



LPRO: Legislative Policy and Research Office

# UNMANNED AIRCRAFT SYSTEMS

## BACKGROUND BRIEF

### BACKGROUND

Unmanned aircraft systems, commonly known as UAS or drones, are machines capable of flight without a pilot (see ORS 837.300). Large UAS can weigh over 55 pounds and are used mainly for military, agricultural or other commercial operations. The majority of UAS weigh less than 55 pounds; some can be as small as a hummingbird. UAS commonly carry a camera and respond to a remote operator through radio control. In many cases, a small hobby UAS can be confused with a model aircraft or model helicopter. Model aircraft, as well as many small hobby UAS, are flown by an operator who keeps the aircraft in a direct line of sight. More expensive hobby models, and many UAS used for commercial purposes, can be operated beyond direct line of sight.

UAS operation is predicted to have significant impacts on commercial markets, in addition to a growing recreational market. [A PwC report](#) estimates the global market for commercial UAS applications at \$127 billion by 2020, with the majority of commercial impact in infrastructure, agriculture and

transportation. The Federal Aviation Administration (FAA), which oversees regulation of domestic airspace and flight, estimates that up to 1,000,000 UAS were sold in the 2015 holiday season.<sup>1</sup> Over 400,000 small UAS have been registered with the FAA since the requirement for registration went into effect in January of 2015.<sup>2</sup>

With an increased number of UAS in the sky, local law enforcement agencies and the FAA

have recorded an increase in complaints about their operations. These complaints can come in the form of nuisance or noise complaints or concerns with surveillance. Additionally, the increase in use of UAS has also led to an increase of “near misses” with manned aircraft. In a [six-month FAA survey taken in 2015](#), there were over 100 reported incidents nationally of small UAS within the flight paths of manned aircraft each

month, amounting to three or more encounters each day.

The FAA, as well as many states, have developed [an array of regulations and statutes](#) to balance the benefits of emerging UAS technologies with privacy and safety concerns.

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<sup>1</sup> <http://atwonline.com/technology/faa-warns-million-drones-under-people-s-christmas-trees>.

<sup>2</sup> <https://www.faa.gov/news/updates/?newsId=85229>.



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## FEDERAL REGULATION AND REGISTRATION

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The FAA oversees the safe operation of the national airspace (NAS). It is responsible for developing safe flight guidelines for UAS, as well as registering all flying machines. In June of 2016, the FAA streamlined its regulations on commercial UAS weighing less than 55 pounds.

### COMMERCIAL USE SMALL UAS

Any small UAS used for commercial purposes must be registered with the FAA.<sup>3</sup> Specific rules of operation exist for all commercial use, including operating during daylight, flying below 400 feet, yielding to manned aircraft and not flying over people. Additional operator requirements exist, most notably that the operator must be at least 16 years of age, undergo vetting by the Transportation Safety Administration, and pass an initial aeronautical knowledge test or hold a pilot license. Commercial UAS are allowed to carry cargo that does not cause the total weight of the machine and cargo to exceed 55 pounds, if the cargo is securely attached and does not adversely affect the flight of the UAS (see [14 CFR part 107](#)). Commercial UAS weighing more than 55 pounds, or wishing to operate outside of the rules of operation, must make special application to the FAA for waiver of the rules.

### RECREATIONAL USE

UAS weighing between 0.55 pounds and 55 pounds that are used only for recreational purposes must also be registered with the FAA.<sup>4</sup> Registration results in a unique number assigned to each UAS, which must be adhered

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<sup>3</sup>[https://www.faa.gov/uas/getting\\_started/fly\\_for\\_work\\_business/](https://www.faa.gov/uas/getting_started/fly_for_work_business/).

to the device. Operators must be at least 13 years of age and follow guidelines for safe operation, including flying below 400 feet and within line of sight, and avoiding flight near wildfires, other aircraft, stadiums or sporting events or overhead of other people.

## STATE REGULATION AND REGISTRATION

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Oregon has been a state leader in developing parameters for UAS operations. Since 2013, Oregon has developed statutes addressing law enforcement use of UAS, providing a private right of action for individuals aggrieved by overflights and prohibiting the firing of projectiles from a UAS.

### HOUSE BILL 2710 (2013)

In 2013, [House Bill 2710](#) established that law enforcement may only use UAS with a warrant or with probable cause and exigent circumstances, search and rescue efforts, training, or crime scene reconstruction. The measure also prohibited public bodies from operating UAS that are capable of firing a bullet or other projectile.

HB 2710 gave individuals a private right of action to sue a drone operator in civil court for flight over the person's property. In order to go to court, an operator must have flown at an altitude of less than 400 feet over the individual's property and the individual must have notified the operator not to fly overhead. If successful, the plaintiff could be awarded attorney fees and treble damages, in addition to a court order prohibiting the operator from flying over the property.

Additionally, the measure required public bodies to register any UAS in its use with the

<sup>4</sup>[https://www.faa.gov/uas/getting\\_started/fly\\_for\\_fun/](https://www.faa.gov/uas/getting_started/fly_for_fun/).



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Oregon Department of Aviation. This registration requirement is in addition to any federally required registration.

### HOUSE BILL 2354 AND HOUSE BILL 2534 (2015)

In 2015, [House Bill 2354](#) made small adjustments to the provisions of HB 2710. It removed the 400-foot flight restriction for bringing a private action. Additionally, the measure updated the terminology used in Oregon statutes to provide consistency with federal rules.

Meanwhile, [House Bill 2534](#) prevented the use of UAS for hunting, angling, tracking, trapping or locating wildlife, while also prohibiting the use of UAS to interfere with hunters, anglers, or trappers.

### HOUSE BILL 4066 (2016)

During the 2016 session, [House Bill 4066](#) addressed numerous new and recurring UAS issues. The measure extended the prohibition on operating a UAS capable of firing a bullet or projectile to all users, not just public bodies, and made it a Class A misdemeanor to do so. It removed UAS from the felony crime of endangering an aircraft, thereby avoiding significant criminal prosecution against a person who might down a UAS with a towel, broom or other device or weapon. Concurrently, the measure created a new violation of reckless interference with an aircraft.

For public bodies using UAS, the measure required them to establish policies and procedures for the use, storage, access, sharing, and retention of data collected through use of UAS. The policies must be in place and made available to the public by January 1, 2017.

The measure acknowledged a conflict with federal law regarding FAA authority and the private right of action. The FAA has sole authority to restrict and regulate commercial flight. A properly authorized commercial operator has authority to fly according to FAA rules and regulations. The private right of action enjoining all flights over private property could create a conflict with that federal authority. As such, HB 4066 created an exception to the private right of action for UAS flown in compliance with FAA authorizations.

Finally, HB 4066 created a new violation, for when a person knowingly or intentionally operates a UAS within 400 feet over a critical facility or makes contact with a critical facility with the UAS. Critical facilities include correctional facilities, power stations, chemical manufacturing plants, petroleum refineries, ports or other freight terminals, dams and oil pipelines.

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### ADDITIONAL TOPICS

UAS use will continue to be a topic of discussion for the coming legislative session and in the foreseeable future. Questions remain about protection of individual property rights in the airspace above a home, safety of individuals in public spaces with low-flying UAS and surveillance and privacy both in the home and in public spaces. Additionally, concerns arise with restricting growth of UAS industries and commercial applications of this developing technology.

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## STAFF CONTACT

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Channa Newell  
Legislative Policy and Research Office  
503-986-1525  
[channa.newell@oregonlegislature.gov](mailto:channa.newell@oregonlegislature.gov)

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