of trespass, nuisance, and invasion of privacy to drones, and those claims’ limitations. Part V suggests that state and local governments can implement regulations for low altitude airspace that are designed to safeguard privacy and not conflict with current FAA rules.

I. THE FAA AND THE SOARING PRESENCE OF DRONES

In 2015 drone sales worldwide hit an all-time record of 4.3 million. This marks an increase of 167% in just two years. Most drones sold in the U.S. retail for between $400 and $1400. It is estimated that Americans bought 400,000 drones during the 2015 holiday season. Trade industry experts estimated that more than 2.8 million drones were sold in the U.S. in 2016 and 4.8 million will be sold in 2017. At the 2016 Consumer Electronic Show (CES), the world’s largest annual electronics show, CES organizers said the U.S. drone market revenue reached $105 million in 2015, an increase of more than 50% from 2014. In 2015, the drone industry’s revenue totaled $261 million, a value expected to almost double in 2016.

43. See infra Part II.
44. See infra Part III.
45. See infra Part IV.
46. See infra Part V.
47. Bedard, supra note 3.
48. Id.
51. Id.
52. Id.
Demand for drones in the commercial arena is constantly expanding. The industries seeking permission from the FAA to use drones for commercial activities include businesses involved in agriculture, oil and gas, engineering, real estate, journalism, and filmmaking. Several universities, such as Emory-Riddle Aeronautics University, Kansas State University, and the University of North Dakota, have begun to offer academic programs and degrees in the field of unmanned aerial vehicles.

In response to mounting private and government pressure to permit commercial enterprises to capitalize on the benefits of this new technology, the FAA released new regulations for persons sixteen years and older wishing to operate, for commercial purposes, a drone weighing less than fifty-five pounds. Beginning in August 2016, the FAA no longer requires commercial users to seek exemption under section 333 of the 2012 Federal Modernization and Reform Act. Rather, commercial operations may commence once the operator completes a written exam and is vetted by the TSA. Commercial drones must stay within the visual line of sight of the pilot or the pilot’s “visual observer.” The pilot must avoid controlled space such as airports and must operate only in daylight, under 400 feet above ground level, and with a maximum speed of no more than 100 mph. Drones may not operate above any person not directly participating in the operation. Additionally, all drones must be

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58. *Id.* at 42,142–43.

59. *Id.* at 42,156.

60. *Id.* at 42,092–97.

61. *Id.* at 42,066 (400 feet ceiling), 42,102 (daytime hours), 42,111 (airspace restrictions), 42,121 (100 mph maximum speed).

62. *Id.* at 42,066.
labeled with the appropriate markings and registration. These new rules will save significant time and money, and will spur thousands of businesses to begin executing their plans to use small drones for commercial activities.

Amidst the 2015 holiday shopping season, which prominently featured the latest consumer drones, the FAA instituted rules for small drones used for personal interest and enjoyment. The rules require that the drone: must not fly within five miles of an airport; must stay out of “drone free zones,” such as sporting events; must stay below 400 feet and within the visual line of sight of the operator; and must comply with all state and local laws. The mandate also requires the operator to register his drone with the FAA before taking flight. Registration includes providing a current address and email and paying a five dollar fee. This registration requirement applies to any operator thirteen years or older. The registration requirement is meant to make it easier to track down drone owners should an incident requiring investigation arise. Officials are spending time and resources with increased frequency trying to track down owners whose drones were spotted flying too close to commercial airliners or within restricted airspace, were involved in a crash, or were

64. See id. at 42,067. The new rule provides a relatively limited authorization for commercial drones to transport property for compensation. Id. at 42,074–77. Notably, the flight must occur within the bounds of one state and the flight must be conducted within the visual line of sight of the remote pilot in command or of a visual observer. Id. at 42,076. To be clear, the delivery options are limited and do not open the skies to deliver of products by autonomous drones. Id.
65. FAA Announces Small UAS Registration Rule, supra note 9.
67. FAA Announces Small UAS Registration Rule, supra note 9. As of February 2016, the FAA reported 370,000 such drones were registered. @FAANews, TWITTER (Feb. 23 2016, 11:08 AM), https://twitter.com/FAANews/status/702208529818636288.
68. FAA Announces Small UAS Registration Rule, supra note 9.
69. Id.
conducting unlawful surveillance.\(^{71}\) If an operator fails to follow these rules or operates in a careless or reckless manner, the operator can be fined by the FAA.\(^{72}\)

With the vast number of drones taking flight, it is untenable for the FAA to patrol the skies and monitor compliance with the regulations. Simply put, the FAA does not have the resources to undertake both of these tasks.\(^{73}\) As a result, local law enforcement will likely be the first to respond to complaints about drones flying too close to people and property.\(^{74}\) Quite likely, the FAA will only become aware of alleged infractions after someone reports an incident.\(^{75}\) Individuals seeking damages for harm caused by a drone will seek recourse from the courts, despite any investigation the FAA may initiate.\(^{76}\) With the new regulations permitting many more drones to take to the skies,

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\(^{72}\) See 14 C.F.R. § 91.13(a) (2016). According to one news agency, the FAA has issued fines to 24 drone operators or companies for alleged infractions with the regulations. Jason Koebler, *The FAA Gave Us a List of Every Drone Pilot Who Has Ever Been Fined*, MOTHERBOARD (June 1, 2016, 2:20 PM), http://motherboard.vice.com/read/faa-drone-fines. Fines imposed by the FAA range from $400 to $5,500. Id. In August 2015, a Minnesota man was fined $55,000 by the FAA for flying his drone in a reckless and careless manner. Melissa Quinn, *He Flew a Drone to Take Photos for a Friend. Now He Faces $55K in Government Fines*, DAILY SIGNAL (June 12, 2016), http://dailysignal.com/2016/06/12/he-flew-a-drone-to-take-photos-for-a-friend-now-hes-facing-55k-in-government-fines/. In 2012, Raphael Pirker was fined $10,000 by the FAA for flying a powered glider around the University of Virginia in violation of FAA rules that prohibits careless and reckless operation of an aircraft. Jack Nicas, *U.S. Federal Aviation Administration Settles with Videographer over Drones*, WALL STREET J. (Jan. 22, 2015, 6:32 PM), http://www.wsj.com/articles/u-s-federal-aviation-administration-settles-with-videographer-over-drones-1421960972.


\(^{74}\) JUST. TECH. INFO. CTR., *supra* note 18, at 1; see also FAA Issues UAS Guidance for Law Enforcement, *supra* note 73.

\(^{75}\) See Nelson, *supra* note 73. Proving these infractions to the FAA may be difficult in that there may be a lack of evidence that the drone was operating in a prohibited manner, delays in response time from the FAA and substantial time lapse in resolving the alleged violation. See FAA Issues UAS Guidance for Law Enforcement, *supra* note 73. In many instances the FAA investigation may be thwarted by lack of evidence pertaining to the manner of operation, and even identifying the operator. See id.

courts will soon be involved in adjudicating matters involving drones.\textsuperscript{77}

II. UAS Capabilities Raise Safety and Privacy Concerns

Unmanned aircraft systems (“UAS”) are versatile, efficient, and often designed to be undetectable.\textsuperscript{78} In light of their aerial perspective, UAS can cheaply and efficiently amass vast amounts of information about people and places.\textsuperscript{79} The unmanned aerial vehicle is simply the platform for enabling surveillance; the on-board instruments gather, store, and transmit the data.\textsuperscript{80} Most UAS are equipped with cameras with high-powered zoom lenses and photo sensors for high-resolution imagery.\textsuperscript{81} The more sophisticated systems offer more advanced on-board instruments, such as infrared sensors, night vision cameras, GPS systems, wi-fi sniffers, and automated license plate readers.\textsuperscript{82} They range in weight from tons to grams, depending on their design and purpose.\textsuperscript{83} These systems are easily operable from a ground control unit—often a smartphone or tablet.\textsuperscript{84} They can hover and fly in all directions.\textsuperscript{85} Many drones can sustain flight times of up to twenty minutes.\textsuperscript{86} As the technology develops, the flight time will increase exponentially.\textsuperscript{87} Most drones are battery-powered, although some are powered by fuel or solar.\textsuperscript{88}

\begin{itemize}
\item \textsuperscript{77} See \textit{id}.
\item \textsuperscript{79} \textit{id}. at 229.
\item \textsuperscript{80} \textit{id}. at 228.
\item \textsuperscript{81} \textit{id}.
\item \textsuperscript{82} \textit{id}. at 228–29.
\item \textsuperscript{83} \textit{id}. at 228.
\item \textsuperscript{84} JUST. TECH. INFO. CTR., supra note 18, at 2; see also Briley Kenney, \textit{5 Remote Control Drones You Can Take to the Skies with}, CHEATSHEET (Sept. 30, 2015), http://www.cheatsheet.com/gear-style/5-remote-control-drones-you-can take-to-the-skies-with.html?ref=vewall.
\item \textsuperscript{85} JUST. TECH. INFO. CTR., supra note 18, at 2; Farber, \textit{supra} note 78, at 228.
\item \textsuperscript{86} JUST. TECH. INFO. CTR., supra note 18, at 2; Farber, \textit{supra} note 78, at 228.
\item \textsuperscript{87} E.g., Sumit Passary, \textit{Hydrogen-Powered Drone Flies 6 Times Longer than Drones Using Normal Battery}, TECH TIMES (Mar. 29, 2016, 10:08 AM), http://www.techtimes.com/articles/144925/20160329/\end{itemize}
Many operators fly drones around their neighborhoods, over fenced-in backyards, near windows, and even around medical facilities. With its mounted camera, the drone can capture images and transmit video simultaneously to the ground unit. All of the data collected by the drone can be downloaded, stored, and disseminated like any other digital data. Unmanned aerial surveillance can be surreptitious and nefarious. Compared to their manned counterparts, drones are almost silent and cannot easily be detected at several hundred feet in the sky.

In 2015, New York had its first criminal prosecution of a drone user for attempted unlawful surveillance. The case involved a New York resident, David Beesmer, charged with flying his lightweight, quad-copter drone around the premises of the Mid-Hudson Valley Medical Facility. After dropping his mother off for a medical appointment, Beesmer launched his drone from the facility parking lot. When staff observed an object flying outside the windows of the examination rooms, they called police. Beesmer was charged with felony unlawful surveillance under the New York Penal Code.
Ultimately, Beesmer was acquitted by a jury. The statute under which Beesmer was charged requires the government prove beyond a reasonable doubt that Beesmer had the intent to see inside the structure. However, the tinted windows of the medical facility made it virtually impossible to see inside. Nonetheless, the Beesmer case raises questions as to how much privacy people can expect with aerial vehicles equipped with cameras flying around our skies. The Beesmer case is hardly an isolated incident. Some municipalities initiated drone-free zones for particular events and structures due to concerns over low-flying cameras hovering over persons and private property.

The privacy concerns extend beyond the collection of information by the drone. The digital data a drone collects can be easily downloaded and shared with others instantaneously. Suppose Beesmer was able to capture images of those inside the facility. Furthermore, suppose Beesmer then uploaded those images to a social media site and shared them with others. Would that constitute a violation of federal or state law? Would it matter if the images of people were captured outside the medical facility? The U.S. Supreme

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99. See Zangla, supra note 37.
100. See N.Y. PENAL LAW § 250.45 (McKinney 2014).
101. Zangla, supra note 37.
102. To be sure, government use of drones raises significant privacy issues and unresolved questions about whether the government can conduct unmanned aerial surveillance without complying with Fourth Amendment requirements. See generally Hillary B. Farber, Eyes in the Sky: Constitutional and Regulatory Approaches to Domestic Drone Deployment, 64 Syracuse L. Rev. 1, at 4 [hereinafter Farber, Eyes in the Sky]; John Villasenor, Observation from Above: Unmanned Aircraft Systems and Privacy, 36 HARV. J.L. & PUB. POL’Y 457 (2013). But non-governmental actors using drones for recreational or commercial purposes does not implicate Fourth Amendment protections against unreasonable searches and seizures. See Farber, supra note 78, at 241–42; Villasenor, supra, at 498. A person seeking a remedy for an alleged intrusion to one’s privacy must rely on a private cause of action. These types of claims will be grounded in tort law, using the traditional common law torts of trespass, nuisance, and privacy torts to mount a claim against a drone operator. See Villasenor, supra, at 498–505.
Court poignantly acknowledged that a significant amount can be learned about a person just by tracking his movements in public.\footnote{United States v. Jones, 565 U.S. 400, 415–16 (2012) (Sotomayor, J., concurring) (citations omitted).} Simply aggregating the coordinates of a person’s location can reveal information such as the state of one’s physical health, familial status, recreational habits, education level, social and political affiliations, financial status, religiosity, and employment.\footnote{Id.} The type of technology the Court discussed in \textit{United States v. Jones} was a global positioning system used to track one individual.\footnote{Id.} The breadth and scope of information that can be amassed by aerial surveillance tracking large numbers of people is far greater.\footnote{Id.}

The Beesmer case raises questions as to whether existing criminal laws are adequate to protect the privacy interests of individuals in the face of this powerful technology. Many states have criminal statutes similar to the one under which Beesmer was charged.\footnote{See generally NAT’L DIST. ATTORNEYS ASS’N, NDAA VOYEURISM COMPILATION (2010), http://www.ndaajustice.org/pdf/Voyeurism%202010.pdf (compiling surveillance states across the United States). Statutes may have different names such as “Video Voyeurism” and “Unlawful Surveillance.” Id.} Some of these criminal statutes are known as voyeurism laws.\footnote{Id.} All require proof of the defendant’s intent to capture information pertaining to the target of the surveillance.\footnote{Id.} The \textit{mens rea} requirement poses difficulties for the prosecution if a drone operator cannot see what he is filming and only learns of the existence of the images after the flight concludes.

GPS monitoring generates a precise, comprehensive record of a person’s public movements that reflects a wealth of detail about her familial, political, professional, religious, and sexual associations. . . . The Government can store such records and efficiently mine them for information years into the future. And because GPS monitoring is cheap in comparison to conventional surveillance techniques and, by design, proceeds surreptitiously, it evades the ordinary checks that restrain abusive law enforcement practices[.]
III. UAS Legislation Throughout the United States

In response to the vast privacy concerns over these aerial observers, lawmakers created legislation limiting the use of unmanned aircraft systems. Since 2013 a flurry of state legislative activity has restricted how, and by whom, unmanned aircraft can be operated.112 Between 2013 and 2016, every state with the exception of South Dakota has considered legislation on drone use.113 Presently, thirty-one states have laws that expressly regulate the operation of unmanned aircraft.114 These restrictions limit the collection, retention, and dissemination of information gathered by unmanned aircraft systems.115 The first states to adopt legislation on UAS confined their bills to restrict government use of UAS.116 Florida and Idaho were two of the first states to pass legislation specific to UAS.117 The main purpose of these laws was to require law enforcement to obtain a warrant prior to using drones for criminal investigations unless exigent circumstances apply.118 Other states followed suit, almost all of which included exceptions for emergencies, search and rescue missions, and terrorist threats.119

By 2014 states were widening the scope of their UAS restrictions to include private use of unmanned aircraft. Among the thirty-one states with drone laws, sixteen include restrictions on private

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112. Current Unmanned Aircraft State Law Landscape, supra note 40.
113. ESSEX, supra note 7, at 5
114. See Farber, Let’s Make It Easy, supra note 70.
115. See Current Unmanned Aircraft State Law Landscape, supra note 40.
operators. Because unmanned aircraft systems are relatively inexpensive, hugely popular, and capable of capturing images from hundreds of feet in the sky, the most common restriction for private users is the prohibition on recording a person without his or her consent. Florida was one of the first states to pass legislation restricting government use of unmanned aircraft. Two years later, the Florida legislature voted to prohibit private individuals from using drones to record images of persons or property without prior consent. The law grants a cause of action against anyone who, without prior consent, uses a drone to capture images of persons or objects on private property if a reasonable expectation of privacy exists. The Florida statute defines reasonable expectation of privacy as being when a person cannot be seen by others at ground level where they have a legal right to be regardless of whether he or she is observable from the sky. Many of these new laws also include altitude restrictions, the requirement that the operator maintain a visual line of sight with the device at all times, and prohibitions on nighttime use.

Oregon and Nevada take a property rights approach to airspace. Oregon passed a law granting landowners a civil cause of action against anyone who flies a drone over another’s property at a height of less than 400 feet. The law allows treble damages for any injury to person or property caused by the drone. Moreover, one provision of the statute grants authority to the Attorney General to

121. See e.g., CAL. CIV. CODE § 1708.8(b) (2015); FLA. STAT. § 934.50(3)(b) (2015).
123. FLA. STAT. § 934.50(3)(b) (2015).
124. Id.
125. Id.
126. Rapp, supra note 14.
128. OR. REV. STAT. § 837.380.
129. Id. § 837.380(4).
bring a nuisance or trespass suit against a drone operator. Similarly, every property owner in Nevada is authorized to prohibit a drone from entering the airspace up to 250 feet above the owner’s property. Nevada’s law creates an action in trespass for anyone flying a drone less than 250 feet over another person’s property without permission. This law took effect in October 2015.

Hawaii proposed an amendment to its nuisance law by adding a reference to unmanned aircraft to avoid the interpretation that the statute did not apply to unmanned aerial vehicles. The proposed language included, “[i]t shall be unlawful for any person to operate an unmanned aircraft system across or above the state in a manner that constitutes a nuisance to the public, a person or the property of another.” Another recently proposed law grants a cause of action to anyone who, without consent, is photographed or is the subject of surveillance or observation against the unmanned systems operator.

In October 2015, the California legislature passed AB 856—otherwise known as the “anti-paparazzi statute.” The law prohibits using a drone to capture an image or recording of a person engaging in a private, personal, or familial activity without permission.

Many states are proposing new criminal laws specific to drones. For instance, the Rhode Island General Assembly introduced a law making it a felony to use a drone to look into a dwelling or other building. Similarly, Michigan proposes to make it a crime to

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130. Id. § 837.380(6).
132. Id.; see also infra note 250.
135. Id.
136. H.B. 609 § 2, 28th Leg. (Haw. 2015).
138. Cal. Civ. Code § 1708.8(a); Current Unmanned Aircraft State Law Landscape, supra note 40. As has been mentioned, the aerial perspective poses challenges for anyone seeking to conceal himself from view via conventional approaches such as installing a tall fence, gates around one’s property and security personnel to keep out the fan base. Farber, supra note 78, at 225.
knowingly operate an unmanned aircraft to trespass above the land of another person with the intent to subject them to eavesdropping or surveillance. Finally, Hawaii initiated legislation curtailing unmanned aircraft surveillance by private entities out of concern for the privacy of its citizens and the freedom from unwanted surveillance. The proposed law makes it a criminal offense for any private entity to use an unmanned aircraft to conduct surveillance, observe, or photograph a person or dwelling in a non-public setting without prior written consent.

The catalyst for the precipitous rise in drone legislation is privacy. Lawmakers are largely concerned with the potential threat to personal privacy presented by the proliferation of these aerial observers. Efforts to create an enforceable privacy interest are evinced in the titles of the legislation: the Florida Freedom from Unwanted Surveillance Act; the Idaho Preserving Freedom from Unwarranted Surveillance Act; and the Illinois Freedom from Drone Surveillance Act. Georgia’s preamble to an act regulating flights over land and waters also contains strong privacy language.

The right to privacy is fundamental in a free and civilized society. Persons within the state of Georgia have a reasonable and justifiable expectation of privacy that they will not be monitored by unmanned aerial vehicles (UAVs) by law enforcement agents of the United States or the State of Georgia without a warrant based upon probable cause first being issued. The potential benefit to law enforcement and criminal justice from the use of UAVs without a warrant first being issued is far outweighed by the degradation to the fundamental right to privacy secured by the Constitution of the United States and the Constitution of Georgia that will result from law enforcement use of UAVs without first obtaining a warrant.

Id.
Maintaining one’s privacy has grown increasingly complicated with advancements in technology. Reliance on third parties to provide the means by which people communicate and transact business—personal or professional—is unavoidable.\textsuperscript{150} Every day we relinquish and store a multitude of personal information using our digital devices.\textsuperscript{151} Lawmakers have focused their sights on drones because of how quickly they have proliferated throughout society.\textsuperscript{152} The legislative approach has been to design laws that aim to protect individual privacy by regulating how the technology should be used.\textsuperscript{153} In some instances, these legislative measures have filled a gap in the law in order to curtail abuses of the technology.\textsuperscript{154} Some critics of this approach argue that it is inefficient—even short-sighted—to legislate drone technology as opposed to legislating conduct and then assessing on a case-by-case basis whether the technology being used to bring about the harm—for example, pervasive surveillance—fits within the statute.\textsuperscript{155} One scholar argues that “this technology-centric approach creates perverse results, allowing the use of extremely sophisticated and pervasive surveillance technologies from manned aircraft, while potentially disallowing benign—non-privacy-invasive—uses of drones for mundane tasks like accident and crime scene documentation, or monitoring of industrial pollution and other environmental harms.”\textsuperscript{156}

\textsuperscript{150} United States v. Jones, 132 S.Ct. 945, 957 (2012) (Sotomayor, J., concurring). [I]t may be necessary to reconsider the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties . . . . This approach is ill-suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks.

\textsuperscript{151} See Farber, Eyes in the Sky, supra note 102, at 17. “For instance, online banking, online payment systems, renewing a driver’s license or registration, making airline reservations, and paying bar dues are all necessary tasks that require disclosure of confidential information.” Id.

\textsuperscript{152} See Holly, supra note 144.


\textsuperscript{156} McNeal, supra note 155, at 360.
While it is true that other emerging technologies pose risks of intrusions into one’s private matters, none are as prolific as drones at the present time. Currently, there is no other technology that is as accessible to the general public and poses as tangible a threat to privacy and safety as the drone.¹⁵⁷ Millions of people own drones and many want to know how and where they can use them before they operate them.¹⁵⁸ From a legislative perspective it is hard to deny the temptation and motivation to craft laws designed specifically to address the concerns and questions that so many in the public have about drone use.¹⁵⁹

As lawmakers consider new legislation aimed at narrowing the permissible use of drones, it is prudent to ask whether existing laws already prohibit the targeted conduct.¹⁶⁰ If flying a drone over someone’s backyard at a relatively low altitude constitutes a trespass or a nuisance, then what is the utility of passing another law that specifically forbids drones from engaging in such conduct? If taking a photograph of someone without consent can constitute an invasion of privacy, depending on whether an expectation of privacy exists, then why pass a new law that states it is illegal to do that same thing with a drone?

IV. COMMON LAW TORTS AND THEIR APPLICABILITY TO NEW TECHNOLOGY—DRONES

The capability of drones, now and in the future, appears to extend beyond the reach of traditional common law torts designed to protect

¹⁵⁷. See JUST. TECH. INFO. CTR., supra note 18, at 2–3; see also Carol Cratty, FBI Uses Drones for Surveillance in U.S., CNN: POLITICS (June 20, 2013, 7:27 AM), www.cnn.com/2013/06/19/politics/bi-drone/ (“I think the greatest threat to the privacy of Americans is the drone . . . .” (quoting Senate Intelligence Comm. Chairman Dianne Feinstein)); see also Farber, Eyes in the Sky, supra note 102, at 7.


¹⁵⁹. See, e.g., Freedom from Unwarranted Surveillance Act, FLA. STAT. § 934.50 (2016). The plethora of proposed legislation among all the states is testament to the belief among lawmakers that they need to legislate drones specifically. See generally ESSEX, supra note 7.

¹⁶⁰. For a description of state laws that might address improper drone conduct see JUST. TECH. INFO. CTR., supra note 18, at 5–7.
privacy and property rights. Torts such as trespass, nuisance, and intrusion upon seclusion are limited in significant ways when applied to drone technology.\(^{161}\) This is due in large part to a drone’s versatility to operate at lower and higher elevations without compromising its ability to capture the quality of the imagery at ground level.\(^{162}\) Highly sophisticated, sensory enhancing instruments that are equipped to the drone’s platform make proximity to the target of the surveillance hardly relevant.\(^{163}\) On the other hand, physical proximity is a key element in trespass and intrusion upon seclusion claims.\(^{164}\) Moreover, because of their size, drones will not typically whip up soil, scare livestock, or disturb one’s use and enjoyment of land in ways that courts have traditionally found to constitute a nuisance.\(^{165}\) In this regard, a plaintiff’s circumstances in the drone context may be factually distinct from traditional claims under these three torts. This may well undermine any reliance on our current tort scheme to provide relief on controversies involving drones. Identifying the limitations of these traditional torts when applied to unmanned aircraft may well strengthen the laws that are being drafted specifically for drones.

\section*{A. Trespass}

The tort of trespass is recognized in every jurisdiction.\(^{166}\) Trespass is a cause of action enabling a plaintiff to protect a possessory interest in land.\(^{167}\) The Restatement Second of Torts distinguishes

\begin{footnotesize}
161. See Villasenor, supra note 102, at 499–503.

162. See, e.g., Phantom 4 Specs, DJI, https://www.dji.com/phantom-4/info (last visited Oct. 3, 2016). For instance, a drone may hover over a property at elevations above 400 feet and capture high-resolution photographs of the same quality as if it were flying at fifty feet above ground. Id.


164. See Restatement (Second) of Torts § 159 cmt. j (Am. Law Inst. 1979).

165. See Id. § 821D cmt. b.


167. Restatement (Second) of Torts § 158 (Am. Law Inst. 1979). Although the Restatement imposes the burden that the interference be substantial, it is unclear how substantial the interference need be, because as the comments to the Restatement point out—even waving your arm over a fence and into a neighbor’s property constitutes a trespass. Id. § 159 cmt. f. illus. 3; see e.g., Herrin v. Sutherland, 241 P. 328, 329, 332 (Mont. 1925) (finding that a bullet disturbed the plaintiff’s “quiet,
between real property and airspace above one’s land. Section 158 of the Restatement establishes the elements for physical trespass to land. For a claim to be successful, the plaintiff must show that the defendant: (1) entered the land without authorization, or “cause[d] a thing or a third person to do so”; (2) “remain[ed] on the land”; or (3) “fail[ed] to remove from the land a thing which he [had] a duty to remove.” A person who intentionally invades another’s possessory property interest may be liable even if the person did not cause any particular harm. As early as 1835, the Supreme Court of North Carolina recognized that every intentional unauthorized entry onto someone else’s land is a trespass. The court reasoned that every such entry results in some damage, whether actual or inferred. Trespass actions may also include incursions beneath the surface of the ground or in the airspace above the land to a reasonable extent. Flight by an aircraft in the air space above the land of another is trespass if (1) “[the aircraft] enters into the immediate reaches of the air space next to the land, and (2) [it] interferes substantially with the other’s use and enjoyment of the land.” Flying at a low altitude may constitute a trespass even when the object never touches down on the property. Courts will consider undisturbed, peaceful enjoyment” of land and was thus a trespass where defendant was standing still and fired his shotgun at ducks, and the bullet flew over the plaintiff’s land without touching down).

169. Id. § 158. Courts have found defendants liable under trespass theory when an object has invaded plaintiff’s property, whether that object is tangible or intangible. See e.g., Martin v. Reynolds Metal Co., 342 P.2d 790, 797 (1959) (finding non-tangible gaseous fluorides from defendant’s machinery constituted a trespass even though the “thing” that entered plaintiff’s land was not tangible).
170. RESTATEMENT (SECOND) OF TORTS § 158 (AM. LAW INST. 1979).
171. See id.
173. Id. (reasoning that just by treading onto the plaintiff’s grass, the defendant caused harm); see also Forest City Cotton Co. v. Mills, 10 S.E.2d 806, 806 (N.C. 1940) (“In trespass, the plaintiff is entitled to recover nominal damages if he only show that the defendant broke his close.”); Lee v. Stewart, 10 S.E.2d 804, 805–06 (N.C. 1940) (holding that the defendant walking onto the farmland of the plaintiff presents an issue of trespass for the jury).
175. See id. § 159(2). Interestingly, the Restatement (Second) of Torts includes as part of its definition principles commonly found in nuisance law. See id. Specifically, the Restatement provides that over-flights are trespasses if: (1) they are in the immediate reaches of the land, and (2) they interfere with the use and enjoyment. Id.
176. See id.
the proximity of the flying object to the land or structure and the reach of one’s possessory interest in airspace.\textsuperscript{177}

The vexing problem emerging since drones took to the skies is where a landowner’s airspace rights begin and end.\textsuperscript{178} Prior to the mid-twentieth century, landowners in the United States were said to own everything on their land “from the depths of the Earth to the Heavens above.”\textsuperscript{179} This principle—first articulated by Lord Edward Coke and later by William Blackstone—became known as the “ad coelum” doctrine and came to represent pre-twentieth century American law on airspace rights.\textsuperscript{180}

Toward the early part of the twentieth century, modern aviation and the ad coelum doctrine began to conflict.\textsuperscript{181} As airplanes populated our skies, it became clear that granting landowners rights to airspace would make it virtually impossible for an aircraft to fly without first seeking authority from every landowner whose property it traveled over.\textsuperscript{182} Congress enacted the Air Commerce Act in 1926, and later the Civil Aeronautics Act in 1938.\textsuperscript{183} This federal legislation authorized aircraft to fly at or above safe minimum altitudes, which became known as “navigable airspace.”\textsuperscript{184} By 1958, the FAA defined navigable airspace as airspace above 500 feet, along

\begin{itemize}
\item \textsuperscript{177} RESTATEMENT (SECOND) OF TORTS § 159 cmt. 1 (AM. LAW INST. 1979). The comments to the Restatement (Second) of Torts explain how courts have interpreted “immediate reaches”: “Immediate reaches” of the land has not been defined as yet, except to mean that the aircraft flights were at such altitudes as to interfere substantially with the landowner’s possession and use of the airspace above the surface. No more definite line can be drawn than is suggested by the word “immediate.” In the ordinary case, flight at 500 feet or more above the surface is not within the “immediate reaches,” while flight within 50 feet, which interferes with actual use, clearly is, and flight within 150 feet, which also so interferes, may present a question of fact.


\item \textsuperscript{179} United States v. Causby, 328 U.S. 256, 260–61 (1946); Cajus est solum, ejus est usque ad coelum et ad inferos, BLACK’S LAW DICTIONARY (6th ed. 1990).

\item \textsuperscript{180} STUART BANNER, WHO OWNS THE SKY?: THE STRUGGLE TO CONTROL AIRSPACE FROM THE WRIGHT BROTHERS ON 16–17 (2008); Rule, supra note 26, at 166.

\item \textsuperscript{181} Rule, supra note 26, at 166.

\item \textsuperscript{182} Id.

\item \textsuperscript{183} Id.

\item \textsuperscript{184} Id.
\end{itemize}
with any lower “airspace needed to insure safety for take-off and landing[.]”\textsuperscript{185} The net result of these laws limited the scope of the ad coelum doctrine to airspace below 500 feet.\textsuperscript{186}

Even before the FAA issued its definition of navigable space, the United States Supreme Court essentially dismantled what was left of the ad coelum doctrine.\textsuperscript{187} \textit{United States v. Causby} declared the doctrine “has no place in the modern world,” and determined that “[t]he air is a public highway.”\textsuperscript{188} \textit{Causby} squarely placed the issue of landowners’ property interests in airspace before the Court.\textsuperscript{189} In \textit{Causby}, the landowners operated a chicken farm next to a municipal airport that was being used by the Army and Navy during World War II.\textsuperscript{190} The flight path for the aircrafts, depending on the wind conditions, would take them directly over the Causbys’ property at an elevation of eighty-three feet, and sometimes as low at sixty-seven feet above the house.\textsuperscript{191} The Causbys’ chickens were so frightened by the airplane noise that they would fly into walls and die.\textsuperscript{192} The plaintiffs lost on average between six to ten chickens per day.\textsuperscript{193} As a result, the chicken farm closed, and the Causbys sued the U.S. government, alleging the government’s flight path and the subsequent loss of their chicken business resulted in a taking of their property.\textsuperscript{194}

The Supreme Court held that most flights over private lands are not a taking, because the airspace is “part of the public domain,” aside from the airspace within the immediate reaches of a property owner’s land.\textsuperscript{195} Most importantly for this discussion, the Court explained that a landowner owns “at least as much of the space above

\begin{itemize}
\item \textsuperscript{186} See Rule, supra note 26, at 168.
\item \textsuperscript{187} See United States v. Causby, 328 U.S. 256 (1946).
\item \textsuperscript{188} Id. at 261.
\item \textsuperscript{190} Causby, 328 U.S. at 258.
\item \textsuperscript{191} Id.
\item \textsuperscript{192} Id. at 259.
\item \textsuperscript{193} Id.
\item \textsuperscript{194} See id. at 258.
\item \textsuperscript{195} Id. at 266.
\end{itemize}
the ground as he can occupy or use in connection with the land”.

As a result, a plaintiff may have an actionable claim for aerial trespass when the aircraft is flying at a particularly low altitude. As seen in *Causby*, where large military planes flew well below normal altitude for this type of aircraft and caused frequent disruption to the livestock, the landowner suffered a taking for which he was entitled to compensation.

In the years since *Causby*, many states, either through statute or court decisions, have protected aircraft from liability for trespass unless the aircraft “interferes substantially” with the landowner’s use of the property. In addition, some cases have gone further, holding that mere interference with bare use or possession is not enough. For a landowner to recover in an action for trespass against an aircraft, the landowner must show substantial interference with his actual use of the land, even in cases where the aircraft were flying below federally-regulated altitudes.

The types of drones populating our skies today, whether for recreational or commercial use, frequently fly below 500 feet. Depending on their intended use, they will generally operate between 50 and 500 feet above ground. Typically they weigh less than five

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197. *Id.* at 267.
198. RESTATEMENT (SECOND) OF TORTS § 159 (AM. LAW INST. 1979); see also Gardner v. County of Allegheny, 114 A.2d 491, 499 (Pa. 1955) (“Flight in aircraft over the lands and waters of this Commonwealth is lawful, unless at such low altitude as to interfere with the then existing use to which the land or water, or the space over the land or water, is put by the owner . . . .” (quoting Pennsylvania Aeronautical Code of 1933, § 402)); Anderson v. Souza, 243 P.2d 497, 505 (Cal. 1952) (“Flight in aircraft over the lands and waters of this State is lawful, unless at altitudes below those prescribed by federal authority, or unless so conducted as to be imminently dangerous to persons or property lawfully on the land or water beneath.” (quoting California Aeronautics Commission Act of 1947, § 2(d))).
199. Smart v. City of Los Angeles, 112 Cal. App. 3d 232, 237 (1980) (finding that the noise of overhead aircraft did not interfere with plaintiff’s use and enjoyment until he attempted to sell the land); Drennen v. County of Ventura, 38 Cal. App. 3d 84, 87–88 (1974) (declining to find trespass where the plaintiff did not actually use the land during the time that aircraft was flying over the property); Pueblo of Sandia ex rel. Chaves v. Smith, 497 F.2d 1043, 1046 (10th Cir. 1974) (holding no substantial interference took place because the plaintiff’s land was uninhabited and put to no use whatsoever).
200. See RESTATEMENT (SECOND) OF TORTS § 159 (AM. LAW INST. 1979). Cases since *Causby* have “limited the trespass liability to instances where, even though there is a flight below the prescribed minimum altitude, there is no trespass unless there is such interference with actual, as distinguished from potential, use.” *Id.* § 159 cmt. k.
201. See Whitlock, supra note 158.
202. See id.
pounds and are relatively quiet compared to planes and helicopters. Instances of low-flying drones over and around private property are not uncommon, nor are instances of drones disturbing property owners by their presence. In Leawood, Kansas, a man called police after seeing a neighbor’s drone flying just outside his teenage daughter’s bedroom window. In a high-rise apartment building in downtown Miami, a woman saw a drone peering in through her living room window while breastfeeding her son. According to reports, the drone was so close to the window she was almost able to “swat” it from her balcony. In Seattle, a woman saw a drone hovering outside her window on the twenty-sixth floor while she was getting dressed. Journalists at a local newspaper in Brooklyn spotted a drone hovering outside their office window on the thirtieth floor with its camera pointing at them. Police investigation revealed that the drone was operated by an architect who claimed to be surveilling the property for potential development. He was served a criminal summons for illegally flying a drone in a prohibited area. In upstate New York, David Beesmer was charged with attempted unlawful surveillance and later acquitted for flying his drone around the windows of a medical facility where patients and staff became alarmed and called police.

These instances raise questions about who owns the rights to airspace just outside the confines of one’s dwelling. One way to think about airspace rights drawing upon property law and Fourth

203. See Farber, supra note 78, at 225. Many of the best-selling drones on the market weigh less than one pound, have a flight duration up to twenty-two minutes and can fly approximately twenty-nine miles per hour. Kenney, supra note 84.
204. Leawood Man Says Peeping Tom Flew Drone next to Teen Daughter’s Window, supra note 16.
205. Carey Codd, Brickell Key Woman Says Drone Spied on Her as She Breastfed, CBS MIAMI (May 20, 2015, 11:00 PM), http://miami.cbslocal.com/2015/05/20/brickell-key-woman-says-drone-spied-on-her-as-she-breastfed/.
206. Id.
209. Id.
210. Id.
211. Zangla, supra note 37.
Amendment jurisprudence is that low altitude airspace immediately above one’s land should be treated much the same as the curtilage around one’s home.212 In this way, a landowner would have enforceable rights to refuse entry to anyone within this vertical curtilage.213 Although devoid of this terminology, the Restatement Second of Torts adopts this principle.214 Comment l explains that flights fifty feet above one’s property substantially interfere with a landowner’s use and enjoyment of his property thus constituting an aerial trespass.215

The application of the aerial trespass doctrine becomes less clear when an object is flying at an altitude greater than fifty feet.216 The further the distance between the flying object and the land the more difficult it will be for a plaintiff to prove that the aircraft was within the “immediate reaches of the land.”217 In Causby, there was no dispute that planes flying just eighty-three feet above plaintiff’s property were within the immediate reaches of his land and substantially interfering with his use of the property.218 Large aircraft flying at such a low altitude except for takeoff and landing is out of the ordinary.219 But according to the Restatement, distances greater than fifty feet are less certain to be construed as within the immediate reaches of one’s property.220 It is well settled that 500 feet above the
For aircraft operating in this nebulos airspace between 50 and 500 feet, the determination as to whether the aircraft is within the immediate reaches of the property will turn on how much interference the aircraft is actually causing to the use of the land. Unlike the chickens’ suicidal reaction to the loud noise and significant winds caused by large planes flying low to the ground, drones do not pose the same physical annoyances and hazards. Drones are comparably quiet, small, and relatively undetectable. To be sure, the loudest objection being voiced about drones flying over private property is a perceived intrusion into one’s privacy. The ability of the drone to use its surveillance gear to record and capture intimate details of people’s lives is of more concern than the loud noises, smells, or other intrusions and annoyances caused by manned aircraft. Assessing the gravity of the harm caused by drones will require a different set of considerations and factors to determine if a one-pound drone hovering 150 feet over someone’s backyard will constitute an aerial trespass.

Finally, the situation is even less advantageous to the landowner when the aircraft is flying at elevations 500 feet and higher above ground. Courts and federal regulators have historically declared an altitude of 500 feet or higher to be navigable airspace.

222. See Causby, 328 U.S. at 266.
223. Id. at 259.
224. Farber, supra note 78, at 225.
225. MARISAKIYAMA ET AL., NEVADA VS. U.S. RESIDENTS’ ATTITUDES TOWARD SURVEILLANCE USING AERIAL DRONES 3 (2014), https://www.unlv.edu/sites/default/files/page_files/27/NevadaU.S.Residents'Attitudes.pdf. A 2014 study by researchers at the University of Las Vegas, Nevada Center for Crime and Justice Policy conducted an on-line survey of 534 adults in the U.S. and their perceptions and attitudes toward unmanned aerial vehicles. Id. The results showed that 88% of U.S. adults viewed drone use as an invasion of personal privacy. Id. This far surpassed the concerns expressed about public and personal safety. Id.
226. See id.
227. RESTATEMENT (SECOND) OF TORTS § 159 cmt. at 1 (AM. LAW INST. 1979).
228. Florida v. Riley, 488 U.S. 445, 445 (1989); see also Complaint for Declaratory Judgment and Damages, supra note 17, at 3. The most significant issue in this lawsuit deals with whether Boggs’ drone flying at two hundred feet is within the immediate reaches of Merideth’s property or whether the airspace at that altitude is considered navigable airspace controlled by the FAA. See id. If the drone was flying in navigable airspace than Merideth had no right to shoot it down because the drone was not intruding on his property. See United States v. Causby, 328 U.S. 256, 266 (1946).
well settled that if the aircraft is in navigable airspace it is solidly
within the jurisdiction of the FAA and landowners have no
possessory rights to this airspace. 229 Courts have treated navigable
airspace as public thoroughfares just the same as roads and
highways. 230 In other words, if those flying in navigable airspace
make observations of anything on the ground they are doing so from
a public vantage point. 231 Information obtained from a lawful vantage
point, such as public airspace, does not unreasonably intrude upon
one’s expectation of privacy. 232 This is precisely why law
enforcement does not need a warrant to fly 500 feet above someone’s
property and commercial aircraft do not need permission from
landowners to fly 500 feet above their property. 233

But drones are not dependent on close proximity to their target for
surveillance purposes. 234 A drone can hover and fly hundreds of feet
in the sky and still capture and record images of people and places on
the ground. 235 A drone simply acts as the platform enabling the visual
surveillance. 236 The sensory enhancing instruments equipped to the
drone determine the quality and reach of the data that can be
collected. 237 A drone is capable of hovering over an area long enough
to allow the instruments to capture and disseminate information
to the ground control unit. 238 Drones all but eviscerate the physical
proximity issue due to their capabilities and on board instruments.

229. 49 U.S.C. § 40103(a)(1) (2012) (“The United States government has exclusive sovereignty of
airspace of the United States.”). According to 49 U.S.C. § 40103(b)(1), Congress delegated the ability to
define navigable airspace to the FAA. 49 U.S.C. § 40103(b)(1).
230. See Riley, 488 U.S. at 451 (1989) (finding that a police helicopter flying at 400 feet over private
property was in navigable airspace when officers made observations of cultivation of marijuana
occurring in backyard). Even still, the line between non-navigable airspace and navigable airspace is not
a definite one. Federal regulators have made navigable airspace contingent on location. See 14 C.F.R.
§ 91.119(a)-(c) (2010).
231. See id. at 451.
232. Id. at 451–52; California v. Ciralo, 476 U.S. 207, 213–14 (1986); Dow Chem. Co. v. United
States, 476 U.S. 227, 239 (1986); see also Farber, Eyes in the Sky, supra note 102, at 19.
234. See Farber, supra note 78, at 225; see also Froomkin & Colangelo, supra note 33, at 30.
Froomkin and Colangelo suggest that the intrusions that stem from the use of the sensory enhancing
devices are themselves the damages regardless of whether or not a technical intrusion is found. Id.
235. See Farber, supra note 78, at 225, 228–29.
236. See id.
237. See id; see generally Blitz et al., supra note 7, at 54–55.
238. See id.
Technologies such as wi-fi sniffers, license plate readers, night vision cameras, facial recognition technology and other biometric devices, and high-powered telephoto lenses make distance a fairly blunt obstacle to the collection of information. Indeed, a cause of action that is dependent on proximity to real property is of little or no utility in the drone context.

One approach to giving more force and effect to the trespass doctrine is for states to grant landowners a possessory right to airspace above their property. Until recently, airspace below 500 feet has been largely left to the states to govern. A state or municipality can grant landowners a possessory interest in the airspace above their property up to navigable airspace. In effect, states would be legislatively assigning a column of airspace to every landowner. This approach would clarify a landowner’s airspace rights and simplify the determination of whether an aerial trespass has been committed. Presumably, the legislative intent of prescribing a specific altitude would be prima facie evidence that unauthorized flight within that airspace constitutes interference with the use and


240. A property owner may have an actionable claim against a drone operator in instances where a drone flies within fifty feet of a house, but the same drone flying autonomously at a higher altitude can see through windows and skylights and listen in on wi-fi signals. See RESTATEMENT (SECOND) OF TORTS § 159 cmt. 1 (AM. LAW INST. 1979) (“[F]light within 50 feet, which interferes with actual use, clearly is, and flight within 150 feet, which also so interferes, may present a question of fact.”).

241. See Rule, supra note 26, at 187. Rule recommends legislation to define these rights all the way up to the 500-foot navigable airspace line. Id.


243. See Rule, supra note 26, at 187, 202–03.
enjoyment of one’s land. All a landowner would need to show to establish a claim of aerial trespass would be that the drone flew in to the owner’s airspace without permission.\textsuperscript{244}

Indeed, this is precisely the approach Oregon and Nevada have taken, passing laws designed specifically to restrict operation of low flying drones over private property.\textsuperscript{245} In June 2015, Nevada’s law took effect, which allows a landowner to bring an action in trespass against the owner or operator of an unmanned aerial vehicle that is flown fewer than 250 feet over the landowner’s property without permission.\textsuperscript{246} This newly minted statute, in effect, creates a defined column of airspace for every landowner who has the authority, notwithstanding the statute’s exceptions, to refuse entry into this designated airspace above his property.\textsuperscript{247}

\textsuperscript{244} Id. at 187.
\textsuperscript{245} OR. REV. STAT. §§ 837.380(4)–(6) (2016); Assemb. B. 239 § 18.5(a), §§ 19.1(a)–(b), 78th Leg., Reg. Sess. (Nev. 2015).
\textsuperscript{246} Assemb. B. 239, 78th Leg., Reg. Sess. (Nev. 2015).
\textsuperscript{247} Subsection 1 of Nev. Rev. Stat. § 493.103 creates the property right. It reads as follows:
Except as otherwise provided in subsection 2, a person who owns or lawfully occupies real property in this State may bring an action for trespass against the owner or operator of an unmanned aerial vehicle that is flown at a height of less than 250 feet over the property if: (a) the owner or operator of the unmanned aerial vehicle has flown the unmanned aerial vehicle over the property at a height of less than 250 feet on at least one previous occasion; and (b) the person who owns or occupies the real property notified the owner or operator of the unmanned aerial vehicle that the person did not authorize the flight of the unmanned aerial vehicle over the property at a height of less than 250 feet. For the purposes of this paragraph, a person may place the owner or operator of an unmanned aerial vehicle on notice in the manner prescribed in subsection 2 of NRS 207.200.

Subsection 2 lists the exceptions:
A person may not bring an action pursuant to subsection 1 if: (a) the unmanned aerial vehicle is lawfully in the flight path for landing at an airport, airfield or runway; (b) the unmanned aerial vehicle is in the process of taking off or landing; (c) the unmanned aerial vehicle was under the lawful operation of: (1) a law enforcement agency in accordance with section 20 of this act; and (2) a public agency in accordance with section 21 of this act; or (d) The unmanned aerial vehicle was under the lawful operation of a business licensed in this State or a land surveyor if: (1) the operator is licensed or otherwise approved to operate the unmanned aerial vehicle by the Federal Aviation Administration; (2) the unmanned aerial vehicle is being operated within the scope of the lawful activities of the business or surveyor; and (3) the operation of the unmanned aerial vehicle does not unreasonably interfere with the existing use of the real property.
The difficulty with states granting airspace rights to landowners, as in the cases of Nevada and Oregon, is that the FAA has the authority to regulate aircraft at any altitude. Since the beginning of modern aviation, the FAA has generally left the ability to control the airspace up to 500 feet—the minimum altitude for safe air travel because manned aircraft did not use low elevation airspace except for takeoff and landing—to the states. But with the proliferation of drones and the pressure on the FAA to integrate drones into our national airspace, the FAA has extended its jurisdiction below 500 feet for the purpose of regulating the safe operation of unmanned aircraft. The new rules for small commercial drones are designed to ensure safety, rather than to protect privacy. In fact, the FAA plainly stated that its mission is “to provide the safest, most efficient aerospace system in the world, and does not include regulating privacy.” This is good news for the hundreds of cities and towns banning drones and the thirty-one states that recently passed statutes to protect residents from snooping drones. The FAA recognizes that while it is the sole authority when it comes to ensuring safety in our skies, state and

Additionally, subsection 3 allows a plaintiff who prevails in an action for trespass brought pursuant to subsection 1 to recover triple damages for any injury to person or property, as well as reasonable attorney’s fees and court costs. The plaintiff can also be awarded injunctive relief. Id. Georgia has proposed a similar approach in its pending legislation for civil cause of action for trespass by unmanned aircraft, except that it has designated 100 feet above ground as the marker. H.B. 157th Gen. Assemb., Reg. Sess. (Ga. 2015).


249. See Hiltzik, supra note 242.


251. See id.


local governments have taken steps to bolster privacy protections from unwanted aerial observers. The FAA does not seek to preempt state and local privacy laws, as those interests fall outside the agency’s mandate. Hence, after much speculation and consternation among lawmakers, the FAA did not include a preemption clause in its final rules pertaining to small commercial UAS.

B. Nuisance

The tort of nuisance may be better suited to address overhead flight at any altitude because nuisance actions are not dependent on an intrusion of one’s possessory interest in real property. Simply put, conduct that interferes with the use and enjoyment of the land is actionable under a nuisance theory. There are two types of nuisance, private and public. A private nuisance requires the unreasonable interference with the use and enjoyment of one’s land. A public nuisance requires that the harm be greater than to one individual, rather it must constitute a “public harm,” an activity

254. See Essex, supra note 7, at 10.
255. See id. at 13; see also Kang, supra note 21 (“The new F.A.A. rules do not necessarily preclude a hodgepodge of state and local drone regulations that have popped up in recent years. The administration sent a letter to states and cities saying they recommend everyone follow their lead. But it is only a recommendation.”).
256. See Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,066 (June 28, 2016) (to be codified at 14 C.F.R. pts. 21, 43, 61, et al.). Until the FAA’s issuance of its final rules on June 21, 2016, there was great concern among state and local lawmakers regarding whether the thirty-one states with laws aimed at restricting drone use to protect privacy would be preempted by the agency’s intent to control the field. See Cecilia Kang, F.A.A. Drone Laws Start to Clash with Stricter Local Rules, N.Y. TIMES (Dec. 27, 2015), http://www.nytimes.com/2015/12/28/technology/faa-drone-laws-start-to-clash-with-stricter-local-rules.html [hereinafter Kang, F.A.A. Drone Laws]. Had the federal agency’s jurisdiction extended that broadly, it would have had a crippling effect on laws like the one recently passed in Nevada. See Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,066 (June 28, 2016) (to be codified at 14 C.F.R. pts. 21, 43, 61, et al.). A drone operator being sued could successfully argue that he was operating in public airspace as evidenced by the FAA’s exclusive jurisdiction of the contested airspace. See Kang, F.A.A. Drone Laws, supra. Essentially, any claim of trespass would be nullified unless the drone touched down on the land of the plaintiff. Many of these laws go further than the FAA regulations, specifically imposing fines and criminal violations for lack of compliance. Essex, supra note 7, at 23–25.
257. Restatement (Second) of Torts § 822 (Am. Law Inst. 1979).
258. Id. § 821A.
259. Id. § 821D.
that is harmful to public health or safety. Moreover, a plaintiff in a private nuisance suit need not own the property so long as he is a lawful occupant or user of the property. In either case, a plaintiff must prove that the interference was intentional or due to a defendant’s negligence. Nuisance claims often involve instances where the defendant’s conduct creates a condition such as a noise, vibration, odor, or light that unreasonably interferes with the plaintiff’s use and enjoyment of his land. Disturbance of peace of mind is also actionable. There could be overlap between nuisance and trespass; where an object both invades the property and interferes with the use and enjoyment of land. In nuisance cases, courts tend

260. Id. § 821B.
262. Restatement (Second) of Torts § 822 (A. Law Inst. 1979).
263. See Transcript Gas Pipe Line Co. v. Gault, 198 F.2d 196, 198 (4th Cir. 1952) (finding that vibration and noise from plant greatly disturbed plaintiffs’ enjoyment of their homes); Holberg v. Bergin, 172 N.W.2d 739, 744 (Minn. 1969) (finding that tree roots from neighbor’s tree growing under sidewalk and creating drainage problems caused harm to plaintiff’s property); McClung v. Louisville & Nashville R.R. Co., 51 So.2d 371, 373, 375 (Ala. 1951) (finding a nuisance to residents in the immediate vicinity because unloading metal sand cars into bins frequently and during the early morning made loud noise and churned up dust).
265. See Restatement (Second) of Torts § 821D cmt. e (A. Law Inst. 1979). The Restatement of Torts describes the difference with this illustration:

Thus the flooding of the plaintiff’s land, which is a trespass, is also a nuisance if it is repeated or of long duration; and when the defendant’s dog howls under the plaintiff’s window night after night and deprives him of sleep, there is a nuisance whether the dog is outside the plaintiff’s land or has entered upon it, and the defendant’s negligence in looking after the dog would make him liable either for trespass if there was an entry or for nuisance whether there was entry or not.

to focus on the diminution of usability of the land, which includes but is not limited to recovery for diminution of the property’s market value, personal discomfort to its occupants, and interference with the pleasure and comfort a person normally derives from their land.266 According to the Rhode Island Supreme Court, the essential element of an actionable nuisance is that persons have suffered harm or are threatened with injuries that they ought not have to bear.267

Under the tort of nuisance, a plaintiff must prove that the harm was not only substantial but unreasonable.268 Neighborhood characteristics and customs are factors in determining whether a defendant’s conduct constitutes unreasonable and substantial harm.269 For instance, the ringing of church bells and the fragrance of baking bread are not likely to be found unreasonable.270 On the other hand, activities that are out of character with the neighborhood, such as loudly unloading metal sand cars into bins frequently and during the early morning, will constitute a nuisance.271 At common law, it is widely held that noises or vibrations that interfere with one’s ability to use or enjoy one’s property constitute private nuisances.272

Courts also look to the frequency, magnitude, and duration when assessing reasonableness of a defendant’s conduct.273 Occasional invasions may not constitute unreasonable interference whereas continuous, repeated, and frequent activities may.274 Potential harm to the plaintiff caused by a defendant’s activity, as well as harm to adjoining property owners and inhabitants, is relevant to a finding of

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266. See RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979). The interference must be one that a normal person would find offensive. See id. If the inference is only harmful to especially sensitive persons than courts are unlikely to find interference actionable. See id.
268. RESTATEMENT (SECOND) OF TORTS § 822 (AM. LAW INST. 1979).
270. Id.
273. See DOBBS, supra note 269.
274. Id.
nuisance. The utility of a defendant’s conduct is certainly relevant to a nuisance assessment. A defendant’s activity could have high social value to the community but constitute a nuisance if it is outweighed by the gravity of the harm caused to the plaintiff. On the other hand, where a defendant’s conduct bears no utility for the greater good and poses tangible risks to the public, it will likely count as a nuisance.

Consider a situation where an operator flies his drone over another person’s home and records the activities of the occupants on their property—perhaps sunbathing or enjoying a family meal. Alternatively, the drone flies around the dwelling with its high-resolution camera peering into windows. The homeowner may be able to make out a prima facie case for nuisance by demonstrating that the drone’s presence is preventing him from enjoying the premises or going near the windows for fear of being recorded. Quite likely, the homeowner’s response would be deemed reasonable. But other considerations will come into play, such as the frequency and duration of these over-flights, the time of day and the altitude of the drone flights, if the operator is recording people and events on the ground, how densely populated the neighborhood, and if there are other means of viewing the space inside and around the home that compromise the privacy of the homeowner regardless of the drone’s presence.

The presence of drones in the sky is a relatively new phenomenon, distinct from conduct courts have traditionally deemed a nuisance. As drones populate our sky more people will look for relief from existing tort law. Where these laws fall short of providing redress, public pressure will mount to reform such laws or create new ones.

275. Restatement (Second) of Torts § 827 (Am. Law Inst. 1979).
276. Id. at § 828.
277. See id. at § 827.
278. See id.
279. See id. at § 822.
280. See id. If the drone is operating in compliance with federal regulations and local laws, such evidence will weigh against plaintiff’s claim that the interference is unreasonable. Restatement (Second) of Torts § 822 (Am. Law Inst. 1979).
281. Id. at §§ 827–828.
282. See id. at § 821D.
C. Privacy Torts

Samuel D. Warren and Louis D. Brandeis first gave voice to legal notions of invasion of privacy in their groundbreaking article The Right to Privacy. 283 In this turn-of-the-century masterpiece, Warren and Brandeis characterized privacy as “the right to be let alone,” and they identified technology as one of the major threats to privacy. 284 More than half a century later, William Prosser categorized privacy torts into four separate causes of action. 285 These four torts were later adopted by the Restatement (Second) of Torts. 286

The privacy torts that are most relevant to unmanned aerial surveillance are intrusion upon seclusion and the public disclosure of private facts. 287 Intrusion upon seclusion focuses on the collection of personal information. 288 The tort has two key elements: (1) an intentional intrusion on the plaintiff’s solitude, seclusion, or private affairs, and (2) that the intrusion would be highly offensive to a reasonable person. 289 To permit recovery, some states require that the intrusion cause mental suffering, shame, or humiliation. 290 Privacy intrusions that give rise to tortious liability seek to vindicate the freedom to act in one’s home or other private place without observation. 291

Intrusion upon seclusion has some limiting principles. First, the intrusion must have been intentional, meaning the defendant must have desired that the intrusion occur or must have known with a substantial certainty that an intrusion would result from his

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284. Id. at 193, 195 (“[N]umerous mechanical devices threaten to make good the prediction that ‘what is whispered in the closet shall be proclaimed from the house-tops.’”).
287. See Villasenor, supra note 102 at 500–05.
290. See, e.g., DeAngelo v. Fortney, 515 A.2d 594, 595 (Pa. Super. Ct. 1986) (finding defendant’s conduct of filling out solicitation cards with plaintiff’s name on them, causing companies to solicit plaintiff via telephone and mail two times, did not amount to a “substantial and highly offensive” intrusion).
conduct.\textsuperscript{292} Thus, an accidental or innocent intrusion is not actionable.\textsuperscript{293} Second, there is no tortious conduct if the defendant did not intrude into a legally-cognizable private place or sphere belonging to the plaintiff.\textsuperscript{294} Observing a person in a public place or taking a photograph of a person who can be viewed from a public vantage point is generally not considered an invasion of privacy.\textsuperscript{295} Intrusions upon seclusion are often determined by whether the plaintiff had a reasonable expectation of privacy at the time and in the place of the alleged intrusion.\textsuperscript{296} Individuals have a reasonable expectation of privacy in shielded areas where they have ownership or control over the property, such as the home and its curtilage,\textsuperscript{297} or in locations dealing with intimate details of one’s health, such as hospitals or ambulances.\textsuperscript{298} The intrusion does not have to be physical and can occur through the use of the “defendant’s senses, with or without mechanical aids, to oversee or overhear the plaintiff’s private affairs.”\textsuperscript{299} As illustrated by the Restatement, a private

\textsuperscript{292} R\textsc{e}statement \textsc{(second) of torts} § 8A (A\textsc{m. l}\textsc{aw i}\textsc{nst}. 1979).
\textsuperscript{293} See id. In many of the reported instances of drones flying around homes, operators have claimed they had no intention of looking inside the residence. See Sterbenz, supra note 207. Proving intent by an operator may be quite difficult, particularly by those claiming they were flying for recreation and had no intent to spy. See id.; see also Zangla, supra note 37.
\textsuperscript{294} See R\textsc{e}statement \textsc{(second) of torts} § 652B cmt. c (A\textsc{m. l}\textsc{aw i}\textsc{nst}. 1979).
\textsuperscript{295} See, e.g., Dempsey v. Nat’l Enquirer, 702 F. Supp. 927, 931 (D. Me. 1988) (“The reporter’s presence on a public thoroughfare and in a restaurant open to the public cannot constitute an intrusion upon seclusion of another.”); Machleder v. Diaz, 538 F. Supp. 1364, 1374 (S.D.N.Y. 1982) (finding no liability for intrusion upon seclusion when defendant accosted and filmed plaintiff on the property of a corporation, a “semi-public” place, where he was visible to the public eye). However, the Restatement recognizes that conduct that is repeated with such persistence and frequency as to amount to a “course of hounding the plaintiff” and “a substantial burden to his existence” may constitute an invasion of privacy. R\textsc{e}statement \textsc{(second) of torts} § 652B cmt. d (A\textsc{m. l}\textsc{aw i}\textsc{nst}. 1979).
\textsuperscript{296} See, e.g., Med. Lab. Mgmt. Consultants v. ABC, 306 F.3d 806, 818–19 (9th Cir. 2002) (finding no reasonable expectation of privacy in the offices where plaintiff worked because it was not a private place of his, nor in defendant’s conversations with ABC’s undercover journalists because the conversations were business-related and did not implicate plaintiff’s personal affairs); Opperman v. Path, Inc., 87 F. Supp. 3d 1018, 1059 (N.D. Cal. 2014) (holding that an intrusion upon seclusion claim “is not viable unless the plaintiff had an ‘objectively reasonable expectation of seclusion or solitude in the place, conversation or data source’”).
\textsuperscript{298} R\textsc{e}statement \textsc{(second) of torts} § 652B cmt. b, illus. 1 (A\textsc{m. l}\textsc{aw i}\textsc{nst}. 1979); see also Miller v. Nat’l Broad. Co., 232 Cal. Rptr. 668, 670 (Cal. Ct. App. 1986) (television producer and camera crew entered home without permission to film unsuccessful efforts of paramedics to save the life of plaintiff’s husband who had suffered heart attack); Noble v. Sears, Roebuck & Co. 109 Cal. Rptr. 269, 271 (Cal. Ct. App. 1973) (private investigator entered hospital room to interrogate patient).
\textsuperscript{299} R\textsc{e}statement \textsc{(second) of torts} § 652B cmt. b (A\textsc{m. l}\textsc{aw i}\textsc{nst}. 1979).
detective using binoculars to peer into a person’s bedroom window and take pictures violates that individual’s expectation of privacy.\(^{300}\) In *Wolfson v. Lewis*, a television crew surveilled the home of a healthcare executive for several hours using both high-powered cameras and microphones.\(^{301}\) In doing so, the defendants were able to see inside the home as well as hear conversations happening inside.\(^{302}\) Despite the fact that the defendants did not enter the plaintiffs’ premises, the court found the defendants intruded upon the plaintiffs’ seclusion and solitude.\(^{303}\) In contrast, broadcasting a picture of a residence which shows only what can be observed from a public vantage point is not an invasion of privacy.\(^{304}\)

The third limitation is that there is no liability unless the interference with the plaintiff’s seclusion is substantial enough to offend a person of “ordinary sensibilities.”\(^{305}\) Courts interpreting this standard have required the intrusion be highly offensive,\(^{306}\) repugnant,\(^{307}\) or “outrageously unreasonable conduct.”\(^{308}\) Usually, a single incident will not suffice; rather, the intrusions must be

\(^{300}\) *Id.* § 652B cmt. b, illus. 2.
\(^{301}\) *Wolfson*, 924 F. Supp. at 1428.
\(^{302}\) *Id.* at 1428–30.
\(^{303}\) *Id.* at 1432.

A reasonable jury could well find that Mr. Wilson and Mr. Lewis intentionally intruded, in a manner that would be highly offensive to a reasonable person, upon the solitude and seclusion of the Wolfsons by engaging in a course of conduct apparently designed to hound, harass, intimidate and frighten them. The intrusions committed by Mr. Wilson and Mr. Lewis consisted of a pattern of conduct involving physical and sensory invasions into Mr. and Mrs. Wolfson’s privacy. Mr. Wilson’s and Mr. Lewis’s actions deprived the Wolfsons of the right to live their life quietly and peacefully.

\(^{304}\) See *Wehling v. CBS*, 721 F.2d 506, 509 (5th Cir. 1983) (holding broadcasting a picture of a plaintiff’s residence which showed nothing more than what could be seen from a public street is not an invasion of privacy).
\(^{305}\) See [*Restatement (Second) of Torts* § 652B cmt. d (AM. LAW INST. 1979)]; see also *Shorter v. Retail Credit Co.*, 251 F. Supp. 329, 331 (D.S.C. 1966) (“[T]he acts complained of must be so gross and out of line as to offend one of ordinary sensibilities.”).
\(^{306}\) *Restatement (Second) of Torts* § 652B cmt. d (AM. LAW INST. 1979).
\(^{308}\) *Noble Oil Co.*, v. *Schaefer*, 484 A.2d 729, 733 (N.J. Super. Ct. 1984). However, courts have also recognized cases where a single intrusion was sufficient given the nature of the activities filmed or the overzealous nature of surveillance itself. *See*, e.g., *Miller v. Nat’l Broad. Co.*, 232 Cal. Rptr. 668, 679 (Cal. Ct. App. 1986) (finding a single instance of videotaping a man having a seizure in his bedroom constitutes “highly offensive conduct”).
“repeated with such persistence and frequency as to amount to a course of hounding of the plaintiff, that becomes a substantial burden to his existence.”

Courts will consider circumstances including the degree of the intrusion, the context, conduct and circumstances surrounding the intrusion as well as the intruder’s motives and objectives, the setting into which he intrudes, and the expectations of those whose privacy is invaded.”

Likewise, if a plaintiff was not acting in a manner consistent with an actual expectation of privacy, a defendant’s conduct will rarely justify liability.

Plaintiff’s expectation of privacy must be objectively reasonable.

Normative assessments of private expectations are informed by shared norms and social values.

Judicial determinations about what constitutes reasonable expectations of privacy change over time and are significantly impacted by technology.

309. Restatement (Second) of Torts § 652B cmt. b (Am. Law Inst. 1979).

310. Miller, 232 Cal. Rptr. at 679.

311. See e.g., Jacobson v. CBS, 19 N.E.3d 1165, 1180–81 (Ill. App. Ct. 2014) (finding no reasonable expectation of privacy where a reporter went swimming in the backyard pool of a person she was reporting on knowing news media were in the neighborhood); Swerdlick v. Koch, 721 A.2d 849, 853, 857–58 (R.I. 1998) (finding no reasonable expectation of privacy where plaintiffs were conducting a business out of their home and shipping activities occurred in front of the home in full view of the neighbors); see also Aisenson v. ABC, 220 Cal.App.3d 146, 162 (1990) (“One factor relevant to whether an intrusion is ‘highly offensive to a reasonable person’ is the extent to which the person whose privacy is at issue voluntarily entered into the public sphere.”).

312. See Restatement (Second) of Torts § 652A(2)(a), 652B (Am. Law Inst. 1979); see also e.g., Opperman v. Path, Inc., 87 F. Supp. 3d 1018, 1059 (N.D. Cal. 2014) (“The tort is proven only if the plaintiff had an objectively reasonable expectation of seclusion or solitude in the place, conversation or data source.”).

313. See e.g., Georgia v. Randolph, 547 U.S. 103, 120–21 (2006) (“customary social understanding” used as guide to evaluate reasonableness). Robert Post described this relationship between the elements of a privacy tort and society’s expectations:

The [common law invasion of privacy] tort safeguards the interests of individuals in the maintenance of rules of civility . . . . [In everyday life we experience privacy] as an inherently normative set of social practices that constitute a way of life, our way of life . . . . In the tort, “privacy” is simply a label we use to identify one aspect of the many forms of respect by which we maintain a community. It is less important that the purity of the label be maintained, than that the forms of community life of which it is a part be preserved.


314. See e.g., Riley v. California, 134 S. Ct. 2473, 2495 (U.S. 2014) (invalidating a warrantless search of a smartphone relying in part on the fact that a vast majority of Americans own smartphones in which they store their “privacies of life”); United States v. Jones, 565 U.S. 400, 403, 431 (2012) (unanimously holding that warrantless police tracking of the defendant for twenty-eight days using a global positioning system constituted a violation of the Fourth Amendment); Kyllo v. United States, 533 U.S.
Courts have consistently found no tortious conduct when observing or taking a photograph of an individual when his or her “appearance is public and open to the public eye.” In Fogel v. Forbes, Inc., the plaintiffs claimed that their privacy was invaded when their picture was taken and included in an issue of Forbes Magazine without their consent. However, because the photograph was taken at the Miami Airport, a place open to the general public, the court dismissed the plaintiff’s claim due to the lack of a reasonable expectation of privacy in the place they were recorded. Similarly in Jackson v. Playboy, plaintiffs could not claim intrusion of privacy when an image of them standing on a city sidewalk was taken. In Shulman v. Group W Productions, a cameraman filmed plaintiffs’ extrication from a car following a crash. Finding no liability, the court explained that the plaintiffs had no control over the premises and could not have reasonably expected members of the media would be prevented from covering a highway accident.

Even plaintiffs who were surveilled while on their own property have generally been unsuccessful under an intrusion theory if they could be viewed from a public or adjacent vantage point. In GTE Mobilnet v. Pascouet, the plaintiffs alleged an intrusion into their privacy when GTE workers on a neighboring plot looked out over the plaintiffs’ fence and into their backyard. The court held that the

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27, 40 (2001) (holding the use of a thermal imaging device not available to general public constituted a search).
317. Id. at 1087.
320. Id. at 477. The court, however, held that a jury could reasonably find that the plaintiffs had a reasonable expectation of privacy within the helicopter because the helicopter served as an ambulance, which is inherently private, and it is not customary for the media to film the medical treatment of a stranger. Id. at 490–91 (“Certainly, if there is any right of privacy at all, it should include the right to obtain medical treatment at home or in a hospital . . . without personal publicity.” (quoting Barber v. Time, Inc., 159 S.W.2d 291, 295 (Mo. 1942))).
322. GTE Mobilnet, 61 S.W.3d at 606.
mere fact that maintenance workers looked over into the adjoining yard was insufficient in proving “highly offensive” conduct. In McLain v. Boise Cascade Corp., the plaintiff alleged that the defendants intruded upon his privacy when they filmed the plaintiff from neighboring property and saw him mowing the lawn and gardening. The court held that the surveillance did not intrude on the plaintiff’s privacy because his activities could have been observed by neighbors or passersby, and the surveillance was neither unreasonable nor unobtrusive. Similarly, in Florida v. Riley, the United States Supreme Court concluded that the defendant did not have a reasonable expectation of privacy pertaining to activity in his backyard that was open and visible from a police helicopter flying 400 feet above his property.

There are limited circumstances where, even in a public place, information about a person, if accidentally exposed, should not be photographed or recorded. In Daily Times Democrat v. Graham, a plaintiff claimed the defendant intruded into her privacy when it published a photograph of her dress blown up as she was leaving a fun house at a county fair. The court held that it would be “illogical, wrong, and unjust” for an individual caught in an embarrassing image to forfeit her right to privacy merely because she was in a public place. Therefore, “where one’s status is changed without [her] volition to a status embarrassing to an ordinary person,” she has a right to be protected from intrusion of privacy. Likewise, in Huskey v. NBC, a prisoner claimed that the NBC television company intruded into his privacy when they filmed him without his consent from inside the prison. NBC countered that the plaintiff was visible to the public eye and had no reasonable expectation of

323. Id. at 618.
324. McLain, 533 P.2d at 345.
325. Id. at 346 (“If the surveillance is conducted in a reasonable and unobtrusive manner, the defendant will incur no liability for invasion of privacy.”).
327. See RESTATEMENT (SECOND) OF TORTS § 652B cmt. c, illus. 7 (AM. LAW INST. 1979).
329. Id. at 478.
330. Id.
privacy because he could be seen by guards and other inmates.\(^\text{332}\)

The court allowed the plaintiff’s intrusion claim to go forward, noting that the mere fact that a person can be seen by others does not mean that the person cannot be legally “secluded.”\(^\text{333}\) Nonetheless, as the majority of cases make clear, liability seems to be an exception as the law favors less restriction in public places.

Given the capabilities of drones, it is relatively easy for operators to capture images inside and outside of one’s home without physically trespassing on to one’s property.\(^\text{334}\) If there is proof of intent, then a drone capturing images inside one’s home may give rise to liability assuming that the target of the surveillance was not in public view or visible from adjacent property.\(^\text{335}\) On the other hand, the tort may offer no relief if the drone flies over someone’s fenced-in backyard and records him.\(^\text{336}\) Unsurprisingly, of the few surveys measuring public attitudes towards drones, there is mounting discomfort with drones flying over private property.\(^\text{337}\) Legislators are responding to public concern, but it will take time before the law recognizes a privacy expectation when it comes to aerial surveillance. Until then, individuals will receive little legal recourse from unmanned aerial surveillance under a theory of intrusion upon seclusion.

A second theory of liability for drone operators under the umbrella of the privacy torts is the public disclosure of private facts.\(^\text{338}\) It is conceivable that drone operators who capture images or gather information regarding matters of private concern could be held liable for disseminating this information to third parties through social

\(^{332}\) Id. at 1287.

\(^{333}\) Id. at 1287–88 (finding that a prisoner working out in the exercise room of a prison did not reasonably expect to be filmed because he could not be viewed from a public location such as a street or sidewalk).

\(^{334}\) See Farber, supra note 78, at 225, 228–29.


\(^{337}\) SAKIYAMA, supra note 225, at 1.

\(^{338}\) RESTATEMENT (SECOND) OF TORTS § 652D (AM. LAW INST. 1979).
media or other means.339 A person is liable for the publication of private facts when she “gives publicity to a matter concerning the private life of another” so long as “the matter publicized is of a kind that (a) would be highly offensive to a reasonable person, and (b) is not of legitimate concern to the public.”340

“Publicity” means that the matter is communicated to the public at large or to “so many persons” that the matter must be regarded as “substantially certain” to become public knowledge. 341 Disseminating the information by newspaper, small circulation, or orally to a group is sufficient to give publicity.342 Courts have held that postings to social media pages, despite the potential privacy or setting limitations of the audience, open up the information to the public at large.343

The information publicized must also be private; publication is protected for matters already in the public domain.344 It is not enough that someone considers the information private.345 To be deemed “private,” there must not be, or have been, records documenting the information as available to the public.346 In G.D. v. Kenny, the plaintiff, running for political office, had a past conviction expunged from his record.347 Opponents of the campaign distributed flyers exposing his prior conviction.348 The court found no invasion of privacy when the defendant revealed the plaintiff’s criminal past even though the record was expunged because the matter was once part of the public record.349

339. See id.
340. Id.
341. Id. § 652D cmt. a; see also Cole v. Chandler, 752 A.2d 1189, 1197 (Me. 2000).
342. RESTATEMENT (SECOND) OF TORTS § 652D cmt. a (AM. LAW INST. 1979). Generally, however, it is not enough to communicate private facts to a single person even if that single person could pass the information on to other people. See Robins v. Conseco Fin. Loan Co., 656 N.W.2d 241, 245 (Minn. Ct. App. 2003).
346. Id. at 320–21.
347. Id. at 304.
348. Id. at 305–06.
349. Id. at 304, 321.
To establish that the matter publicized would be highly offensive, courts look to the "context, conduct, and circumstances" surrounding the publication to evaluate whether it would make a reasonable person feel "seriously aggrieved." In *Green v. Chicago Tribune Co.*, the defendant published an article about the plaintiff's murdered son, which contained unauthorized statements and photographs regarding medical treatment. The court held that due to the nature of the information and lack of authorization, a reasonable jury could find that the publication was highly offensive to a reasonable person.

The last element, the absence of legitimate public concern regarding the matter, is generally a question of newsworthiness. Newsworthiness bars common law liability, since there is typically substantial social value regarding matters of public concern. When determining whether a matter is newsworthy, courts weigh "the social value of the facts published, the depth of intrusion into ostensibly private affairs, and the extent to which the party voluntarily acceded to a position of public notoriety." Thus, nearly any truthful information regarding public persons or public affairs, no matter how serious the invasion, will likely be protected. However, this protection is not unlimited. It disappears when the information ceases to be that "to which the public is entitled, and becomes morbid and sensational prying into the private lives for its own sake." For instance, in *Bimbo v. Viking Press, Inc.*, the court held that—regardless of its truth—a publication depicting incestuous relationships of the Plaintiff did not bear such societal significance as to render it a matter of public concern.

353. *Id.* at 255.
355. *Id.* at 478, 482.
357. *Id.* at 38 n.5.
359. *Id.* (quoting *Restatement (Second) of Torts § 625D cmt. f* (AM. LAW. INST. 1979)).
Conceivably, a drone operator could be held liable for publication of private facts for recording images inside and outside of another’s home and disseminating the images via social media or other means of publication. The surveillance target’s location will largely determine liability. Google’s Street View Program is a scenario with similar features to unmanned aerial surveillance, and has been tested in the courts. Creating the digital images accessible through Google’s Street View Program requires Google employees using panoramic cameras mounted to the tops of their vehicles to drive around neighborhoods taking photographs of houses and landmarks. Plaintiffs Christine and Aaron Boring sued Google on theories of intrusion upon seclusion and dissemination of private facts for photographs taken of their home and swimming pool viewable from their driveway. The Third Circuit reasoned that “no person of ordinary sensibilities would be shamed, humiliated, or have suffered mentally as a result of a vehicle entering in his or her ungated driveway and photographing the view from there.” Additionally, the court noted that the plaintiff’s pool and house could be seen by anyone who entered the driveway. Recording images of people and property from navigable airspace raises some of the same objections and legal precedents raised in Boring. Yet the capabilities of drones are potentially more intrusive and nefarious than the technology used in the Google Street View Program.


361. See THOMPSON, supra note 163, at 16.
362. See id.
364. Id. at 276.
365. Id. at 276, 278.
366. Id. at 279.
367. Id. (finding no valid claim for publicity given to private life where any person, including a mail carrier, delivery persons, or any guest, would have the same view).
368. THOMPSON, supra note 163, at 16.
V. THE BEST PATH FORWARD: PROMOTING A BURGEONING INDUSTRY WHILE SAFEGUARDING PRIVACY

The Obama administration embraced drone technology as a “transformative technology” that has huge potential for the private and commercial sectors.\(^{369}\) President Obama also acknowledged the concern this technology poses to existing expectations of privacy.\(^{370}\) The balance between enabling this burgeoning industry to take off and protecting existing privacy norms and expectations is a difficult, if not impossible, task.\(^{371}\) There is fierce debate among scholars, lawmakers, regulators, and industry professionals about the best path forward.\(^{372}\) There are those who believe that individual landowners should have the right to exclude unwanted intruders from their airspace.\(^{373}\) There are others who advocate for laws and regulations to chart a national course for unmanned aircraft into our airspace.\(^{374}\) As a practical matter, a patchwork of individual lawsuits is not a plan; it is a Band-Aid. Lawsuits brought by landowners aggrieved by a drone operation may provide recovery in some cases, but individual cases will not create a predictable path for integrating drones into our airspace. Laws and regulations must circumscribe how, when, and by whom these aerial observers can be used to create a uniform approach toward fostering the potential of this burgeoning industry, while thoughtfully preserving basic privacy interests.

370. Id.
372. Id.
373. Id. Professor Michael A. Froomkin argues that drones are too ubiquitous and pose too great a threat to privacy to not allow individual landowners to avail themselves of remedies under tort theories such as trespass, nuisance and other related torts. A. Michael Froomkin, YES: Our Privacy and Safety Are at Risk, in Should You Be Allowed to Prevent Drones From Flying Over Your Property?, supra note 28.
Unquestionably, drones are quickly becoming a commercial force all over the globe.\textsuperscript{375} When drones are able to stay aloft for hours and safely carry out autonomous flights, then people will rely on them for transportation in the same ways we currently rely on planes, trains, and automobiles. For that reason, Congress tasked the FAA with developing a plan to integrate UAS into our national airspace.\textsuperscript{376} Alongside the FAA’s efforts for safe integration of drones into the national airspace, the National Telecommunications and Information Administration (NTIA), an arm of the Department of Commerce, devised a set of “best practices” for privacy, transparency, and accountability in the use of drones.\textsuperscript{377} Some of the best practices include: making reasonable efforts to notify individuals who will be impacted by the operation to collect data, avoiding operations where subjects have a reasonable expectation of privacy, minimizing flights over or within private property without consent from landowners or proper legal authority, and avoiding using UAS for continuous and persistent collection of data.\textsuperscript{378} Operators should maintain a privacy


\textsuperscript{376} FED. AVIATION ADMIN., \textit{INTEGRATION OF CIVIL UNMANNED AIRCRAFT SYSTEMS (UAS) IN THE NATIONAL AIRSPACE SYSTEM (NAS) ROADMAP} 67 (2013).


The practices resulting from this process are voluntary and are not meant to create a legal standard.

\textsuperscript{378} NAT’L TELECOMMS. & INFO. ADMIN., \textit{supra} note 377, at 2. The focus of the practices concern the use of what is termed “covered data,” which is defined as “information collected by a UAS that identifies a particular person.” \textit{Id.} at 4. “If data collected by UAS likely will not be linked to an individual’s name or other personally identifiable information, or if the data is altered so that a specific person is not recognizable, it is not covered data.” \textit{Id.}
policy which details the purpose for which the data will be collected, the kinds of data collected, the length of time data will be retained, and the practices for de-identification. They should also make reasonable efforts to not share or use collected data for marketing purposes without prior consent. Many of these best practices bear similarity to the Drone Aircraft Privacy and Transparency Act introduced in Congress in 2013 and reintroduced in 2015. Federal regulators left open the opportunity for state and local governments to regulate drone operations as they relate to privacy and property rights. This is clear since the FAA circumscribed its rules to focus exclusively on safety and efficiency. The door is open for states and municipalities to set limits on when and where drones can fly, within the parameters already set by the FAA. For instance, a municipality could restrict the distance a drone may fly relative to buildings, or further limit the daytime hours in which a drone may operate. Assuming these regulations are designed to ensure privacy interests—and do not conflict with federal laws—state and local governments are entitled to regulate drones to serve their particular interests. The recommendations made by the NTIA, along with recent drone legislation designed to ensure privacy while promoting drone technology, will help to strike the right balance between promoting economic opportunity and safeguarding privacy interests in the age of drones.

379. Id. at 6.
380. Id.
382. See Kang, supra note 21.
383. Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,190 (June 28, 2016) (to be codified at 14 C.F.R. pts. 21, 43, 61, et al.) (“[T]he FAA notes that its mission is to provide the safest, most efficient aerospace system in the world, and does not include regulating privacy.”)
384. See Kang, supra note 21.
385. Id.
386. ESSEX, supra note 7, at 13.
CONCLUSION

The drone’s size, versatility, and maneuverability separate it from other aircraft and satellites. When the property laws changed to accommodate high altitude aircraft, such as planes and even helicopters, it was understood that the risks to privacy were minimal and the need for air travel was great. However, drones maneuver in low altitude airspace, thereby posing new and tangible threats to privacy. As people turn to the courts for relief, the thorny issues raised in this article about the applicability of existing torts to drones will have to be resolved. The shortcomings of these doctrines will likely pave the way for the passage of new drone laws, designed to settle the ambiguity about where a property owner’s rights to airspace begin and end. No doubt the new rules governing small commercial drones will exponentially increase the number of drones in our skies. At the same time, state and local governments have the opportunity to define the scope of landowners’ property interest in low altitude airspace, thereby balancing the interests of a burgeoning industry with those who wish to keep drones at a reasonable distance. Shortcomings in existing torts to handle drone privacy cases will direct future legislation. To be sure, laws that give property owners express rights to exclude drones from the navigable airspace directly above their property will ameliorate some of the deficiencies in how our existing torts are currently being applied to drones.