



**Drone Advisory Committee (DAC) – Task Group (TG) 1
Recommended Tasking on Roles and Responsibilities
January 31, 2017**

ACTION: Topics for discussion and analysis for DAC Subcommittee (DACSC) TG on governing roles and responsibilities.

SUMMARY: The Federal Aviation Administration (FAA) is presenting to the DACSC topics for discussion and analysis regarding whether the rapid advent of Unmanned Aircraft Systems (UAS) (or “drones”) warrants consideration of the relative roles and responsibilities of the Federal and of state/local governments for regulating certain UAS operations in low-altitude airspace as compared to the Federal government’s exclusive role and responsibility for regulating all aspects of manned aircraft operations.

Since 1926, when the United States declared exclusive Federal sovereignty of the airspace (as supplemented by aviation statutes in 1938 and 1958), a statutory and regulatory framework vests in the Federal Government exclusive authority for regulating all aspects of manned aviation, whether fixed wing aircraft or rotorcraft/helicopters. With the exception of takeoff and landing, most manned aircraft operations are conducted at “minimum safe altitudes,” which generally have not been defined to include low-altitude airspace. However, the rapid development and increasing use of UAS in low-altitude navigable airspace and their unique operating characteristics (*e.g.*, can be launched anywhere, typically fly at low altitudes, ease of use) raises important regulatory policy questions as to the role of state and local governments relative to the role of the Federal Government.

Currently, existing statutory and regulatory rules do not permit state and local governments directly or indirectly to regulate aircraft flight operations, aviation safety or efficient use of navigable airspace. They do have the authority through their police powers to promulgate and enforce rules of general applicability; however, increasingly state and local governments desire to exercise more direct authority over UAS operations in low-altitude navigable airspace to accommodate a broad array of sometimes competing national and community interests.

BACKGROUND: In response to the proliferation of UAS, many state and local governments have begun to enact a variety of laws regulating UAS operations in low-altitude navigable airspace. Virginia, Arizona, Delaware, Rhode Island, Michigan, Oregon, and Maryland prohibit local government regulation of UAS, instead vesting sole authority in the state legislature. Other states, such as Tennessee, California, Nevada, and Minnesota, declare state sovereignty of the airspace unless granted to the Federal Government pursuant to a constitutional grant from the people of the state. T.C.A. § 42-1-102; Ann.Cal.Pub.Util. Code § 21401; N.R.S. 494.030; M.S.A. § 360.012.

Still other state and local governments enacted legislation regulating the time, place, manner and/or purpose for which private parties may use UAS in their jurisdictions. Specific examples of enacted or proposed legislation include:

- Minimum altitude rules;
- Geo-fencing technology;
- Overflight without property owner's permission;
- Curfews/designated hours of flight;
- Restricted flight over critical infrastructure, public assemblages, and first responder activity;
- Reckless interference with an aircraft;
- Restricted use from public property;
- Accident or incident reporting;
- Registration;
- Advance notice of flight;
- Insurance requirements;
- Voyeurism or capturing an image without consent; and
- Civil and/or criminal enforcement mechanisms

Notwithstanding the enactment of such legislation, since the Air Commerce Act of 1926, Federal law has provided the United States Government exclusive sovereignty of airspace of the United States and that citizens have a public right of transit through the same. By statute, the FAA has exclusive authority to regulate:

- Safety;
- Efficient use of the airspace;
- Protection of people and property on the ground;
- Air traffic control; navigational facilities; and
- Aircraft noise at its source.

49 U.S.C. §§ 40103, 44502, and 44701-44735. To implement that authority, Congress has directed the FAA to:

- Develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace.” 49 U.S.C. § 40103(b)(1); and
- Prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes)” for navigating, protecting, and identifying aircraft; protecting individuals and property on the ground; using the navigable airspace efficiently; and preventing collision between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects. 49 U.S.C. § 40103(b)(2).

In furtherance of these statutory commands, the FAA has established a comprehensive regulatory scheme, governing, among other things, the registration and certification of aircraft; certification of airports, pilots and mechanics; aircraft equipage; air traffic control systems; aviation navigation and communication; airspace classifications as well as minimum safe altitudes,

cruising altitudes or flight levels, minimum altitudes for instrument flight rules operations, and specific flight altitude rules for large and turbine-powered multiengine airplanes.

Because FAA regulation occupies the entire field of aviation safety, management and efficient use of airspace, air traffic control, and flight management, state and local regulation is impermissible. As noted by the U.S. Supreme Court, the FAA's primary statute, the Federal Aviation Act of 1958 (now codified at 49 U.S.C. §§ 40101, et seq.):

[R]equires a delicate balance between safety and efficiency, and the protection of persons on the ground ... The interdependence of these factors requires a uniform and exclusive system of federal regulation if the congressional objectives underlying the Federal Aviation Act are to be fulfilled.

Burbank v. Lockheed Air Terminal Inc., 411 U.S. 624, 638-639 (1973).

Indeed, the Supreme Court has ruled that even complimentary state regulation parallel to federal regulation is impermissible: "Where Congress occupies an entire field . . . even complimentary state regulation is impermissible. Field preemption reflects a congressional decision to foreclose any state regulation in the area, even if it is parallel to federal standards." *Arizona v. U.S.*, 567 U.S. ___, 132 S.Ct. 2492, 2502 (2012).

A consistent regulatory system for aviation and use of airspace ensures the highest level of safety for all aviation operations, including the operation or flight of aircraft. Without exclusive Federal regulation, "[t]he likelihood of multiple, inconsistent rules would be a dagger pointed at the heart of commerce – and the rule applied might come literally to depend on which way the wind was blowing." *British Airways Board v. Port Authority of New York and New Jersey*, 558 F.2d 75, 83 (2d Cir. 1977), *aff'd, as modified*, 564 F.2d 1002 (2d Cir. 1977) (referring specifically to aircraft noise control).

Noise-related cases seem particularly relevant because most local noise ordinances necessarily implicate the FAA's authority over flight operations and paths. For example, in *Allegheny Airlines v. Village of Cedarhurst*, 238 F.2d 812 (2d Cir. 1958), the court invalidated an ordinance which prohibited aircraft flights over the village at altitudes of less than 1,000 feet; and in *American Airlines v. Town of Hempstead*, 398 F.2d 369 (2d Cir. 1968), *cert. denied* 393 U.S. 1017 (1969), the Court invalidated a noise ordinance that prohibited overflights of a town by aircraft that did not meet certain noise standards because compliance would have required the alteration of FAA-promulgated flight patterns and procedures.

Nevertheless, in crafting their recent legislation, some state and local governments no doubt have been cognizant of the United States Supreme Court's 1946 decision in *United States v. Causby*, 328 U.S. 256, 264 (1946), holding that property owners have limited airspace rights as an incident to ownership of the land. The court declared:

[I]f the landowner is to have full enjoyment of the land, he must have exclusive control of the immediate reaches of the enveloping atmosphere [A]s 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.

In the context of repeated and regular overflights of government-owned aircraft, the court held that a flight glide path passing over property at 83 feet, which was 67 feet above the house, 63 feet above the barn, and 18 feet above the highest tree constituted an unlawful taking of an air easement for which the landowner was entitled to compensation.

In 1962, the Supreme Court affirmed that “the use of land presupposes the use of some of the airspace above it. Otherwise no home could be built, no tree planted, no fence constructed, no chimney erected. An invasion of the ‘superadjacent airspace’ will often ‘affect the use of the surface of the land itself.’” *Griggs v. Allegheny County*, 369 U.S. 84 (1962). The court held that flight patterns between 30 feet to 300 feet over the landowner’s residence constituted an unlawful taking of an air easement.

Indeed, the teaching of *Causby* and *Griggs* may well be reflected in those state statutes that make unlawful the flight of aircraft over lands and waters of the state where (1) it is at a low altitude that interferes with the existing use to which land, water or space over the land or water is put by the owner, or (2) it is conducted in a manner that is imminently dangerous to persons or property lawfully on the land or water beneath the flight. A.R.S. § 28-8277; N.C.G.S.A. § 63-13; A.C.A. § 27-116-102; MD Code § 5-1001; I.C. § 21-204. See also, *Brenner v. New Richmond Regional Airport Commission*, 343 Wis.2d 320 (2012); *Schronk v. Gilliam*, 380 S.W.2d 743 (Ct. Civ. App. Tex. 1964).

Drones are an increasingly important part of many businesses with significant potential to dramatically change many different industries. Drones currently are used for many applications and jobs such as inspection of critical infrastructure, aerial surveillance, cinematography, security, inspection, and package delivery. Whether in classroom settings or less formal sporting activities, they are also becoming established as a tool to educate and excite young people about topics in science, robotics, technology and aeronautics, potentially inspiring new generations to pursue careers in important industries including aviation. The characteristics of unmanned aircraft, what makes them particularly serviceable for many of the applications for which they are used today, are the same characteristics that raise the question of the appropriate role of state and local governments in regulating where and when unmanned aircraft should be permitted to fly. Again, drones can be relatively small, easy to fly, take off or land nearly anywhere, are capable of flying at very low altitudes, and can access many locations inaccessible to manned aircraft.

TASK: The FAA suggests the TG evaluate and analyze state or local government interests identified in this document, and other state or local interests identified by the TG. This analysis could form the basis for recommendations to the DAC reflecting a consensus view that could be used to inform future agency action related to the relative role of state and local governments in regulating aspects of low-altitude UAS operations.

Fact Finding and Analysis

The TG could review and evaluate the following concerning state and local regulatory responses to UAS operations, including the enforcement of applicable rules and regulations:

State and Local Interest in, and Responses to, UAS

- Identify the specific state/local governmental interest being vindicated in their legislative responses; Assess the strength of such interest and its impact on the FAA's core roles and responsibilities;
- Assess the likely impact of state/local governmental response on civil use and access to airspace, interstate commerce, technological innovation and commercialization of such innovation, and the role of partnerships; and
- Identify possible alternative legislative responses to achieve desired state/local governmental interest.

Enforcement of Federal Safety and Airspace Rules and Regulations

- Relative role and responsibility of state and local governments for responding to, investigating non-compliance with and enforcing state and federal UAS-related rules and regulations;
- Whether state and local governments should be encouraged to develop parallel or complimentary enforcement mechanisms;
- Efficacy of existing parallel/complimentary enforcement mechanisms; and
- Efficacy of alternative federal/state enforcement schemes applicable to other Federal transport modes.

Develop Recommendations

The TG could develop recommendations as to:

Defining Low-Altitude UAS Navigable Airspace Susceptible to State/Local Governmental Interests

- The extent to which a definition of “low-altitude airspace” (perhaps as a type of boundary line) in the context of UAS operation is susceptible to allocation, or cooperative, concurrent, or delegated jurisdiction among State and local governmental interests.
- Is there a non-federal interest in operations of UAS in airspace that is other than “low-altitude airspace”?
- Is there analog to “minimum safe altitude” for UAS?
- Consider the contemporary relevance of traditional authorities such as the American Law Institute's Restatement of Torts, Second, 159(2), which summarizes the general principle of *Causby* and *Griggs* as follows:
 - Flight at 500 feet or more above the surface is not within the “immediate reaches,”
 - 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.

Relative Roles and Responsibilities of the Federal, State and Local Governments

- Whether the existing framework of Federal exclusivity for regulation of low-altitude UAS operations should be reconsidered in light of state and local governmental interests identified by the TG;
- If so, what modifications would better integrate important state and local governmental interests with important Federal interests in ensuring safety as well as efficient management of and access to airspace;
- Roles and responsibilities for interests other than aviation safety; and
- What oversight or regulatory mechanisms are appropriate to vindicate Federal interests in ensuring safety of UAS operations as well as efficient management and access to low-altitude navigable airspace?

Enforcement

- Whether to change the relative role and responsibility of state and local governments for enforcement of any aspects of rules and regulations governing low-altitude UAS operations;
- If so, what changes should be made;
- What specific mechanisms would achieve the recommended change; and
- Whether additional data collection is necessary for Federal/state enforcement and/or to inform future agency policy and rulemaking. Any data obtained would also assist in FAA's mandate to safely and efficiently integrate UAS into the National Airspace System (NAS).

Education

- What training and education is needed if local authorities or officials are asked to assist with, implement, or otherwise address federal statutes and regulations?
- Who should conduct that training? How can consistency of enforcement and implementation be achieved across jurisdictions?
- What funding might be needed by non-FAA enforcement agencies and adjudicative bodies?

Technological tools and solutions

- Are there existing or future technologies that may be utilized in connection with the roles and responsibilities of government?
- What tools are on the horizon that may address governing concerns and interests? How might they be effectively implemented?

Local Governmental Operational Issues

- How can government facilitate the use of UAS, during emergency response efforts and other government operations, including issuance of approvals, and prohibit UAS interference with manned aircraft?

- Recommendations on how FAA should respond to the emerging state and local regulations in this space. What are the roles of the FAA and state or local government in authorizing operations in emergency situations?

SCHEDULE: The FAA requests an interim set of recommendations at the May 2017 DAC Meeting, followed by a final report no later than the October 2017 DAC Meeting. The FAA will make subject matter expertise available to the DAC upon request.

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