
Wisconsin Legislative Council

INFORMATION MEMORANDUM



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DRONE USE IN WISCONSIN

Drone flight for commercial, recreational, and governmental purposes continues to expand. For lawmakers considering legislation to regulate drones, it is important to understand the existing legal framework for drone use. This information memorandum provides an overview of certain federal, state, and municipal regulations pertaining to drones. It also discusses preemption by federal and state law.

BACKGROUND

The starting point for drone regulation is federal law, because Congress has vested the Federal Aviation Administration (FAA) with the authority to regulate the navigable airspace. [49 U.S.C. s. 40103.] A variety of federal legislation, enacted over the past several years, governs drone use. In addition to federal regulations, many states and local governments have laws governing drone use. One study estimates that 44 states have laws addressing drones, including Wisconsin.¹ Within Wisconsin, several local governments have ordinances that regulate drone operations.² Accordingly, an individual operating a drone in Wisconsin may be subject to multiple regulations.

SOURCES OF DRONE REGULATION

Federal Law

A drone operator generally needs permission from the federal government to fly a drone. Many drone operators must register a drone with the FAA and follow certain operating rules, described below. Under the current framework, the FAA regulates drone operations based on the weight of the drone and whether an individual is flying for work or business, recreation, or governmental use. The FAA also requires that most drones broadcast identification and location information, known as the “Remote ID Rule.” Finally, federal law outright prohibits certain types of drone flight.

Flying for Work or Business

Many drone operators who use drones for work or business fly pursuant to the regulations in 14 C.F.R. Part 107 (“Part 107”). These regulations apply to the operation of civil small unmanned aircraft systems (“small UAS”) within the United States. A small UAS is generally defined to

¹ See National Conference of State Legislatures, *Current Unmanned Aircraft State Law Landscape* (March 27, 2023), <https://www.ncsl.org/transportation/current-unmanned-aircraft-state-law-landscape>.

² See, e.g., Greenfield, Wis., *Code of Ordinances* s. 10.35 (2024) (various restrictions, including operation near public gatherings or emergency response activities, and reckless operation); Hudson, Wis., *Code of Ordinances* s.187-19(c) (3) (2024) (privacy restrictions mirroring state law); Chetek, Wis., *Code of Ordinances* s. 118-89 (2024) (maximum altitude near airport); Green Bay, Wis., *Code of Ordinances* s. 24-122 (2024) (minimum altitude over certain public events); and Outagamie County, Wis., *Code of Ordinances* s. 10-195(1)(b) (2024) (operation on airport grounds).

mean an unmanned aircraft weighing less than 55 pounds, including its associated elements. Part 107 contains pilot requirements, aircraft registration, and operating rules.

In general, under Part 107, the operator of a small UAS must hold a remote pilot certificate or be under the command of a person who holds such a certificate. An applicant for a pilot certificate must be at least 16 years old, must pass an initial aeronautical knowledge test, and must undergo a security screening by the Transportation Security Administration.

Under Part 107, a pilot must register a small UAS and follow certain operating regulations, including keeping the aircraft within the pilot's visual line-of-sight and not flying at an altitude greater than 400 feet above ground level.

Part 107 authorizes operation during the following times of day: (1) daylight hours; (2) civil twilight,³ if the small UAS has anti-collision lighting;⁴ and (3) at night, if the small UAS has anti-collision lighting and if the pilot has completed certain testing or training.

Part 107 also generally prohibits the operation of a small UAS over a human being, with various exceptions. A small UAS may be operated over a human being who is either directly participating in the drone operation, located under a protective structure, or within a stationary vehicle. Beyond those exceptions, a small UAS also may be operated over a human being, including a human being in a moving vehicle, if certain safety conditions are met. For example, one exception applies if the small UAS weighs no more than 0.55 pounds and does not contain any exposed rotating parts that would lacerate human skin upon impact. Other exceptions apply if a small UAS and its pilot meet requirements relating to labeling, training, or FAA certification, among other conditions.⁵ [14 C.F.R. ss. 107.13 and 107.25 to 107.51.]

Flying for Recreation

Recreational drone operators may fly a small UAS pursuant to Part 107, described above, or pursuant to the FAA's "[Exception for Limited Recreational Operations of Unmanned Aircraft](#)." Under this exception, a person may operate a small UAS without complying with Part 107, and without specific certification or operating authority from the FAA, if all of the following apply:

- The small UAS is flown strictly for recreational purposes.⁶
- The small UAS is operated in accordance with a set of safety guidelines of a community-based organization recognized by the FAA.⁷

³ Except for Alaska, "civil twilight" means the 30 minutes before official sunrise and the 30 minutes after official sunset. [14 C.F.R. s. 107.29 (c).]

⁴ The lighting must be visible for at least three miles and have a flash rate sufficient to avoid a collision. [14 C.F.R. s. 107.29 (a) (2) and (b).]

⁵ The FAA may issue a waiver authorizing a deviation from certain regulations in Part 107. Very generally, a request for a waiver must contain a description of the proposed operation and must demonstrate that the operation can be conducted safely. [14 C.F.R. Part 14 Subpart E.] In addition, a UAS operated underground for mining purposes is not subject to FAA aviation regulation. [P.L. 115-254, SEC. 354.]

⁶ The FAA indicates that compensation does not by itself determine whether operation is recreational. It gives the following as examples of operation that are not recreational: taking photographs to help sell a property or service; inspecting a roof; taking photographs of an athletic event for a school's website; and surveying a coastline on behalf of a nonprofit organization. [See FAA, *Recreational Flyers & Community-Based Organizations*, (October 10, 2024), https://www.faa.gov/uas/recreational_flyers.] However, operation by an institution of higher education for an educational or research purpose constitutes a "recreational purpose." [P.L. 115-254, SEC. 350.]

⁷ A "community-based organization" is a tax-exempt organization whose mission is the furtherance of model aviation, that provides a comprehensive set of safety guidelines for all aspects of model aviation, and that

- The small UAS is flown within the visual line-of-sight of the operator or a visual observer co-located and in direct communication with the operator.
- The small UAS does not interfere with, and gives way to, any manned aircraft.
- In controlled airspace near airports, the operator obtains prior FAA authorization.
- In uncontrolled airspace, the small UAS does not exceed 400 feet in elevation and complies with applicable restrictions and prohibitions.
- The operator passes an aeronautical knowledge and safety test (known as “[The Recreational UAS Safety Test](#),” or “TRUST”) and carries proof of passage when flying.
- The small UAS is registered, appropriately [labeled](#) with the registration number, and the operator carries proof of registration when flying.⁸

[49 U.S.C. s. 44809 (a).]

Under the recreational exception, the FAA may allow a person to operate a UAS weighing more than 55 pounds under certain conditions and within the lateral boundary of specified controlled airspace. [49 U.S.C. s. 44809 (c).]

Finally, this exception does not prevent the FAA from pursuing enforcement action against a person whose operation of a small UAS endangers the safety of the national airspace system. [49 U.S.C. s. 44809 (e).]

Governmental Drone Use

Governmental entities, such as law enforcement agencies, public universities, and state or local governments, may engage in drone operations under certain circumstances. A governmental entity may request permission from the FAA to fly pursuant to Part 107, described above, if the drone is a small UAS, or it may obtain a public Certificate of Authorization (COA). [49 U.S.C. s. 44806.]⁹ In general, a COA is an authorization issued to a public operator for a specific unmanned aircraft activity, defining how and where the drone can be used.

Remote Identification

Under the FAA regulation known as the Remote ID Rule, most registered drones must be equipped with technology that broadcasts information about the drone, including its identification, location, and velocity. If the drone has integrated remote ID technology, it must also broadcast information about its control station; if it was retrofitted with remote ID technology, it must broadcast information about its launching location.¹⁰ [14 C.F.R. ss. 89.305 and 89.315.]

assists and supports locally designated model aircraft flying sites. [49 U.S.C. s. 44809 (h)]; see also, FAA, *FAA-Recognized Community Based Organizations* (February 15, 2024),

<https://www.faa.gov/uas/recreationalfliers/faa-recognized-community-based-organizations>.]

⁸ A drone weighing less than 0.55 pounds need not be registered. [14 C.F.R. s. 48.15(b).]

⁹ See also, FAA, *Operate a Drone, Start a Drone Program* (June 2, 2022),

https://www.faa.gov/uas/public_safety_gov/drone_program.

¹⁰ After September 16, 2022, manufacturers generally were required to include remote ID technology in the production of drones. Certain exceptions apply, such as for a federal government drone, a home-built drone, and a drone weighing 0.55 pounds or less, including everything on board or otherwise attached to it. [14 C.F.R. ss. 89.501(b) and 89.510.] A “home-built” drone is one that an individual built solely for education or recreation. [14 C.F.R. s. 89.1.]

A drone flown within an FAA-recognized identification area need not be equipped with remote identification technology if the drone remains within sight of the operator. [14 C.F.R. s. 89.115 (b).] Only a community-based organization, described above, or an educational institution may apply for such FAA recognition. [14 C.F.R. s. 89.205.]

The Remote ID Rule aims to provide “airspace awareness” to the FAA, national security agencies, law enforcement entities, and other government officials to help distinguish compliant airspace users from those potentially posing a safety or security risk.¹¹

Prohibited Operations

A person may not knowingly or recklessly operate a UAS in a manner that interferes with a wildfire suppression,¹² law enforcement, or emergency response effort. Violation of this prohibition is subject to a civil penalty of not more than \$20,000. An operation by a state, local, or tribal government for the purpose of protecting the public safety and welfare is exempt from this prohibition. [49 U.S.C. s. 46320.]

Wisconsin Law

The Wisconsin statutes regulate drone use by prohibiting certain activities and limiting others. In general, Wisconsin statutes relating to drones can be divided into two categories: (1) those regulating all aircraft; and (2) those regulating drones only.

Chapter 114, Stats., governs air transportation and aircraft, which includes drones. This chapter provides that flight of an aircraft over the lands and waters of the state is generally **lawful** unless: (1) at such low altitude as to intentionally interfere with the then existing use to which the land or water, or space over the land or water, is put by the owner; or (2) so conducted as to be imminently dangerous or damaging to persons or property lawfully on the land or water beneath. However, the landing of an aircraft on the lands or waters of another, without that person’s consent, is **unlawful**, except in the case of a forced landing. The chapter also prohibits operating an aircraft in the air or on the ground or water while under the influence of alcohol or drugs, or in a careless or reckless manner.¹³ [ss. 114.04, 114.05, and 114.09, Stats.]

Certain other statutes relate specifically to drones and drone use. Altogether, these statutes prohibit or limit the following uses of a drone:

- **Operation over correctional institutions.** No person may operate a drone over a correctional institution, including any grounds of the institution. [s. 114.045, Stats.]
- **Criminal investigations.** No Wisconsin law enforcement agency may use a drone to gather evidence or other information in a criminal investigation from a place where an individual has a reasonable expectation of privacy without first obtaining a search warrant. This prohibition does not apply to a law enforcement agency’s use of a drone: (1) in a public place; (2) in an active search and rescue operation; (3) to locate an escaped prisoner; (4) to surveil a place for the execution of an arrest warrant; or (5) if a law enforcement officer has reasonable suspicion to believe that the use of a drone is necessary to prevent imminent danger to an individual or to prevent imminent destruction of evidence. [s. 175.55 (2), Stats.]

¹¹ FAA, *Remote Identification of Unmanned Aircraft*, 86 Fed. Reg. 4391 (2021).

¹² “Wildfire” means any forest or range fire. [42 U.S.C.s. 1856m (5).]

¹³ The statutes also address liability for damages caused by aircraft and generally provide that the liability of an aircraft owner for injury or damages to persons or property beneath are determined by the laws applicable to torts on land. [s. 114.05, Stats.]

- **Photographing or videotaping in a private place.** Use of a drone with the intent to photograph, record, or otherwise observe another individual in a place where the individual has a reasonable expectation of privacy is a Class A misdemeanor. This provision does not apply to a law enforcement officer authorized to use a drone pursuant to a search warrant or an emergency exception, as discussed above. [s. 942.10, Stats.]
- **Weaponized drones.** Operation of a weaponized drone is a Class H felony. This provision does not apply to a member of the U.S. Armed Forces or National Guard acting in an official capacity. [s. 941.292 (2), Stats.]¹⁴
- **Interference with hunting, fishing, and trapping.** No person may use a drone to interfere with lawful hunting, fishing, or trapping with the intent to prevent the taking of a wild animal or to intentionally interfere with an activity associated with lawful hunting, fishing, or trapping. [s. 29.083 (2) (a) 8., Stats.]

The term “drone” is defined with slight differences in the above provisions. In the first three provisions, “drone” means an aircraft operated without the possibility of direct human intervention from within or on the aircraft. [s. 114.105 (1) (a), Stats.] In the last two provisions, “drone” means a powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, and may be expendable or recoverable. [s. 941.292 (1), Stats.]

Municipal Law

Depending where a drone is operated, a Wisconsin drone operator may also have to comply with local regulations relating to drones. A city, village, town, or county (political subdivision) may enact an ordinance regulating drones, but its authority to do so is limited by state law.

A political subdivision **may** adopt an ordinance that does any of the following:

- Limits the use of drones by the political subdivision.
- Strictly conforms with ch. 114, Stats., which includes provisions relating to flying and landing, reckless flying, and damages caused by an aircraft.¹⁵

However, a political subdivision **may not** adopt an ordinance that does any of the following:

- Is contrary to, or is inconsistent with, state or federal law.
- Regulates the ownership or operation of a drone (other than limiting the use of drones by the political subdivision, as mentioned above).

[s. 114.105, Stats.]

PREEMPTION OF REGULATIONS

Preemption by Federal Law

The Supremacy Clause in Article VI of the U.S. Constitution declares that federal law supersedes any conflicting state law. State law is preempted under the Supremacy Clause when: (1)

¹⁴ Federal law also prohibits the operation of a drone equipped or armed with a weapon used for, or readily capable of, causing death or serious bodily injury, unless authorized by the FAA. [P.L. 115-254, SEC. 363.]

¹⁵ The penalty for violating such an ordinance may not provide for the suspension or revocation of pilot or aircraft licenses. [s. 114.105, Stats.]

Congress has clearly expressed an intention to do so (“express preemption”); (2) Congress has clearly intended, by legislating comprehensively, to occupy exclusively an entire field of regulation (“field preemption”); or (3) a state law conflicts with federal law or stands as an obstacle to the accomplishment and execution of federal law (“conflict preemption”).¹⁶ The constitutionality of a local ordinance is analyzed in the same manner as that of state laws.¹⁷

In General

A court would decide whether a given state or local law is preempted on a case-by-case basis. Generally, state and local laws relating to public health, safety, and welfare are not preempted by federal law, absent a clear statement of federal intent to do so.¹⁸ According to a guidance document published by the FAA, examples of these state and local laws may include those relating to land use, zoning, privacy, trespass, and law enforcement operations. Thus, a state law requiring police to obtain a search warrant prior to using a drone for surveillance or specifying that a drone may not be used for voyeurism is unlikely to be invalidated by a federal court. On the other hand, the state or local law cannot regulate drones so extensively that it amounts to a ban or near-ban on drone operation within the jurisdiction.¹⁹

Express Preemption

Congress has not clearly expressed an intention to preempt all state regulation of drones. For example, Congress in 2018 enacted the following provision, which suggests that personal privacy laws enacted by states and political subdivisions remain in effect:

UNMANNED AIRCRAFT SYSTEMS PRIVACY POLICY. It is the policy of the United States that the operation of any unmanned aircraft or unmanned aircraft system shall be carried out in a manner that respects and protects personal privacy consistent with the United States Constitution and Federal, State, and local law.²⁰

However, when applied to commercial drone operations, some otherwise valid state and local regulations may be expressly preempted by the Airline Deregulation Act of 1978. Under that act, a state or political subdivision may not enact a regulation related to the prices, routes, or services of an air carrier providing air transportation for compensation as authorized by the FAA. [49 U.S.C. s. 41713.]

¹⁶ See, e.g., *English v. Gen. Elec. Co.*, 496 U.S. 72, pp. 78-79 (1990). Conflict preemption is sometimes referred to as “obstacle preemption.”

¹⁷ *Hillsborough County v. Automated Med. Laboratories, Inc.*, 471 U.S. 707 (1985).

¹⁸ See, e.g., *Skysign Int’l, Inc. v. City and County of Honolulu*, 276 F.3d 1109 (9th Cir. 2002); *Burbank v. Lockheed Air Terminal*, 411 U.S. 624 (1973).

¹⁹ FAA Office of the Chief Counsel, [Updated Fact Sheet \(2023\) on State and Local Regulation of Unmanned Aircraft Systems \(UAS\)](#) (July 14, 2023). Laws relating to state and local police power must still be measured against the FAA’s exclusive authority over certain subsets of aviation, such as aviation safety or airspace efficiency. In *Burbank*, the Supreme Court considered a city ordinance relating to aircraft noise. Although the Court found that control of noise is “deep-seated” in the police power of the state, the Court nonetheless struck down the city ordinance because the federal government has exclusive control over **aircraft** noise. [411 U.S. 624 (1973).]

²⁰ P.L. 115-254, SEC. 357.

Field Preemption

Regarding aviation generally, federal courts have held that aviation safety is a matter exclusively occupied by the FAA. Courts have inferred that because the FAA has issued such pervasive regulations in the area of aviation safety, the FAA intends to displace all state law on the subject.²¹ Accordingly, courts have struck down state laws relating to aviation safety, such as pilot training and equipment requirements, on the basis of field preemption.²²

As applicable specifically to drones, this is a developing area of the law. One federal appellate court reviewed a challenge of a Texas law that prohibited drone flight over jails, critical infrastructure, and sporting venues at altitudes not higher than 400 feet above ground level. In denying the challenge, the court ruled that the plaintiffs had failed to prove that Congress or the FAA had completely “occupied the field” regarding the flying of drones over certain buildings and structures.²³

Conflict Preemption

Conflict preemption is another developing area of the law as applied to drones. It may apply in situations where the state or local regulation is so pervasive that it frustrates Congress’s goal of integrating drones into the national airspace. It is unlikely to apply to narrow, nonsafety-related regulations.

For example, a federal district court struck down multiple provisions of a local ordinance in Massachusetts relating to drones under the doctrine of conflict preemption. Among other provisions, the ordinance required drone pilots to register their aircraft with the city, prohibited flight over private property without permission of the property owner beneath, prohibited flight over public property without permission of the city, and prohibited flight beyond the visual line-of-sight of the operator. The court invalidated the challenged provisions of the ordinance because federal laws and regulations govern drone registration, flight paths, and operational restrictions. In particular, the restrictions on flight over public and private property created an “essential ban” on drone flight within the entire city. The court concluded that the ordinance thwarted the FAA’s objectives in implementing rules relating to drones, and the intent of Congress for the FAA to integrate drones into the national airspace.²⁴

On the other hand, a federal appellate court held that Congress had not “conflict preempted” the Texas law described above. It noted that FAA commentary in a drone rulemaking document, as well as the FAA guidance document on federal preemption, also described above, both contemplate concurrent state regulation of drones. The court reasoned that, because the FAA had not established national uniformity as a goal, the state law was incapable of frustrating that goal.²⁵

Preemption by State Law

In Wisconsin, a local regulation is preempted by state law if any of the following situations apply: (1) the Legislature has expressly withdrawn the power of political subdivisions to act; (2)

²¹ *Montalvo v. Spirit Airlines*, 508 F.3d 464, 473 (9th Cir. 2007).

²² See, *Med-Trans Corp v. Benton*, 581 Supp. 2d 721, 740 (E.D.N.C. 2008); *Abdullah v. American Airlines, Inc.*, 181 F.3d 363, 367 (3d Cir. 1999).

²³ *Nat’l Press Photographers Ass’n v. McCraw*, 90 F.4th 770, 796 (5th Cir. 2024). The court noted that field preemption of state law is disfavored in areas traditionally regulated by the states.

²⁴ *Singer v. City of Newton*, 284 F. Supp. 3d 125 (D. Mass. 2017).

²⁵ *Nat’l Press Photographers Ass’n*, 90 F.4th 797.

the ordinance logically conflicts with the state legislation; (3) the ordinance defeats the purpose of the state legislation; or (4) the ordinance goes against the spirit of the state legislation.²⁶

As discussed above, state legislation prohibits a political subdivision from enacting an ordinance that regulates the ownership or operation of a drone (other than limiting the use of a drone by the political subdivision). [s. 114.105 (4) (b), Stats.] A local ordinance that regulated the ownership or operation of a drone, such as one that required a person to register a drone with the political subdivision, likely would be invalidated on the basis that the Legislature has expressly withdrawn the power of the political subdivision to act.

Similarly, state legislation prohibits a political subdivision from enacting an ordinance that is contrary to or inconsistent with state or federal law. [s. 114.105 (4) (a), Stats.] A local ordinance that logically conflicts with, defeats the purpose of, or goes against the spirit of, that state legislation, such as an ordinance that allowed a person to land a drone on another's property without permission and in the absence of a forced landing, likely would be preempted.

This information memorandum was prepared by Ethan Lauer, Senior Staff Attorney, on December 19, 2024.

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²⁶ *Anchor Savings & Loan Ass'n v. Equal Opportunities Comm'n*, 355 N.W. 2d 234 (Wis. 1984).