APA Webinar
The Sky's the Limit – Drones
Wendie L. Kellington[1]
Kellington Law Group PC
Portland, Or

A Planner's Introduction to the Law of Unmanned Systems[2]

Technology has ushered in a new era. Drones -- Unmanned [uncrewed] Aerial Systems (UAS) are everywhere and they will be in more places tomorrow. These domestic, civil robots are poised to do almost anything: survey property; ascertain setbacks, ascertain building heights and grades; land use code enforcement; precision farming (precisely identifying and reporting plant needs); delivery of online orders within a matter of hours or minutes; deliver medicines to inaccessible places; swiftly find and rescue lost hikers or kids; fly over inaccessible debris to find landslide or tornado victims; fight forest fires without jeopardizing the lives of "hot shots"; "RoboBees"[3] to pollinate crops to aid declining bee populations; and so forth.

Federal law requires FAA to "provide for" the safe integration of UAS into the National Airspace System and the FAA is well along in that charge. At the same time, the public's dystopian view of drones and the technology's potential to do evil, portends turbulence in the wake of federal UAS integration.

Clearly, the Predator drone would not have been the industry's first choice of an ambassador. But here we are.

As planners embrace drone technology in their craft, they must pay close attention to the rules and navigate carefully through the areas where there is uncertainty. The drone pilot who claims they can fly anywhere they want below 400' with a remote pilot certificate, is destined for trouble.

The Easy Stuff - Drone Law 101

When a planner flies a drone as a part of their work, that flight is considered a "commercial" flight, subject to FAA's part 107 rules. Those rules generally require the following:

1. **Each flight crew will consist of at least one Remoted Pilot in Command (RPIC) (a special designation a person over the age of 16 achieves after passing FAA's "knowledge test"), and may include one, or more, Visual Observers (VOs).**

2. **Each flight crew may only operate one UAS at a time.**

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[1] This paper is taken from a paper co-authored by Kellington and Michael Berger for ALI ABA.

[2] You know this already – this is not individual legal advice, you can't rely on it, and each person needs to consult their own attorney to evaluate their particular circumstances. This is a high-level summary of the rules that apply to drones.

[3] http://robobees.seas.harvard.edu/

3. **The aircraft must be flown within plain visual line of sight (VLOS) of the RPIC or a VO.**

4. **An on-board camera or first-person view (FPV) system cannot be used to satisfy the VLOS requirement.**

5. **The RPIC shall conduct a pre-flight inspection of the UAS.**

6. **No person shall operate a UAS if he or she knows or has reason to know of any physical or mental condition that would interfere with its safe operation.**

7. **The RPIC may allow another person to manipulate the controls of the UAS, provided that they remain under the direct supervision of the RPIC.**

8. **During an emergency, an RPIC may deviate from any rule or regulation required to respond to the emergency.**

9. **The maximum altitude UAS are allowed to fly is 400 feet above ground level (AGL).**

   Exception: if the UAS is flying within 400 feet of a prominent structure, such as a tall building or a radio tower, it is permitted to fly to the height of the structure, plus 400 feet. Thus, if a UAS is being used to inspect a 300-foot broadcast antenna, the ceiling for that flight would be 700 feet AGL.

10. **The maximum speed for a UAS is 100 miles per hour, or 87 knots.**

11. **The maximum take-off weight for a UAS, including fuel and payload, must be less 55 pounds.**

12. **The minimum visibility for UAS operations is three statute miles.**

13. **The UAS must maintain a minimum of 500 feet of vertical separation, and 2,000 feet of horizontal separation, from clouds.**

14. **UAS operations are limited to daylight hours, between official sunrise and official sunset.**

15. **UAS operations must be safe and responsible. Never fly in a careless or reckless manner.**

16. **UAS are not permitted to fly over unprotected persons or moving vehicles.**

17. **Operations from moving vehicles are not permitted, except in sparsely populated areas.**

18. **Permission is required to operate a UAS in controlled airspace.**

    NOTE: Controlled airspace is generally around medium and large airports. Permission is obtained from the Low Altitude Authorization and Notification Capability System (LAANC), accessed via an App.

19. UAS will yield the right of way to all other aircraft (crewed or other UAS).

> **NOTE:** In the case of crewed aircraft, yielding the right of way with a UAS typically means bringing the aircraft to a hover at low altitude near your ground control station (GCS), or landing, until the other aircraft has departed the immediate area. Keeping watch for other air traffic is a prime responsibility of the RPIC and any VOs serving as members of the flight crew.

20. Be aware of crewed flight operations while operating a UAS near an airport.

21. UAS are permitted to carry external loads.

> **NOTE:** Property may be carried for hire, so long as all other requirements under Part 107 are met, and the operation occurs within the borders of a single state. Since operations over people are prohibited, items may be dropped from the aircraft, provided that sufficient care is taken to avoid causing injury or damage to persons or property on the ground.

22. UAS pilots are required to report accidents to the FAA.

> **NOTE:** The threshold that triggers a mandatory report to the FAA is an accident that inflicts more than $500 of property damage, excluding damage to the UAS itself, or which inflicts a serious injury on an person — typically characterized by a loss of consciousness or requiring hospital treatment. The report must be filed with the FAA within 10 calendar days of the accident.

23. All UAS must be registered with the FAA or a foreign government.

24. FAA is permitted to inspect UAS and associated documents.

Special Drone Flight Rules

There are special drone restrictions that are too numerous to list here. Pilots are advised to check FAA's B4UFly website to be sure the intended flight is allowed. In general, the following areas are off limits to drones without special authorization from the FAA (which you won't get):

1. Stadiums and sporting events

2. Near Airports

3. Security sensitive airspace restrictions like military bases, national monuments (Statute of Liberty, Washington Monument, Mt. Rushmore, etc.) and critical infrastructure like nuclear power plants. Prisons.

4. Flying in Washington DC.

5. Flying in or around a Disney Theme Park.

6. Flying around emergency and rescue operations (wildfires, hurricane efforts etc.)

7. Flying in an area under a temporary flight restriction or in designated, restricted airspace.

Penalties for Violating the Rules

Flying a drone is serious business. If you do not follow the rules, serious penalties can (and probably will) be imposed.

At the low end of the spectrum, if you violate federal laws regarding the use of drones, you lose your license to fly. At the high end you can go to jail and face stiff civil and/or criminal fines – even if the drone gets away from you and the rules are violated unintentionally. One such drone pilot was fined $20,000. https://uavcoach.com/drone-pilot-fines/#:~:text=The%20FAA%20has%20cracked%20down,to%20%24250%2C000%20for%20criminal%20penalties.

FAA is stepping up its enforcement of drones it finds were operated in a careless or reckless manner – including civil penalties of up to $27,500 and criminal monetary penalties of $250,000. http://knowbeforeyoufly.org/learn-the-drone-laws/.

If you fly a drone that weighs more than 0.55 lbs (about 8.8 ounces), you must register it. Failing to do so can lead to criminal sanctions of a fine up to $250,000 and a three-year jail sentence.

So, What is Unclear?

There are many drone flight legal/policy issues that remain unresolved.

They include:

(1) The regulatory role state and local governments. Many local codes currently regulate where airports and heliports may be located, and the definitions of "airport" or "heliport" almost certainly cover areas where UAS take off and land vertically or laterally. But can land use authorities regulate the places of launch, landings, and battery recharge?

(2) Will drones operate from federally regulated airports and air strips, like manned aircraft? Does it matter for purposes of liability whether drones operate from official airports or someone's back yard or the corner of a parking lot or remotely from wherever they are perched - like from atop a streetlight? *Should* they be allowed to operate from anywhere? Can anyone stop them from doing so?

(3) Can local governments franchise commercial drones as a source of local income?

(4) How (if at all) does it matter that drone flights occur within the congressionally declared "navigable airspace?"

(5) What privacy rights do we have anyway and how do those apply to drones? Does the latter differ significantly (either legally or factually), from privacy invasions from other technology, like satellites? Or piloted aircraft? How (if at all) does it matter whether the privacy intrusion is by a government agency or private citizen?

(6) How does the prospect of numerous unmanned, but remote controlled, drones impact aviation safety?

(7) Does constitutional takings law apply? If so, how.

(8) How about traditional tort law (e.g., trespass, nuisance, invasion of privacy)? Are property owners allowed (and, if so, how) to protect their property, and how high up in the air do property rights go? At what point is a drone flight a trespass or a nuisance?

(9) Who is responsible for tort damages to persons or property?

(10) How does the United States Constitution's First, Fourth, Fifth, and Fourteenth Amendments impact the discussion?

Even though there is a fair amount of disclarity, there is no reason to think that bad actors will not be punished, or that crimes will not still be punished as crimes. In fact, FAA has engaged in an astonishing number of enforcement cases.

Nonetheless, those who want to fly drones to perform their planning work are well-advised to pay attention not only to the bright lines, but also analogous laws that inform the gray areas. No one wants to be the "test case."

Basic Ground Rules to Aid in Clarifying Uncertain Legal Areas

The following ground rules should be kept in mind.

1. The federal government controls aircraft including where and how they fly. Every drone is an aircraft.

2. Everyone who flies a UAS must do so in compliance with all applicable FAA rules. This means kids, planners, teachers – everyone - has to operate UAS in compliance with federal rules. The rules are different for "recreational" and "commercial" drone flights. If a planner is using a drone as part of their planning profession, then that use is considered a "commercial" flight and is subject to the rules of commercial UAS flights, summarized above.

3. The FAA is responsible to establish the rules for airports and for flying machines. This includes the responsibility to establish the rules for UAS integration into the National Airspace System. The FAA "Unmanned Aircraft Systems Integration Office" is charged with facilitating this mission.

4. Congress controls the "navigable airspace of the United States" over which the United States has complete sovereignty.[4] Within it, there is a public right of freedom of transit through this space.[5] This navigable airspace is a part of but not the same thing as the National Airspace System (NAS) into which UAS are being integrated. The federal power to exercise "complete and exclusive national sovereignty in the airspace of the United States"[6] extends "to grounded planes and airport runways."[7]

3. The federal government is in charge of the NAS, which is:

> "The common network of U.S. airspace—air navigation facilities, equipment, and services; airports or landing areas; aeronautical charts, information and services; rules, regulations, and procedures; technical information; and manpower and material."[8]

4. **Notwithstanding that drone flights occur in federal navigable airspace**, **those who own land beneath or near flight paths have constitutionally protected property rights[9] and personal rights that are protected by tort law**.[10]

5. Flying in the navigable airspace **is not the equivalent of immunity** to claims for trespass, nuisance, invasion of privacy or, when it comes to governmental fliers, unconstitutional takings of private property (ground and airspace).

6. When aircraft flights are by military aircraft, the responsibility for damage belongs to the federal government.[11] But when the offending aircraft are civilian, operating from civilian airports, then the responsibility for noise and privacy invasions so far belongs to the airport operator (not, as you might suspect, the aircraft owner). This is because the law (again so far) says that the airport is the party that chose where to establish the airport and how much land to acquire to buffer its neighbors.[12] These principles do not work well for drones and liability is likely to also extend to the drone operator. But these principles establish that the owner of the places from which take offs and landings are allowed, is not off the hook.

7. The navigable airspace is, generally, speaking **above** 1,000' agl, in urban areas and **above** 500' agl, in rural areas,[13] plus the airspace needed for taking off and landing.[14] Helicopters may operate at lower levels so long as they do so without hazard to persons

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[4] 49 USC 40103
[5] 49 USC 40101
[6] 49 U.S.C § 40103(a)
[7] 14 C.F.R §§ 91.123 and 139.329
[8] FAA Roadmap 8.
[9] *United States v. Causby*, 328 U.S. 256 (1946); *Griggs v. Allegheny County*, 369 U.S. 84 (1962); *Nestle v. City of Santa Monica*, 6 Cal.3d 920 (1972).
[10] *Greater Westchester Homeowners Assn. v. City of Los Angeles*, 26 Cal.3d 86 (1979).
[11] *Causby*, *supra*.
[12] *Griggs*, *supra*; *see also Loma Portal Civic Club v. American Airlines, Inc.*, 61 Cal.2d 582 (1964) (cannot enjoin airlines from flying).
[13] 14 C.F.R. §§ 91.119(b), 91.119(c).
[14] 49 USC§ 40102(32).

or property below.[15] Small drones are very different because they must operate **below** 400' agl.

8. The use of drones in land use code enforcement is subject to the law of search and seizure, under the United States Constitution's 4th Amendment and parallel state law protections. Exactly what constitutes an "unreasonable search and seizure" is fact specific, but caution is definitely necessary in this area.

Privacy

Remarkably, Congress did not specifically include protection of privacy in the FAA's regulatory scope. This is so even though privacy is clearly on Congress' mind, as reflected in the following statement by Congressional Rep. Ed Markey:

> "Drones are already flying in U.S. airspace – with thousands more to come – but with no privacy protections or transparency measures in place. We are entering a brave new world, and just because a company soon will be able to register a drone license shouldn't mean that company can turn it into a cash register by selling consumer information. Currently, there are no privacy protections or guidelines and no way for the public to know who is flying drones, where, and why. The time to implement privacy protections is now."[16]

In FAA's Roadmap and Comprehensive Plan, it explained that it would not promulgate specific privacy rules, but rather would leave privacy to others and it had stuck to that position ever since. The FAA decided it would do what it does best: ensuring the safety of the friendly skies. FAA's current "Safety Tips for Flying Your Drone" include "respect others' privacy" and "abide by local privacy requirements." But FAA takes no position on what it means for a drone operator to respect the privacy of others.

That said, FAA's registration process through the agency's "B4UFly" App *recommends* drone pilots adhere to "Voluntary Best Practices for UAS Privacy, Transparency, and Accountability." Those Voluntary Best Practices are appended as Exhibit 1 to this paper. They include the following important "Guidelines," that every drone pilot is well-advised to observe:

"Guidelines for Neighborly Drone Use

> "Drones are useful. New, fairly cheap drones are easy to use. But just because they are cheap and simple to fly doesn't mean the pictures and video they take can't harm other people. The FAA and partner organizations have put safety guidance online at http://knowbeforeyoufly.org. But even safe flight might not respect other people's privacy. These are voluntary guidelines. No one is forcing you to obey them. Privacy is hard to define, but it is important. There is a balance between your rights as a drone user and other people's rights to privacy. That balance isn't easy

[15] 14 CFR § 91.119(d).

[16] "Markey Releases Discussion Draft of Drone Privacy and Transparency Legislation" (August 1, 2012), *available at* http://markey.house.gov/press-release/markey-releases-discussion-draftdrone-privacy-and-transparency-legislation

to find. You should follow the detailed "UAS Privacy Best Practices", on which these guidelines are based, especially if you fly drones often, or use them commercially. The overarching principle should be peaceful issue resolution.

1. If you can, tell other people you'll be taking pictures or video of them before you do.

2. If you think someone has a reasonable expectation of privacy, don't violate that privacy by taking pictures, video, or otherwise gathering sensitive data, unless you've got a very good reason.

3. Don't fly over other people's private property without permission if you can easily avoid doing so.

4. Don't gather personal data for no reason, and don't keep it for longer than you think you have to.

5. If you keep sensitive data about other people, secure it against loss or theft.

6. If someone asks you to delete personal data about him or her that you've gathered, do so, unless you've got a good reason not to.

7. If anyone raises privacy, security, or safety concerns with you, try and listen to what they have to say, as long as they're polite and reasonable about it.

8. Don't harass people with your drone."

Many states have specific privacy protections in place; and those that do not should understand that this is an area ripe for state or local regulation. FAA has made clear it expects states to enact privacy rules. In this regard, the lines of authority, which are otherwsie blurred, are clear.

Specifically, on December 17, 2015, the FAA Chief Counsel published a document entitled "State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet" that outlined the lines of authority between FAA and everyone else. This advice memo featured prominently in FAA's commentary to its Part 107 rules, which states that the Fact Sheet:

> "[S]ummarizes well-established legal principles as to the Federal responsibility for regulating the operation or flight of aircraft, which includes, as a matter of law, UAS. The Fact Sheet also summarizes the Federal responsibility for ensuring the safety of flight as well as the safety of people and property on the ground as a result of the operation of aircraft.
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> "Substantial air safety issues are implicated when State or local governments attempt to regulate the operation of aircraft in the national airspace. The Fact Sheet provides examples of State and local laws affecting UAS for which consultation with the FAA is recommended and those that are likely to fall within State and local government authority."

The FAA Chief Counsel Fact Sheet makes clear that FAA is in charge of drone flights, training and equipage. It also makes clear that state and local government are responsible for "Laws traditionally related to state and local police power – including land use, zoning, *privacy*, trespass, and law enforcement operations;" "requirement for police to obtain a warrant prior to using a UAS for surveillance"; "specifying that UAS may not be used for *voyeurism*;" "prohibitions on using UAS for hunting or fishing, or to interfere with or harass an individual who is hunting or fishing;" and "prohibitions on attaching firearms or similar weapons to UAS".

At least one court has determined that the Chief Counsel's UAS Fact Sheet "is the FAA's interpretation of its own rule, which this Court accords deference ***." *Singer v. City of Newton*, 284 F.Supp 125, n 5 (2017).

Some states have specific privacy protections in place already. For example, the consitution of the State of Washington provides: "No person shall be disturbed in his private affairs, or his home invaded, without authority of law."[17] Similarly, the California Constitution contains a right of privacy. (Cal. Const., Art. I, § 1.)

The Unites States Constitution has no express "right of privacy". However, the United States Supreme Court has, in several cases, inferred a right of privacy from various constitutional sources. The Court admitted privacy was an inferred right in *Roe v. Wade,* 410 U.S. 113 (1973), explaining in the justification for its decision: "This right of privacy, whether it be founded in the Fourteenth Amendment's concept of personal liberty and restrictions upon state action, as we feel it is, or, as the District Court determined, in the Ninth Amendment's reservation of rights to the people, is broad enough to encompass a woman's decision whether or not to terminate her pregnancy * * *." In *Griswold v. Connecticut*, 381 U.S. 479 (1965), the majority opinion for the Court found a right of privacy that justified striking down a state law prohibiting giving contraception advice to married couples, in "penumbras" emanating from express protections in the Bill of Rights. Whatever its source, it is well established that the federal constitution offers a "right of privacy" to citizens, although its scope and subjects is not entirely clear.

The "Restatement (Second) of Torts Section 652b says there is a tort called "Intrusion Upon Seclusion." You can be liable for this tort if you "intentionally intrude, physically or otherwise upon the solitude or seclusion of another or his private affairs or concerns." To be actionable the invasion must be "highly offensive to a reasonable person."

So, what would be "highly offensive to a reasonable person" or otherwise violate privacy protections? And what privacy rights do people have in states where there is no tort of invasion of privacy or no state constitutional right of privacy?

To inform the answer to those questions, we turn to existing legal principles borrowed from a variety of legal disciplines.

A line of informative 'First Amendment versus rights of privacy' cases below provide useful legal insight. Also, the law discussed in the next section regarding an individual's

[17] Washington State Constitution Article I, Sec 7.

constitutional expectations of privacy in "constitutionally protected spaces,"[18] under federal Fourth Amendment (search and seizure) jurisprudence, is valuable.

With respect to First Amendment versus privacy cases, we start with the paparazzi. The Supreme Court has held that the First Amendment has limits and that it does not authorize ridiculous access to news. Thus, in *Zemel v. Rusk*, 381 U.S. 1, 16-17 (1965) the Supreme Court explained:

> "There are few restrictions on action which could not be clothed by ingenious argument in the garb of decreased data flow. For example, the prohibition of unauthorized entry into the White House diminishes the citizen's opportunities to gather information he might find relevant to his opinion of the way the country is being run, but that does not make entry into the White House a First Amendment right."

A case litigated in California a few years ago is also instructive. California takes its coast, its celebrities, and its privacy seriously, and can be relied upon for useful caselaw. It seems that one Adelman became concerned that unpermitted development might be taking place along the California coast. He therefore decided to make a photographic record of what the coast looked like at that time, so that there would be hard evidence of any change. He embarked on a program of flying in a helicopter just offshore for the entire thousand-mile length of California, taking more than 12,200 digital photos of virtually the entire coastal extent. He then posted the photos on line.[19] One of the standard paparazzi targets, Barbra Streisand, learned of the project and saw that his photos showed her home clearly.[20] She sued to stop him (and for $50 million in damages). She lost. The court held that Adelman's overall project was in exercise of his right of free speech with regard to a matter of great public interest and importance (preservation of the coast, not photos of the Streisand home). Although Streisand also claimed a constitutional right,[21] she was unable to convince the court that her expectation that no one would be able to see photos of her house was reasonable, because she routinely consented to interviews at the house (complete with photos).[22]

The *Streisand/Adelman* case was probably foreordained because Adelman was not a paparazzi and had not set out merely to take photos of the homes of famous people. His goal was entirely different. As the trial court found, he was not attempting to photograph either Streisand or an event at her home, did not use a telephoto lens, and did not hover over or near her home, any of which might have resulted in a different decision. Indeed, the court went out of its way to contrast litigation involving the famous stalking of President Kennedy's widow that ended in issuance of an injunction against the photographer and enforcement of the injunction a decade later.[23]

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[18] *Katz v. United States,* 389 U.S. 347 (1967) (public phone booth is a "constitutionally protected area.")

[19] http://www.californiacoastline.org

[20] Of course it did. Coastal property owners tend to either hide their inland sides from prying eyes or make them totally nondescript, while opening toward the coast. Thus, anyone flying along the coast would see any coastal home clearly. And of course, the photographer labeled the photos "Streisand Estate, Malibu."

[21] The California Constitution contains a right of privacy. (Cal. Const., Art. I, § 1.)

[22] The trial court's extensive opinion (there was no appeal) is in *Streisand v. Adelman*, Los Angeles Superior Ct. no. SC 077 257 (Dec. 31, 2003). The opinion is copied on the californiacoastline website.

[23] *Galella v. Onassis*, 487 F.2d 986 (2d Cir. 1973); *Galella v. Onassis*, 533 F. Supp. 1076 (S.D.N.Y. 1983).

Privacy and The Law of Search and Seizure – The Reasonable Expectation of Privacy that Society is Prepared to Accept
Part I

As noted above, search and seizure cases are relevant to the drones discussion because (1) planners need to generally understand these cases apply if drones are to be used in code enforcement, and (2) they inform the privacy discussion where state and federal law does not otherwise help very much.

In general, these cases establish two polar (relatively) bright lines and a vexing spot in the middle: (1) if it is possible to observe the person or place with the naked eye from a place the public generally expects you to be, there is probably no invasion of privacy. (2) However, if the observation occurs only because of a technological enhancement, there is likely a privacy invasion. In the middle of the polar brights, are the drone invasions of a person's home (think backyards), where people have the greatest expectation of privacy. Here when it comes to drones, even if the target can be seen from the air, society may not be prepared to accept observation of personal matters from a drone or its collection of personal data. And if so, the invasion regardless of meeting other tests, is likely to cause liability.

The analytical touchpoints for the above summary, follow.

Justice Harlan's concurrence in *Katz v. United States*, 389 US 347, 361 (1967), described for the first time, the concept of a "reasonable expectation of privacy" that was protected under the 4th Amendment. That "reasonable expectation" has two important parts, with the last one being the most important to the drone's discussion. Those two parts are: (1) "that a person [exhibits] an actual (subjective) expectation of privacy", and (2) "**that the expectation be one society is prepared to recognize as 'reasonable.**'"

Florida v. Riley, 488 US 445 (1989), may be perhaps the most important follow-on case to address the discussion of how courts will deal with cases involving drone technology. *Riley* ultimately held that a warrantless search from 400-feet in the air, via a helicopter that enabled police to discover marijuana growing on private property, was not unlawful under the 4th amendment. The court held that police do not need a warrant to observe private property from public airspace.

But the part of this case that is most relevant to the drone discussion, is the concurrence by Justice Sandra Day O'Conner. Her point, was that the police flyover observation was not an unlawful search ONLY because the observation occurred at an altitude where the public travels with sufficient regularity that the defendant's expectation of privacy was not one society is prepared to accept as "reasonable."

Importantly, she did not think it was relevant that the flight occurred in FAA navigable airspace, explaining:

> "Because the FAA has decided that helicopters can lawfully operate at virtually any altitude so long as they pose no safety hazard, it does not follow that the expectations of privacy 'society is prepared to recognize as `reasonable' ' simply mirror the FAA's safety concerns.'" [24]

Her concurrence established the majority view that FAA rules about where and how one may fly, are not the equivalent of privacy thresholds. In other words, just because you fly your drone where the FAA tells you to – below 400' agl and away from restricted areas, does not mean you get a hall pass for privacy invasions.

Another relevant case to the discussion, is *Oliver v. United States,* 466 US 170 (1984). This case establishes the "open fields" doctrine in which even though police trespass on private property, the resulting search was not unlawful under the 4th Amendment simply because the police had trespassed. In *Oliver*, two police officers entered the defendant's private property, bypassed a locked gate (which they walked around), bypassed a 'no trespassing sign' and eventually discovered marijuana. The marijuana site was approximately a mile from the defendant's home. Importantly, the marijuana was growing in an open field. Holding that open fields are different than a home's curtilage and so a search thereof is not "unreasonable", the Court explained:

> "[o]pen fields do not provide the setting for those intimate activities that the Amendment is intended to shelter from government interference or surveillance. There is no societal interest in protecting the privacy of those activities, such as the cultivation of crops, that occur in open fields.
>
> "Moreover, as a practical matter these lands usually are accessible to the public and the police in ways that a home, an office, or commercial structure would not be. It is not generally true that fences or 'No Trespassing' signs effectively bar the public from viewing open fields in rural areas. And both petitioner Oliver and respondent Thornton concede that the *public and police lawfully may survey lands from the air*. **For these reasons, the asserted expectation of privacy in open fields is not an expectation that "society recognizes as reasonable**." (Emphasis supplied.)

In *California v. Ciraolo*,[25] police had a tip that the defendant was growing marijuana in his back yard. The back yard was shielded from street view by two layers of fences, a six-foot outer layer and a ten-foot inner layer. There was no question that the owner had an expectation of privacy from ground level for what the Court called "his unlawful agricultural pursuits." So, the police went airborne. They went up in a small aircraft, flew over defendant's home *in the navigable airspace*, and took photos with "a standard 35mm camera." Then, they got a search warrant.

The United States Supreme Court's *Ciraolo* opinion contains broad discussion of private property rights in one's home – the home's "curtilage" – and began from the premise that Ciraolo's

[24] 488 U.S. 445 (1989).
[25] 476 U.S. 207 (1986).

back yard was within the "curtilage." But that was not the end of it. Was it reasonable for the Ciraolo to believe that his yard was secure from observations by the naked eye? No. The Court concluded that either a passing aircraft or even "a power company repair mechanic on a pole overlooking the yard" could have seen the illicit crop.

The Court's conclusion was that "simple visual observations from a public space" (obviously including the navigable airspace), do not violate the 4th Amendment, even if they invade the curtilage.

In 2013, the Court revisited the curtilage issue in *Florida v. Jardines*.[26] This case involved a drug sniffing dog that was brought onto the front porch (within the curtilage) and allowed by his handlers to sniff at will until he indicated the presence of illegal drugs. Recalling its holding in *Ciraolo*, the Court noted both that the airborne observation was (1) from the navigable airspace and (2) "done in a physically nonintrusive manner." In *Jardines*, the police crossed the line. Perhaps a useful analogy for UAS purposes is in Justice Kagan's concurring opinion:

> "A stranger comes to the front door of your home carrying super-high powered binoculars. . . . He doesn't knock or say hello. Instead, he stands on the porch and uses the binoculars to peer through your windows, into your home's furthest corners. It doesn't take long (the binoculars are really very fine): In just a couple of minutes, his uncommon behavior allows him to learn details of your life you disclose to no one. Has your 'visitor' trespassed on your property, exceeding the license you have granted to members of the public to, say, drop off the mail or distribute campaign flyers? . . . Yes, he has."

Kyllo v. United States,[27] is a case involving police thermal imaging from a car on a public street, the United States Supreme Court found using sense-enhancing technology to obtain information about what is going on inside a home was a an unlawful search and seizure. The four dissenting justices that saw nothing unconstitutional about the use of thermal imagery in a search of a dwelling from a car, included Justice Stevens, O'Conner and Kennedy. The majority of the United States Supreme Court, however, held that using *technology enhancements "not in general public use*[28]" in the context of obtaining information about the goings-on in a "private home, where privacy expectations are most heightened" is unlawful, citing *Dow Chemical v. United States.*[29] In *Dow Chemical* (more on this case later), the Supreme Court decided that technological perception enhancements were not an unlawful search and seizure of an *industrial complex*.

Riley v. California, 134 S. Ct 2473 (2014); is relevant to the drone discussion in how courts might deal with drone technology privacy issues, using a balancing test. At issue was an alleged unlawful search of digital data from a cell phone found on a person after their arrest, forcing the court to adapt old cases to new technology:

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[26] 133 S.Ct. 1409 (2013).
[27] 533 U.S. 27 (2001).
[28] 533 U.S. at 34.
[29] 476 U.S. 227, 237 n 4.

> "These cases require us to decide how the search incident to arrest doctrine applies to modern cell phones, which are now such a pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy. A smart phone of the sort taken from Riley was unheard of ten years ago; a significant majority of American adults now own such phones."

The court explained how the analysis starts with novel technology:

> "Absent more precise guidance from the founding era, we generally determine whether to exempt a given type of search from the warrant requirement 'by assessing, on the one hand, the degree to which it intrudes upon an individual's privacy and, on the other, the degree to which it is needed for the promotion of legitimate governmental interests.'"

After a long and thoughtful discussion, Chief Justice Roberts concluded:

> "The fact that technology now allows an individual to carry such information in his hand does not make the information any less worthy of the protection for which the Founders fought. Our answer to the question of what police must do before searching a cell phone seized incident to an arrest is accordingly simple — get a warrant."

From these precedents we know there are certain analytical benchmarks to consider in the UAS context:

(1) Being in the traditional navigable airspace matters, to a limited extent. However, a majority of the Court is open the finding privacy violations in navigable airspace if the activity would not generally be expected by a homeowner.

At this point in our history, it is fair to say that people don't expect drones hovering in and around their homes.

(2) Information about the inside of a person's home from public rights of way (whether terrestrial or atmospheric) are unlawful if the means used to collect the information are not "in general public use." Thus the naked eye from 400 feet up and above is considered "in general public use"; but high powered technology is not.[30]

(3) As a matter of federal law, journalistic targeting images of people in their homes using drones is likely to meet disfavor, at least in the short term. The *Streisand* court seemed impressed that the photographer was not targeting an individual home. On the other hand, *Ciraolo* was not concerned that the police were looking for a specific parcel of land based on a tip. How far journalists can go using drones to capture images of people conducting their private affairs will likely be among the most litigated UAS issues, at least in the near term.

[30] *See also Streisand* [no telephoto lens].

The Fascinating Resurgence of *Trespass* to Constitute Unlawful Searches Privacy Part II

Over the past nearly 100-years, courts have vacillated between whether the 4th Amendment protects against privacy invasions or trespass. As a drone pilot, you care if it ends up being the law that if your drone trespasses into the airspace of another, you could violate the recipient's privacy rights, and as a result be exposed to liability regardless of the reasonableness of how the flight fares under the 'reasonable expectation of privacy' rules.

In Olmstead v. United States, 277 US 438, 464-66 (1928), the Court held that there can be no unlawful search without trespass. In that case, the police attached wires to public telephone lines outside of the defendant's residences. Since the wiretap was not a trespass, there was no 4th Amendment search.

In *Katz v. United States*, 389 US 347, (1967), the Court abandoned *Olmstead*, and instead held that trespass was no longer the controlling factor for determining whether a search violated the 4th Amendment. The Court decided that a wiretap of a conversation in a public telephone booth was an unlawful search even though there was no trespass, holding famously that "the Fourth Amendment protects people, not places." *Id* at 351.

Justice Harlan's concurrence described **for the first time** the new 4th Amendment test for a "reasonable expectation of privacy" having two parts: (**1) "that a person [exhibits] an actual (subjective) expectation of privacy", and (2) "that the expectation be one society is prepared to recognize as 'reasonable.**'" *Id.,* 361 US at 361. Before that, unreasonable invasions of privacy stemmed solely from trespasses.

US v. Jones, 132 S.Ct 945 (2002), resurrects the role of trespass in privacy violations. *Jones* holds that the installation of a GPS tracking device on a private car for 28 days was a ***trespass*** on the suspect's car and therefore resulted in an unconstitutional ("unreasonable") search. A majority of the justices relied on the trespass rationale. Four justices relied on invasion of privacy. All agreed the search violated the 4th Amendment; but the key point for drone users is that **technological trespass** on private property, is "unreasonable", potentially exposing the operator to privacy invasion liability.

Reasonable Expectation of Privacy is Diminished in the Industrial/Commercial Setting Privacy Part III

The expectation of privacy is ostensibly diminished in industrial and commercial settings. The most instructive case is *Dow Chemical v. United States,* 476 US 227 (1986). In *Dow*, EPA hired an airplane to take investigative photographs of an industrial facility that was guarded against ground level public views to determine compliance with Clean Air Act standards. EPA did not have a warrant. Dow got wind of the aerial investigation and brought suit claiming the investigation from the air was beyond EPAs authority, violated the 4th Amendment of the US Constitution, and should be enjoined by the court. The parties stipulated that the investigation was a "search" within the meaning of the 4th Amendment.

In *Dow*, the Supreme Court decided that technological perception enhancements that captured images of an industrial complex **but not "intimate details**" such as penetrating the walls of buildings or recording conversations, were not an unlawful search of an *industrial complex*.

The Court distinguished the reasonable expectation of privacy in the curtilage of a person's home from the rights of an owner of a 2000-acre industrial complex.

Accordingly, code enforcement of commercial and industrial settings may have relaxed rules for drone observations that do not observe or record "intimate details." Obviously, in all settings, including this one, it is wise to coordinate any such drone use with the agency's attorney to avoid expensive liability inducing missteps.

Private Property Rights

Anyone who tells you that you do not have to worry about nuisance or trespass liability when you fly your drone pursuant to FAA's rules, is wrong. Unfortunately, the law regarding the interface between trespass and nuisance liability and flying drones, is unclear. The below is a summary only; individual assessments have to be made on a case by case basis, with the aid of competent legal advice.

Trespass

The Uniform Law Commission – a national organization made up of a lot of really smart lawyers, in 2019, was unable to agree on any sort of useful "restatement of law" regarding aerial trespass, and the effort spectacularly flopped. While the ULC plans to try again, drone operators should not hold their breath. The lesson is that if some of the nation's top lawyers can't agree on the circumstances under which a drone is deemed to trespass onto private property, no planner can really know either.

Nevertheless, this is where following FAA's "Guidelines" is a very smart idea. If you strictly follow all FAA rules; **if you don't hover over private property**; **which includes not taking images of people's families in their backyards**; if you avoid flights over private property as much as possible; if you respectfully answer questions posed by concerned members of the public, you are unlikely to be on the business end of a lawsuit; and potentially ruin drone technology for everyone.

That said, the rules, such as they are, are generally summarized below. It goes without saying that your specific questions must be answered by a competent attorney who can advise you of the risks associated with particular flights you wish to pursue.

The Restatement (Second) of Torts § 159, is the best there is to restate the law regarding following liability for trespass committed by aircraft:

"Flight by aircraft in the air space above the land of another is a trespass if, but only if:

"(a) it enters into the immediate reaches of the air space next to the land, and
"(b) it interferes substantially with the other's use and enjoyment of his land."

It opines that generally, flights about 50' agl are less likely to be the "immediate reaches of a person's land. But recall, the *Causby* flights were 83' agl. The analysis in every situation, is unfortunately, a case by case one.

Nuisance

There are two types of nuisances: (1) public nuisances, and (2) private nuisances. In the author's view, a drone flown in conformity with FAA's regulations, can only potentially cause its operator liability for a private nuisance. In general terms, a public nuisance injures a public right; private nuisance injures a private right. Within these categories are "per se" nuisances – activities that are a nuisance at all times to all people and nuisance in fact – which are activities that are a nuisance to a particular person based on specific circumstances. The most likely kind of nuisance liability for a drone pilot is a private nuisance, decided based upon the alleged injury suffered by the particular claimant involved.

Generally, that fact that a person's activity alleged to be a nuisance is pursued under a specific federal (or state) approval, is a complete defense to an allegation of **public** nuisance or nuisance per se. *Mountain Communities for Responsible Energy v. Public Service Com'n of West Virginia*, 665 S.E.2d 315 (2008); *Burch v. Ned Power Mount Storm, LLC*, 647 S.E.2d 879 (W. Va. 2007). The idea is that the regulatory agency issuing the approval has weighed the public (but not private), interests and made a final decision concerning them that the law of nuisance cannot collaterally attack.

But on the other hand, a *private* nuisance claim can still be advanced regardless of state or federal permission to engage in the activity, because the state or federal certificate never weighed whether there would be any substantial and unreasonable interference with private rights (*viz*.) private nuisance. This is true with the FAA and its approval to fly a drone – it deals with the big picture and expressly avoids taking any positions regarding privacy, nuisance, or trespass.

Accordingly, the FAA's approval to engage in flying a drone is likely <u>not</u> a defense to a private nuisance claim. *See Richards v. Washington Terminal Co*., 233 US 546, 553 (1914) ("We deem the true rule, under the Fifth Amendment, as under state constitutions containing a similar prohibition, to be that while the legislature may legalize what otherwise would be a public nuisance, it may not confer immunity from action for a private nuisance of such a character as to amount in effect to a taking of private property for public use.") Similarly, a lawful activity "conducted in an unreasonable and improper manner" can constitute a private nuisance. *Sowers v. Forest Hills Subdivision,* 294 P.3d 427 (Nev., 2013).

The standard for a private nuisance is very much like the second prong of the standard for trespass- a court will look at whether the interference with the private claimant's activity is "substantial and unreasonable." One court explained a person can claim a private nuisance where "a condition that substantially interferes with the use and enjoyment of land by causing

unreasonable discomfort or annoyance to persons of ordinary sensibilities." *Rankin v. FPL Energy LLC*, 266 S.W. 3d 506 (2008).

Nuisance liability does not depend upon the claimant owning the land where the nuisance is alleged to occur. Nuisance liability can be generated from activities occurring on property owned by the drone operator and does not depend upon the scope of any owner's "immediate reaches of the enveloping atmosphere." Thus, an aircraft operator may be liable for a private nuisance even though they did not enter into the airspace surrounding land owned or occupied by the claimant. *See* Integration of Drones into Domestic Airspace: Selected Legal Issues, Congressional Research Service, page 11.

Richards v. Washington Terminal Co., Id., distinguished those nuisance activities associated with a railroad that were location dependent and those that were not. The court explained that smoke and fumes emanated from a tunnel placed through the mountain intervening between the train and its destination did not expose the railroad to liability because the tunnel's location was necessary. "But the doctrine, being founded on necessity is limited accordingly" and so the adverse effects of the elective location of facilities adjacent to private property, exposed the railroad to liability.

Finally, under *Richards*, we learn that it may be a defense to nuisance liability, if the adverse impacts suffered by a property owner can be characterized as adjusting the benefits and burdens of economic life or are common to adverse impacts generally shared by the community at large. Thus, in *Richards* the Supreme Court observed:

> "Any diminution of the value of property not directly invaded nor peculiarly affected but sharing in the common burden of incidental damages arising from the legalized nuisance, is held not to be a 'taking' within the constitutional provision. The immunity is limited to such damages as naturally and unavoidably result from the proper conduct of the road and *are shared generally by property owners whose lands lie within range of the inconveniences necessarily incident to proximity to a railroad.* It includes the noises and vibrations incident to the running of trains, the necessary emission of smoke and sparks from the locomotives, and similar annoyances inseparable from the normal and non-negligent operation of a railroad." (Emphasis supplied.)

Accordingly, notwithstanding federal sovereignty and the right of free transit in the federal navigable airspace, people have personal rights that are protected by the law of nuisance against permitted aviation activities.[31]

Here, it is important to note that some lower federal courts, in search of a black letter rule, place a figurative fence on liability attaching below the 500 foot agl mark in what the Federal Circuit characterizes as "more or less… mechanical fashion."[32] When it comes to drones, this is

[31] *Greater Westchester Homeowners Assn. v. City of Los Angeles*, 26 Cal.3d 86 (1979).
[32] *Argent v. United States*, 124 F.3d 1277, 1281 (Fed. Cir. 1997) *citing*, e.g., *Lacy v. United States*, 595 F.2d 614, 616 (Ct. Cl. 1979); *Aaron v. United States*, 311 F.2d 798, 801 (Ct. Cl. 1963).

the epitome of question begging, since the drones a planner will fly as a matter of law can **only** be flown below 400' agl.

The best defense to nuisance or trespass liability is to fly respectfully and importantly not hover at low altitudes over private property.

Governmental Drones and Unconstitutional Takings Liability

What the Courts have to Say Generally About Private Property Rights When it Comes to Flying Machines

Simply put Congress, by statute, cannot limit the reach of the federal takings' clause or the law of nuisance or trespass to 500 feet (or any other distance) above the ground. The issue, as in any takings case, is the impact of the governmental activity on the property owner. Altitude, standing alone, is no defense.[33] To date, the cases involving this concept have been fairly simple: military flights above or below 500 feet. All that will change with drones.

Recall that Congress declared the existence of navigable airspace and said that there is a right of freedom of transit through that space. Recall also that the federal definition of navigable airspace is what the FAA says it is based on the safe flight altitude of aircraft. So, the question is can unmanned aircraft flying in the navigable airspace create takings liability for responsible governmental entities? Under existing precedents, the answer is yes; but no one knows what the circumstances giving rise to liability, look like.

The U.S. Supreme Court in *United States v. Causby*, 328 U.S. 256, 258(1946), issued granddaddy of all the airspace taking cases, that remains good law to this day. Mr. Causby had a chicken farm. Military jets flew over his chicken farm at about 83' agl, causing Causby's chickens to be frightened and climb into building corners on top of one another to escape, which suffocated the birds who weren't on top, in the process. Causby claimed that the overflights were so oppressive that the military literally bought the farm, since he could no longer use it as a chicken farm. He asserted that under the Fifth Amendment taking clause, the government had to pay him just compensation for taking his right to farm his private property. The Supreme Court agreed and he won.

The government claimed, among other things, a property owner does not "own" any airspace adjacent to the surface "which he has not subjected to possession by the erection of structures or other occupancy." The Supreme Court disagreed:

> "if the landowner is to have full enjoyment of the land, he must have exclusive control of the immediate reaches of the enveloping atmosphere. Otherwise buildings could not be erected, trees could not be planted, and even fences could not be run. The principle is recognized when the law gives a remedy in case overhanging structures are erected on adjoining land. The landowner owns at least as much of the space above the ground as the can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense -- by the erection

[33] *Branning v. United States*, 654 F.2d 88, 998-99 (Ct. Cl. 1981).

> of buildings and the like -- is not material. As we have said, the flight of airplanes, which skim the surface but do not touch it, is as much an appropriation of the use of the land as a more conventional entry upon it."

The Court explained that the surface of the ground was necessary for a person's use and enjoyment of their property and that invasions of that space, developed or otherwise, are as much an unconstitutional taking as a physical occupation of such property. This is an important consideration in code enforcement cases using drones on large ranches.

The Court concluded that not all flights will amount to a taking. Rather, the Court decided that "flights over private land are not a taking, *unless they are so low and so frequent to be a direct and immediate interference with the enjoyment and use of the land*." Although all economically beneficial use was not lost, there was a compensable diminution in the value of the property under the 5th Amendment, because the property could not be used as for chicken farming as the owner intended.

In *Griggs v. Allegheny County* 369 U.S. 84, 90 (1962), low flying aircraft, flying as allowed by FAA regulations, in navigable airspace, while taking off and landing at a public airport, constituted a compensable taking under the Fifth Amendment. This case relies on the Court's opinion in *Causby.*

In dicta, in *Braniff Airways v. Nebraska State Board of Equalization & Assessment*[34], the United States Supreme Court summarized *Causby* to hold "that the owner of land might recover for a taking by national use of navigable air space, resulting in destruction in whole or in part of the usefulness of the land property."

It is worthwhile to talk about the liability of airports to understand the potential liability of UAS operators.

In its two decisions discussed above, the Supreme Court made it reasonably clear that the navigable airspace was a *flight safety* concept, and not one that shielded airport operators from liability.[35] *Causby* involved military aircraft operating out of an air base in North Carolina during World War II. *Griggs* involved civilian aircraft operating out of a municipal airport in Pennsylvania. In each case, the aircraft were on approach to the airport when the noise and other noxious by-products adversely impacted property below (*Causby*) or near (*Griggs*) the flight path.

There was a technical legal difference between the two cases, in that the navigable airspace definition at the time of *Causby* did not include the paths for landing and taking off. Congress amended the statute to add that between the decisions. But it didn't matter. In both cases, the Supreme Court held that the **airport operator would be liable for a taking** due to the adverse impact of the flights on the adjacent property owners. The idea seemed to be that the airport owners were the ones in the best position to adjust airport boundaries and create buffers.

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[34] *Supra*, 347 U.S. 590 (1954).
[35] *See Causby, Griggs.*

In an early follow-up, the Court of Claims understood this to be a rule of general application.[36] It disregarded the fact that aircraft were operating in the navigable airspace and focused instead on the impact of those flights on underlying landowners:

> "**it is clear that the Government's liability for a taking is not precluded merely because the flights of Government aircraft are in what Congress has declared to be navigable airspace and subject to its regulation**.[37]

The Court of Appeals for the Federal Circuit built on this holding a decade and a half later, noting that takings cases of all kinds "defy *per se* rules" and that the primary liability factor is noise, rather than direct physical intrusion.[38]

Other courts, however, in search of a bright line, black letter rule, had placed a figural fence on liability at the 500 foot mark in what the Federal Circuit dismissed as having been done in "more or less . . . mechanical fashion."[39] All of this is fairly unsatisfying in answer to the question of UAS that fly at about the same elevation as an automobile and the airspace within which they fly will be within the definition of the "navigable airspace." This is where *Causby* will be helpful.

Because no matter where a drone might fly in navigable airspace, if they cause untenable problems to private property, there might be liability under the taking clause of the Fifth amendment if they the drone flight is "by" a governmental actor.

Governmental operators similarly are also potentially exposed to nuisance and trespass damages, in the same way that private actors are exposed.

What the Courts Have Said About Private Property Rights When it Comes Specifically to Airspace

There is a famous Supreme Court case that informs what happens when government regulates away property rights in airspace, under the taking's clause of the Fifth Amendment. This case is *Penn Central Transportation Co. v. City of New York*. **Important to the drone's discussion, this case acknowledges that persons can have property interests in airspace**.

In *Penn Central*, New York City prohibited Penn Central, the owner of Grand Central Station (GCS), from erecting a multistory office building on top of GCS, which was otherwise consistent with the applicable zone, but the city denied the office building plan under new

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[36] The cases in this genre are all from the Court of Federal Claims (or its predecessor) and the Court of Appeals for the Federal Circuit, as the flights that raise this issue have been military training flights where landowners have been subjected to repeated overflights by substantial numbers of aircraft practicing takeoffs and landings via touch-and-go maneuvers or practicing landing on aircraft carriers by using a spot marked out on the desert floor. Some of this activity takes place above 500 feet. Cases involving civilian airports all involve takeoffs and landings and are thus in the portion of the navigable airspace below 500 feet that had already been held to be their responsibility in *Griggs*.

[37] *Branning v. United States*, 654 F.2d 88, 99 (Ct. Cl. 1981).

[38] *Argent v. United States*, 124 F.3d 1277, 1282 (Fed. Cir. 1997).

[39] *Id.* at 1281, *citing, e.g.*, *Lacy v. United States*, 595 F.2d 614, 616 (Ct. Cl. 1979); *Aaron v. United States*, 311 F.2d 798, 801 (Ct. Cl. 1963).

historic preservation rules. The Supreme Court decided that the denial of the right to build an office tower on GCS, was not an unconstitutional taking of the owner's airspace rights. The Court decided (applying a three-factor test), that the economic impact of the regulation was not severe enough to constitute a talking, because the owner still could make economically viable use of the GCS.

The teaching here, is that when government establishes say, a drone track in low to the ground airspace, its unconstitutional taking liability is analyzed under traditional partial and total taking rules – whichever applies based upon the facts at hand.

The important other side of the *Penn Central* coin is that there are private property rights in airspace that can be interfered under a nuisance or trespass analysis too. So for example, if a property owner has a property right to build a 50-story office tower, then a drone that enters that airspace may have trespass liability if the flight occurs in the area the owner "owns" but also "substantially interferes" with the owner's use. What a substantial interference looks like in the context of drone flights where buildings or windmills or other structures may be established, is unsettled. However, it is entirely foreseeable that a property owner may indeed seek to "post" airspace property to say flights are allowed until the owner says otherwise, to avoid claims of "adverse possession.

And if drone flights interfere with construction in airspace that is the private property of others, it is entirely foreseeable that the operator of such flights could have liability under nuisance principles.

FAA Has a Unique View of Property Rights

The airspace controlled by the FAA is not recorded in any real property records. Yet there are circumstances in which the FAA claims to control airspace at the surface of private property. One such circumstance is "Special Use Airspace" or SUA (a confusing acronym for sure in the brave new world of UAS ubiquity). SUA is particularly problematic for private property owners, although most of them they don't know it yet. The FAA purports to allow agencies to request and receive a designation of SUA at the surface of privately owned property, regardless of the fact that there is no recorded right to invade the private property to which the surface is attached. Such SUAs can be designated by the FAA merely on the finding that an agency claims that surface airspace existed in December 1, 1967.[40] The military in particular has in one situation relied on FAA's authority to designate SUA to designate "drone tracks" on private property per FAA's Order: "Procedures for handling Airspace Matters" Order JO 7400.2J 21-3-3 "SUA Proposals" "Proposal Content." In the military's view, regulating the surface of property to allow drone tracks is just like imposing a land use restriction limiting surface uses in more familiar contexts. The FAA order relied on says:

> "3 Proposals to designate the surface as the floor of a prohibited or restricted area *shall include a statement explaining how the proponent will exercise control of the underlying surface (i.e., by ownership, lease, or agreement with the property owner)*. Do not submit a copy of the deed, lease, or control agreement.

[40] Order JO 7400.2J 21-3-3 "SUA Proposals" "Proposal Content."

"NOTE *Restricted areas that were designated with the surface as the floor prior to December 1, 1967, are exempt from the "own, lease, or control" requirement.* The exemption status remains valid until amendment actions are taken which would expand the dimensions or times of use or change the designated purpose of the area." (Emphasis supplied.)

"* * *

Also, from the same FAA Order, "Restricted Areas"

"23-1-4. RESTRICTED AREA FLOOR

"a. The restricted area floor may be established to the surface only when the using agency owns, leases, or by agreement, controls the underlying surface.

"NOTE *Existing restricted areas established from the surface before December 1, 1967, are exempt from the 'own, lease, or control' requirement*. This remains valid until amendment action is taken which would expand the boundaries, altitudes, or times of use, or changes the designated purpose of the area. Nevertheless, using agencies of such restricted areas are encouraged to acquire sufficient control of the property to prevent possible disruption of that agency's activities." (Emphasis supplied.)

As a matter of property law there is nothing special about December 1, 1967. Nothing about that date, or any other date postdating statehood for that matter, changes the nature of private property rights or the rights of fee simple ownership to exclude others and control the land where the dog, the house, the play structure, the tractor etc., exists. But an unknown number of property owners may find the federal government weighing in on land use controversies to prevent larger structures on private property to protect airspace for UAS. Property owners may also find themselves sharing what they thought was their outdoor private space with flying machines of assorted sizes, that they did not expect.

Misc. - Bad Actors Will Still be Civilly and Criminally Liable for Bad Acts

Laws like United States Constitutional guarantees of due process; equal protection; the laws about stalking, and harassment as well wiretapping, all continue to apply in the UAS future. Under the federal wiretap statute, it is unlawful to intentionally intercept an "oral communication" by a person "exhibiting an expectation that such communication is not subject to interception under circumstances justifying such expectation * * *."[41]

How exactly these laws interface with "navigable airspace" in the UAS context will take some time to be worked out. Resolution of the issue of where private property rights begin and where UAS navigable airspace, free from personal and property rights' liability begins, will also take some time, but as we work that out, the law will find a way to punish the bad actors.

[41] 18 U.S.C. §2511(1)(a); 18 U.S.C. §2510(2).

Misc.-Interfering with Annoying Drone Operations

Unless you are working in law enforcement (and following the rules), the bottom-line is don't interfere with annoying drone operations and local ordinances should not purport to allow such interference. Drones are considered "aircraft" and it is a federal and state law crime to interfere with an aircraft.

Buying, selling, possessing, and using drone interference devices can trigger all manner of crimes regarding not only aircraft protection laws but also things like laws about radio communications; Wi-Fi,", computer fraud/abuse, etc.

On August 17, 2020, FAA and the federal Department of Justice promulgated an "Advisory" that outlines the astonishing caldron of federal laws that prohibit sale, possession and use of drone jamming/interference technology. That advisory is Exhibit 2 to this paper. The scope of the law and legal traps awaiting novices who tread in this area, is well beyond this paper. Suffice to say that anyone who wants to interfere with drones, is advised to (1) review Exhibit 2, and (2) consult with a knowledgeable lawyer before buying, possessing, or using such devices.

Misc.-Law Enforcement Use of Drones

While not an issue most planners will deal with (except perhaps in the context of code enforcement), FAA has published guidance on local law enforcement of drone related crime. That guidance is Exhibit 3 to this paper.

In general, FAA enforces its own rules, but there is a significant and important role for local law enforcement, including to enforce voyeurism complaints – which are the vast majority of the local law enforcement drone related enforcement efforts. While local ordinances purporting to regulate drones in areas within FAA's exclusive authority are preempted, the FAA Chief Counsel has interpreted FAA's own rules to advise that state and local government is free to regulate "voyeurism and privacy." In *Singer,* as noted earlier, the federal court held that the Chief Counsel's interpretation of FAA's rules in that Chief Counsel "FAQ" document, is entitled to deference. Therefore, state and local governments are reasonably free to enact, modify and enforce such rules against drone operators.

Law enforcement should not tell victimized citizens there is nothing they can do in the face of citizens being harassed by drones. Rather, they should find and prosecute violators. If a state's laws are inadequate, then law enforcement should work with their state legislatures to establish enforceable anti-voyeurism and privacy laws, to protect its citizens. The drone industry is not benefitted by the citizenry being harassed at will by bad actor drone operators. After all, they are the governed and they are the ones with the power to insist that Congress ground drones.

Law enforcement should work directly with the FAA to establish particular enforcement programs appropriate for each jurisdiction.

Summary

In a short time, civil sUAS will have a ubiquitous, legitimate place in U.S. airspace. UAS airspace rules will implicate the commercial rights of sUAS operators, private property rights, and citizens' privacy and safety values. All levels of government will be tasked to strike the balance between UAS deployment and these rights and values. Federal, state and local authorities will be called upon to craft appropriate aviation, land use and privacy rules that will support this important technology while protecting people and property from its effects.

While all of that is being worked out, planners should gain comfort using the technology, and stay on top of the rules that apply. Drones can be an amazing tool in a planner's toolbox, but they must be used correctly.