



Legal Considerations for Urban Air Mobility Part 1: Aviation Law

A basic description of some of the U.S. aviation law considerations that impact the development of air mobility in metropolitan areas, and some of the unanswered questions

The materials in this resource provide general information and do not constitute legal advice. This material is based on the most current information at the time it was written, and it is possible that the laws or other circumstances may have changed since then. The reader should consult with knowledgeable legal counsel to determine how applicable laws apply to specific facts and situations.

CAMI is grateful to the following attorneys whose contributions to this material have been invaluable:



Erin I. Rivera
Attorney at Law, Fox Rothschild LLP



Lauren Lacy Haertlein, J.D., M.A.
General Counsel & Director, Safety
& Regulatory Affairs, GAMA

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The Community Air Mobility Initiative (CAMI)

Supporting the responsible
integration of the third dimension at
the state and local level.

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www.communityairmobility.org
contact@communityairmobility.org

Regulation of Aviation

The role of the FAA has strong precedents, but UAM presents new questions for the urban landscape



The U.S. Government has exclusive sovereignty of the airspace of the United States. Congress delegated to the Federal Aviation Administration (FAA) the responsibility for stewardship and management of navigable airspace. A citizen of the U.S. has a public right of transit through navigable airspace.



Navigable Airspace: navigable airspace is defined at 49 U.S.C. §40102 as "airspace above the minimum altitudes of flight prescribed by regulations [...], including airspace needed to ensure safety in the takeoff and landing of aircraft."

The FAA is empowered to regulate multiple aspects of civil aviation through the promulgation, implementation and enforcement of the Federal Aviation Regulations (FARs) found in Title 14 of the Code of Federal Regulations (CFR). These include:

- Aviation safety, including certification of aircraft, pilots, and key staff
- Aircraft operations, including most airports
- Airspace use, management, and efficiency, including airspace classifications
- Air traffic control, including facilities and systems
- Navigational facilities and communications
- Aircraft noise at its source

The FAA has the responsibility and authority to ensure, among other things, that:

- Aircraft are certified to FAA safety and operational standards.
- Pilots and operators are qualified, trained, and certified for aircraft they fly or operate.
- Aircraft do not fly below the minimum altitudes prescribed by federal law.
- Aircraft only fly in areas or under operating conditions for which they are approved.
- Aircraft are maintained as required and have current operations manuals.

For example, except for takeoff and landing, aircraft are restricted from operating below 500 feet above ground or less than 500 feet horizontally from any obstacle. Helicopters are restricted from operating below 300 feet above surface over a congested area.

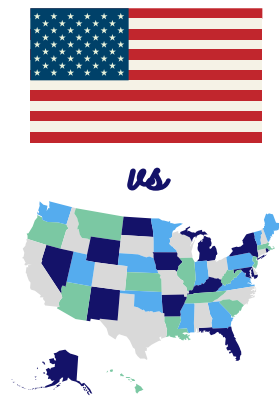
Still to be determined: *How will these regulations be applied to UAM operations which will occur in dense urban settings?*

Competing Jurisdictions

While generally federal law governs aviation, state and local laws may have an impact on UAM.



Federal laws and regulations generally preempt state and local legal authorities that purport to regulate aviation. However, laws traditionally related to state and local police power, including land use, zoning, privacy, trespass, and law enforcement operations - which indirectly impact the use of airspace - are generally not subject to federal regulation.



Federal Preemption - the U.S. constitutional law principle which states that a state law is invalid if it conflicts with a federal law. As courts have stated, Congress is presumed to defer to state law under the state's police powers. Hence, the courts will not find preemption of a state law by a federal law unless there is a demonstrated clear purpose on the part of Congress to preempt that field.

Federal aviation law preempts state law under 49 U.S.C. in which Congress delegated authority to the FAA. For example, courts have ruled that states and municipalities may not:

- Regulate aircraft flight altitudes
- Restrict flight paths to prohibit aircraft from flying directly over residential or noise-sensitive areas
- Restrict operations to daytime hours or prohibit flights after a certain time at night
- Mandate aircraft size, required aircraft equipment, or pilot training requirements

However, states and municipalities do have some indirect regulation over aviation.

They may:

- Use zoning laws to restrict the placement of helipads and airports
- Impose landing fees or taxes
- Require business licenses
- Restrict flight access at police and emergency scenes
- Control much of the UAM infrastructure such as buildings, power sources and equipment, landside facilities, and intermodal connections

Still to be determined: *How will state and local regulations and common law principles that do not directly address aviation but may have an impact on aviation within metropolitan areas be reconciled with the traditional federal preemption of aviation law?*

UAM Operations: Part 135 and PAO

Commercial operations are expected to use Part 135 while public authorities have their own framework.



Commercial Operations

The U.S. Code sets forth the operational requirements for aviation. Commercial UAM providers will most likely fall within the requirements of 14 C.F.R. Part 135, which covers commercial on-demand and certain scheduled commuter operations, as limited by number of passengers and maximum payload capacity. Pilots who are paid to fly passengers must hold a Commercial Pilot Certificate. Typical Part 135 operators include charter operations, air ambulance, tour operators, and air taxis. Among other things, Part 135 covers requirements for training, maintenance, insurance, and the safety-related processes that the operator uses to manage their business.

While Part 135 operations have been in widespread use for conventional general aviation for decades, these requirements were not designed for UAM applications. In some cases they may be overly restrictive; in others they may not be restrictive enough. The FAA and the UAM community will need to develop meaningful and effective regulations for these operations.

Public Aircraft Operations

Public entities, like police and fire departments, have another operational path available to them. Known as Public Aircraft Operations (PAO), it is defined in 49 U.S.C. §40102(a)(41) and §40125. FAA Advisory Circular AC 00-1.1A provides additional information.

PAO allows aircraft that may not meet conventional requirements to be operated by, or under the direct supervision of, a public or government entity for the public good. In order to be considered a PAO, the entity must be qualified as such by the FAA and must make a determination for each flight that it is a qualified operation. Only crew can fly on a PAO flight and they cannot be flown for compensation. This could be a good path forward for local emergency response organizations that want to start getting experience with eVTOL and UAM operations before commercial operations are mature.

Still to be determined: *How will app-based Mobility-on-Demand services intersect with pilot requirements? How will more autonomous vehicles be considered in terms of operators and pilots? What is the role of the municipality vis-à-vis operators flying out of vertiports located on municipal infrastructures such as a light rail station?*