



UNMANNED AIRCRAFT: DEFINING PRIVATE AIRSPACE



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NATIONAL ASSOCIATION OF MUTUAL INSURANCE COMPANIES



Background	2
A History of Air Rights.....	3
FAA Eliminates Private Airspace	4
Necessary Change is Coming	6
The Path Forward Requires Regulatory Evolution	7
Restitution of Private Airspace is Needed	8
Conclusion.....	9



BACKGROUND



The Federal Aviation Administration (FAA) has projected the insurance industry to be one of the largest commercial users of Unmanned Aircraft Systems (UAS), and insurers are already using UAS to provide safer and more economical insurance services. For instance, inspecting and assessing the nature and extent of damage to property quickly and safely enhances the policyholders' experience, expedites the claims process, and reduces the risk of injury from climbing on roofs and structures. UAS can also help insurers play an even more critical role in disaster response and recovery efforts. Following a major disaster, UAS use would allow for safe inspection of potentially dangerous or inaccessible areas and structures without risking further loss of life or damage to property, and help insurers share critical real-time information with emergency responders.

The debate surrounding the regulation of UAS continues to evolve, and is on the cusp of hitting another inflection point. Recent regulatory developments with respect to UAS and private property airspace have resulted in fundamental questions being raised about private property and private airspace that will impact UAS use and insurance coverage. Currently, the FAA is maintaining that it can regulate navigable airspace from the ground up. As a leader at the intersection of insurance and UAS, NAMIC does not believe this position is tenable for property owners and policyholders, and is recommending a policy change to restore the rights of private air space.

Questions regarding private airspace will eventually be answered through litigation in the courts; before that begins to happen Congress, legislatures, and regulatory agencies should establish clear rules necessary for the continued proliferation of UAS. To understand how policy and regulation should develop, it is necessary to understand insurance and UAS, how the present situation has developed, and exactly what action is needed to restore private airspace and allow for the continued deployment of commercial UAS.

A HISTORY OF AIR RIGHTS

An ancient common law doctrine was that ownership of the land extends to the periphery of the universe. Owners of private property were said to own the land, everything below it, and all the airspace “up to the heavens.” Air rights are a type of property interest in real estate, referring to the space above the earth’s surface. Owning or renting land or a building gave the right to use and develop the space above the land. This legal concept is encoded in the Latin phrase *Cuius est solum, eius est usque ad coelum et ad inferos* (“For whoever owns the soil, it is theirs up to Heaven and down to Hell.”), which appears in medieval Roman law.

In the age of commercial air traffic however, the heavens became a public highway. By 1940, Congress had legislated that “[t]he United States of America is hereby declared to possess and exercise complete and exclusive national sovereignty in the air space above the United States.” *49 U.S.C. § 176(a) (1940) (current version at 49 U.S.C. § 1508(a) (1976))*. Congress also recognized and declared that every citizen of the United States has “a public right of freedom of transit in air commerce through the navigable air space of the United States.” *49 U.S.C. § 403 (1940) (current version at 49 U.S.C. § 1304 (1976))*. “Navigable airspace” was then defined as “airspace above the minimum safe altitudes of flight prescribed by the Civil Aeronautics Authority [CAA].” *49 U.S.C. § 180 (1940)*.

In *United States v. Causby*, the Supreme Court of the United States in 1946 provided guidance on where private property rights of airspace end and navigable airspace begins. In *Causby*, a farmer lived adjacent to a military airport where aircraft flew as low as 83 feet over the farmer’s property. As a result, the noise from the aircraft startled the farmer’s chickens, causing them to fly into walls, causing their death. The court found that the navigable airspace that Congress had placed in the public domain was airspace above what was deemed the minimum safe altitude (MSA), and it put forth two key principles regarding airspace below the MSA. First, landowners have “exclusive control of the immediate reaches of the enveloping atmosphere.” Second, landowners own at least as much of the space above the ground as they can occupy or use in connection with the land. The court ruled in favor of the farmer but did not decide where the precise boundaries of public airspace above the farm meet the immediate reaches of the farmer’s property and how high state government’s rights extended.

After the decision in *Causby*, as part of the Federal Aviation Act of 1958, Pub.L. No. 85-726, 72 Stat. 731, Congress redefined “navigable airspace” to mean “airspace above the minimum altitudes of flight prescribed by regulations issued under this chapter, and shall include airspace needed to [e]nsure safety in take-off and landing of aircraft.” *49 U.S.C. § 1301(26) (1976)*.

In *Griggs v. Allegheny County*, [369 U.S. 84](#) (1962), the U.S. Supreme Court was faced with a case where flights along a glide path above the plaintiff’s land, while below 500 feet, were nevertheless within the navigable airspace as declared by Congress in the 1958 act. The court held that a “taking” had occurred even though the landing planes were within the navigable airspace of the United States as defined by Congress and as determined by the applicable regulations. *369 U.S. at 88-89*.

While neither the law nor the judicial decisions define the “immediate reaches” of private ownership, they do make clear that flights by aircraft over private land are a “taking” of an easement in the



overhead airspace if such flights are a direct and immediate interference with the use and enjoyment of the land. Regardless of any congressional limitations, the landowner, as an incident to his ownership, has a claim to the “superadjacent airspace” to the extent that a reasonable use of his land involves such space.

A separate but related legal area is airspace rights in property and real estate. In this context, air rights involve the legal ownership and rights to improve or develop real property at and above a certain horizontal plane – basically off the ground. These air rights are the legal rights to build “in space” above an existing surface use. This can be the legal rights to construct a building over railroad tracks, parking lots and expressways, or even construct a building on top of another building. Another example is condominiums where owners hold title to the envelope of airspace occupied by the condominium unit. Condominiums allow the subdivision and transfer of exclusive rights in airspace – rights that are separate from ownership of the surface land below.

FAA ELIMINATES PRIVATE AIRSPACE

The development and proliferation of UAS in recent years have been under the regulatory auspices of the FAA, which has scrambled to set appropriate measures. The FAA has determined that UAS are “aircraft” under federal law. The FAA has also determined that since these aircraft can fly almost anywhere, the FAA concluded that the UAS’s “navigable airspace” under FAA supervision includes all airspace that is not indoors.¹ The FAA by its regulatory position has basically eliminated the superadjacent airspace recognized by the U.S. Supreme Court.

As a result, the FAA takes the position that a UAS flying in your yard or over your private or business property is considered to be in navigable airspace. <https://www.faa.gov/uas/faqs/> Navigable airspace is from the ground up. Anyone flying a UAS in compliance with FAA rules is permitted to fly in all such navigable airspace. It is a federal offense to interfere with the operation of an aircraft, so private property owners and business owners are prohibited from interfering with or preventing the operations of a UAS in navigable airspace even if that space is private property.

By the FAA determination that all airspace – from the ground up – is federal navigable airspace for UAS, the FAA now claims authority to allow UAS access to all superadjacent airspace over private property. By authorizing all FAA-compliant UAS flights in this previously superadjacent airspace over private property, the FAA has opened to the general public an enormous amount and variety of space that had previously been the exclusive private property of the landowners’ reasonable use.

¹ *The FAA has designated certain segregated airspace where UAS are prohibited to protect manned aircraft, such as near airports or above certain altitudes. The 2016 FAA reauthorization bill also allows “fixed-site facilities” – which include energy production, transmission, and distribution facilities and equipment, oil refineries and chemical facilities, and amusement parks – to obtain FAA permission “to prohibit or restrict the operation of an unmanned aircraft in close proximity.”*

Questions Surround Individual Property Rights

The assertion that all airspace is navigable airspace can impede, if not eliminate, airspace property rights to use and develop that property. Any property owner building a fence or a garage is arguably constructing in and interfering with navigable airspace under federal control. Federal law provides that the United States government has exclusive sovereignty of airspace of the United States; the FAA makes the plans and policy for the use of the navigable airspace; and any citizen has a public right of transit through the navigable airspace. 49 U.S. Code § 40103. Allowing the FAA authority over all airspace raises serious concerns on air rights and property.

The FAA's regulatory taking of millions of cubic miles of private airspace/property adds insult to injury by unilaterally removing the established right of property owners to exclude any stranger from physical entry upon his land. A central tenant of "property" is that the owner has an absolute right to determine who may enter or remain on his land, and is generally not subject to how they may grant access. The sustained assertion of effective control over access to the benefits of a resource defines what is "property" in that resource.

The FAA rule that all airspace is publicly accessible navigable airspace and that UAS operators may fly under FAA rules anywhere in navigable airspace, means that there is no longer private airspace. You have the legal right to have your neighbor removed from standing in your front yard. You can have his dog removed. You can remove his tree limbs growing over your yard, you can have his garage roof over your yard removed, and you can prevent him from building a deck over your yard. But not a UAS in your front yard.

Loss of Privacy/Exclusivity

This violation is exacerbated by an attendant loss of privacy. In general, if you are legally permitted to be where you are, it is not a violation for you to see what you can see, or even to photograph or record what you can see. If an FAA-compliant UAS can fly in the navigable airspace that the FAA has determined to be your yard, five feet from your window, then that UAS has every right to be where it is. And if it has every right to be where it is, it has every right to see or record whatever it can see.

The loss of exclusivity of property access and privacy has similar impact on commercial private property. Navigable airspace from the ground up at shopping centers, open air cafes, car dealerships, and business centers means that FAA-compliant UAS operators are free to fly where they wish. The value of these commercial properties could be significantly diminished by UAS. UAS flying freely over and in an outdoor music venue, a resort, a tennis club, or a horse racing track would destroy much of the value of that commercial property. It could also result in enhanced obligations of the property owners to minimize dangers to patrons from these UAS.





NECESSARY CHANGE IS COMING

The Role of State and Local Authorities

While initially dismissive of private airspace, the FAA has gradually concluded that something must change. The FAA had taken the position that federal regulation preempted all state and local UAS regulations, but later acknowledged that there are shared areas of responsibility. The FAA has taken the position that laws traditionally related to state and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – generally are not subject to federal regulation. Some states have responded by enacting specific state laws defining UAS trespass.²

The FAA has and will continue to have limited resources devoted to UAS, and even less enforcement power and resources. At the same time, the number of recreational and commercial UAS is expected to grow exponentially. The natural result of this dichotomy is that state and local authorities will be the ones that must respond to the vast majority of UAS incidents, often including private property. Because the FAA preeminence is unsupported by any meaningful FAA presence, state and local authorities will be responsible for resolving these incidents, which will result in a wide and varied set of standards and applications.

This evolving UAS regulatory authority among federal, state, and local authorities again raises the question of private airspace. Prior to the FAA's usurpation, private airspace was a clear and established property right under federal, state, and local laws and judicial interpretation. The cases that recognized the government authority to set navigable airspace also recognized landowners' rights in "the immediate reaches" and that imposition on those rights by the government was a taking.

Courts and Legislatures

If the legislatures and the courts validate the FAA's position and the government's right to eliminate landowners' rights in the immediate reaches, then such action at a minimum should require some corresponding official determination that there is an overriding societal need in that taking. The government would have to take the position that the needs of UAS operators to fly in your front yard override your property rights in your front yard.

More pressing perhaps are the pending lawsuits that have and will result from property owners taking down third-party UAS operating over their property. There have been several widely reported incidences of property owners shooting UAS and at least one case proceeding through the courts in which the UAS owner is suing the landowner and the landowner is alleging trespass. If this matter is left to the various federal, state, and local courts, there will be a wide variety of resulting standards, requirements, liabilities, and defenses. Failure to acknowledge and address the issue of private airspace ownership will leave this issue to the uncertain and piecemeal process of litigation, both criminal and civil, to wind its way through various courts. More than any other process, this will result in a case-by-case, uncertain environment that hinders the commercial applications of UAS and the ability of insurance companies to use and provide adequate coverage for policyholders.

² Nevada [law](#) allows property owners to seek treble damages for certain repeated drone overflights lower than 250 feet.

THE PATH FORWARD REQUIRES REGULATORY EVOLUTION

Property/casualty insurance companies see benefits in using UAS to serve policyholders, and policyholders are seeking insurance coverage for their UAS. Answering the question of private airspace is necessary to define how insurance companies will use and insure UAS and what other regulatory evolution would best facilitate such use and insurance.

Property/casualty insurance companies will use UAS to obtain information on the property to help service claims on policies. Using UAS in multiple jurisdictions means we should seek to have uniform, consistent, and manageable regulations without obligations requiring users to obtain individual authorization to operate over private property.

Insurance companies that provide private or commercial property/casualty insurance for UAS will provide policies that cover damage to and by the UAS, as well as civil liability. Insurers are generally familiar with state and local regulations, including land use, zoning, privacy, and trespass, and would most effectively operate without additional and conflicting provisions that are UAS specific.

All of that said, insurers would oppose the abrogation of private property rights and the privacy invasions attendant to unrestricted UAS flights in front yards and over commercial policyholders.

The questions then would be how the restitution of some aspect of rights to exclude UAS from private property can be made and how that restitution best serves the interests of policyholders and insurers within the larger context.





RESTITUTION OF PRIVATE AIRSPACE IS NEEDED

The solution to the FAA's elimination of private airspace for UAS flights is some level of restitution or redefinition of private airspace/superadjacent airspace and the attendant rights and responsibilities. The FAA has valid authority to protect manned aircraft, and its authority to set a ceiling for UAS operations is completely within its jurisdiction and expertise. The FAA has over-broadly interpreted its responsibility – to protect people and structures on the ground from aircraft – by improperly claiming all airspace from the ground up for UAS.

The first concern is easily addressed. Manned aircraft should not be flying below 500 feet and the existing FAA rules to keep UAS below 400 feet should be maintained. FAA regulations setting a ceiling for UAS operations is and should be the sole province of the FAA.

The FAA, however, has claimed all space under that ceiling, in part on the theory that UAS may lose control and threaten manned aircraft, people, and structures. There is insufficient data to dismiss this danger, but the question should be whether this potential outweighs private property rights and the resulting privacy intrusions. The prudence of the FAA may be admirable, but the societal costs outlined above cannot rationally be justified by “an ounce of prevention.”

It might be possible to allow for unrestricted navigation for UAS in a band of airspace below 400 feet, but above some to-be-determined level. Below that level private airspace would kick in. This would allow for federally preempted regulation of nationwide airspace through which many of the commercial operations could take place. It would also allow an individual to be assured of the fair use of a certain amount of airspace superadjacent to his property. This would also allow the property owner to utilize drones for personal or commercial purposes within that airspace.

With a ceiling for private airspace determined by the FAA, state and local authorities could then enforce and interpret those laws traditionally related to state and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – which the FAA has acknowledged are not subject to federal regulation. State and local jurisdictions establish private property rights and many jurisdictions have well established law, regulation and judicial interpretations of private/superadjacent airspace and property.



CONCLUSION

While federal, state, and local laws and judicial opinions have recognized that national airspace does not include super-adjacent airspace over private property, the FAA has taken the position that – for UAS – it does. Moving forward, in order to restore the rights of private airspace and ensure the continuity and consistency of regulation, the current discrepancy between case law and the FAA’s current position must be resolved. To accomplish this, Congress should statutorily define limits for national airspace or work with the FAA to realign the agency’s posture with established legal precedent.

NAMIC is the largest property/casualty insurance trade association in the country, with more than 1,400 member companies. NAMIC supports regional and local mutual insurance companies on main streets across America and many of the country's largest national insurers. NAMIC members represent 39 percent of the total property/casualty insurance market, serve more than 170 million policyholders, and write more than \$230 billion in annual premiums.



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Tom has worked directly with senior FAA officials and has testified at Congressional hearings on drone issues. He has been widely quoted on insurance drone issues in national media including Fortune magazine and NPR. He was a stakeholder in the NTIA Drone Privacy Working Group and an invitee to the 2016 White House Drone Day. He is a member of the FAA/Industry UAS Safety Team, an advisor to the Property Drone Consortium and on the planning committee for the NY State NUSTAR project.

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