

# Unmanned Aerial Vehicles:

## Threat or Asset to Airborne Law Enforcement?

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You are likely aware of the widely publicized success of unmanned aerial vehicles (UAVs), such as the “Predator” used by the U.S. Air Force in Afghanistan and Iraq. These vehicles have been effectively utilized to gather intelligence, track terrorists and fire missiles at enemy combatants.

Although not as well known, much smaller devices are launched by military units many times each day. Devices such as the “Raven” and “Dragon Eye” are fully operational UAVs weighing less than six pounds with wingspans under five feet. These UAVs are hand-launched and capable of 45- to 110-minute mission durations. The systems are relatively affordable (less than \$175,000) and come fully equipped with real-time high definition video and infrared downlink capabilities.

### Threat or Asset?

You may be thinking that you want no part of UAVs because they threaten your job as an airborne law enforcement aircrew member. Alternatively, UAVs can be considered an additional asset for airborne law enforcement. Certain missions will always be most effectively handled by a traditional law enforcement aircraft staffed by a highly trained crew. However, consider the advantages of having a small UAV in the following two situations.

**Urban High-Rise Sniper:** A crazed sniper has positioned himself on a high-rise rooftop in the center of your city. He has constructed four sandbag style “hides” at each corner of the roof. The sniper has already killed or wounded several citizens and two responding police officers. The responding air support unit helicopter drew very heavy and accurate automatic fire from the sniper that severed an oil line and necessitated an emergency landing. A patrol supervisor responds to the downed helicopter and provides the aircrew with a “Raven” UAV that is stored in the back of his patrol vehicle. Within minutes, the UAV is orbiting 500 feet over the sniper, virtually undetectable due to its small size and quiet electric motor. Immediately upon the arrival on station of the UAV, real-time high definition video is streaming down to the tactical operations center assisting SWAT commanders in formulating a plan to deal with the threat.

**Rural Cop Killer:** While working early morning watch, a rural deputy sheriff is shot and killed by an armed robbery suspect he encounters on a routine traffic stop. A responding backup unit pursues the suspect, who eventually loses control of his vehicle and flees on foot into a large area of agricultural fields. It is a moonless night, and the armed cop killer is hiding in a field. Neither the sheriff’s department nor any of the surrounding jurisdictions has an air support unit. However, a federal homeland security grant has provided the unit two “Raven” UAV systems. A specially trained patrol deputy responds to the scene and hand-launches the UAV. While other units from surrounding jurisdictions converge to form a wide perimeter on county roads, the UAV begins a programmed grid search of the fields using an infrared scanner. Minutes later, the suspect is detected running towards a county road on the far edge of the perimeter. Deputies at that location are alerted and are able to position themselves to safely capture the cop killer.

These are two examples of dozens of missions in which a small UAV can earn its keep in large and small law enforcement agencies. However, there are currently several obstacles standing in the way of full deployment of law enforcement UAV systems. The FAA, tasked with ensuring the safe and orderly operation of aircraft, regulates UAV operations and has effectively stopped domestic law enforcement agencies from operating them. Although some local law enforcement agencies have tried (unsuccessfully) to use UAVs, and the industry and regulators are moving closer to adopting rules and regulations that would allow the use of UAVs in civil airspace, the present state of affairs resembles an aeronautical Wild West.

Production of civilian UAVs has exploded in recent years. Once almost the exclusive purview of military operations, UAVs designed for civilian use now are available for purchase. Currently available unmanned aerial systems (UAS) technology has given law enforcement officers tools never before available. The ability to continuously monitor suspected criminals from above in all weather and visibility conditions multiplies law enforcement’s power and abilities. But the regulations in place will not allow law enforcement to use the available tools to their fullest extent.

### Search & Seizure

The current regulatory scheme in place in domestic U.S. airspace is a mixture of constitutional law and administrative regulation. Constitutionally, the current state of the law is that aerial surveillance does not violate the Fourth Amendment if

the surveyed area is in plain view from a legal altitude, the technology used to obtain the information is in general public use and the search does not penetrate into the home. Administratively, U.S. airspace is for public use by anyone above certain minimum safe altitudes, which are defined by the FARs.

Because aerial surveillance of an area in plain view from a legal altitude using technology in general public use and not penetrating into the home does not violate the Fourth Amendment, it would seem to be a simple matter for law enforcement agencies to purchase and use small, autonomous UAVs. But the FAA has taken the position that “no person may operate a UAS in the National Airspace System without specific authority.” The FAA has that specific authority and regulates UAVs depending on the type of operation.

## **UAV Operations**

Currently, there are three types of UAV operations: amateur model aircraft, experimental aircraft and public aircraft.

No law enforcement agency will succeed in arguing that its UAV is an amateur model aircraft, because the FAA specifically prohibits it. That leaves a law enforcement agency wishing to use a UAV with two options: apply for special airworthiness certificate or operate the aircraft as a public aircraft by applying for a certificate of authorization (COA). Of the two, operation as a public aircraft under a COA is currently the only viable option, but it is still burdensome. Obtaining a special airworthiness certificate is a lengthy and costly process, and aircraft certified as such are generally prohibited from operating over congested areas, which negates most of the utility of a small UAV in law enforcement operations.

Although the FAA says a COA for a public aircraft can be granted in as little as 15 minutes, in practice the approval process is anything but streamlined. Currently, a law enforcement agency must apply for a waiver on a relatively simple FAA form (number 7711-2) and submit it to FAA Headquarters Air Traffic Operations, where it will undergo several levels of review. The waiver must include information detailing the proposed operations, a dedicated ground observer, a licensed pilot to operate the UAV (even though no pilot skills are required) and other risk-mitigation information. Although intended to protect the general public from injury, the effect of such detailed requirements is that no airborne law enforcement unit can comply with the COA process and launch its UAV within a reasonable amount of time necessary to respond to a rapidly evolving situation.

Although the current state of affairs seems bleak, there is hope. The FAA has tasked a small representative group of experts to propose new rules for operations of small UAVs for uses at relatively low altitudes, such as airborne law enforcement, that would remove most of the barriers in place today. However, those proposed rules still must go through the approval process, which could take a year or more. Until then, law enforcement agencies wanting to use UAVs have little option other than to wait.

## **EXPRESS YOUR OPINION**

The proposed rules and the rulemaking process for the use of UAVs by airborne law enforcement present a golden opportunity to law enforcement agencies. The FAA needs to hear from those it regulates, and what better time than now to tell the FAA what you need? Expressing your opinions and advice to the FAA and/or your U.S. Congressman and Senators will ensure that law enforcement concerns are adequately addressed during this dynamic rulemaking process.

Like it or not, UAVs are coming to law enforcement and civilian aviation in the very near future. We owe it to our profession to provide input to the people making rules about these potentially effective law enforcement tools.

These issues and more will be explored in depth on Oct. 8-9, at the University of North Dakota in Grand Forks, ND. The university will be hosting “Complying & Flying: Legal and Technical Issues Related to Operating UAVs in Law Enforcement.” Register today at [www.uasresearch.org](http://www.uasresearch.org).

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