This infographic was developed by the Police Foundation for both law enforcement agencies considering the use of small unmanned aircraft systems for public safety purposes and for communities interested in learning more about the purposes and protections surrounding their use.

The Police Foundation is an independent, national, non-profit and non-partisan organization dedicated to advancing policing through science and innovation.

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sUAS and Public Safety

Harnessing sUAS capabilities for public safety requires:

- Skills to operate the technology
- Compliance with the law
- Community understanding and support
- A pledge from law enforcement to operate the technology transparently.
DRONE: A popular term applied to unmanned aircraft systems. By definition, a drone is an unmanned aerial target.

UNMANNED AIRCRAFT: An aircraft operated without the possibility of direct human intervention from within or on the aircraft.

Terms and Types of Unmanned Aircraft

Terms are often used interchangeably to describe this type of technology but there are important differences.*

UNMANNED AIRCRAFT SYSTEM (UAS): An unmanned aircraft including the communication links and components that control it required for safe and efficient operation.

SMALL UNMANNED AIRCRAFT SYSTEM (sUAS): An unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.

Police are only interested in sUAS, a small version that is battery operated and remote controlled.
Types of sUAS used by police

**QUADCOPTER**

- **Aeryon SkyRanger**
  - Deployed: 102 cm

- **Draganflyer Guardian**
  - Top diameter: 72.5 cm

- **DJI Phantom 3**
  - Diagonal size: 35 cm
Types of sUAS used by police

**HEXACOPTER**
Draganfly Draganflyer X6
Wingspan: 99 cm

**FIXED WING**
Falcon Fixed Wing
Wingspan: 244 cm
Types of sUAS used by police

UNMANNED HELICOPTER

Lepton Avenger
Height 190 cm
x Length 147 cm
Why law enforcement is using sUAS for public safety

**LOW COST**

- **MUCH CHEAPER** than manned aviation (about 1/10th of the cost).
- **OPERATING COST:** $25/hour
  - $245 - $600/hour
- **ACQUISITION COST:** $600,000 to $1 million.
  - $1,000 - $50,000 depending on features.
- **STORAGE COST:** $300 - $500 per month
  - $0
- **TRAINING COST:**
  - suUAS costs are a fraction of the cost for manned aircraft.

Of almost **18,000** police agencies in the U.S., **less than 200** have manned aviation capabilities.
Why law enforcement is using sUAS for public safety

PORTABILITY/RAPID DEPLOYMENT

sUAS can be removed from storage, assembled and launched in minutes.

An aerial vantage point is a force multiplier. Operations can happen quicker with fewer officers.
Why law enforcement is using sUAS for public safety

PUBLIC SAFETY AND OPERATIONAL APPLICATIONS

Support of fire operations
Police UAS can be used to support fire operations by improving situational awareness and resource deployment.

Disaster response
sUAS can be launched much quicker than manned aircraft to begin damage assessment and search and rescue.

Officer safety
Gives officers an aerial view of dangerous situations and allows for constant situational awareness.

Traffic crash reconstruction
Using mapping software, sUAS can map the most complex crash scenes.
sUAS use by police is in the national and legal spotlight

- Community concerns over invasion of privacy.
- Regulatory environment continually evolving.
- Technology is new
  Best practices are limited due to the infancy of the technology.
- Safety and liability concerns
  Potential for injury and property damage due to use in domestic airspace.
- Legal and constitutional concerns
  Primarily over First and Fourth Amendment rights.
- Concerns over proper training and operating procedures.

www.policefoundation.org
Constitutional protections in place

While courts have not fully considered the legality of police use of sUAS for public safety, court decisions on other technologies provide significant guidance to police in the use of sUAS.

THE RXP TEST
Do citizens have a reasonable expectation of privacy (RXP) in the space?
Katz v. United States (1967)

GPS DEVICES ON sUAS
Governed by the same statutes and case law as traditional electronic tracking devices

THERMAL IMAGING
Use of thermal imaging on a private residence is a search and requires a warrant
Kyllo v. United States (2001)

DATA INTERCEPTION
Data interception without a warrant is wiretapping.
Electronic Communications Privacy Act
The RXP Test

CAMERAS
(STILL AND VIDEO)

Can the object/location be seen by a person standing in a public space?

YES
No violation of RXP.

NO
Probably violates RXP. A warrant is required.

While the courts have ruled that gathering pictures at 400 and 1000 ft. is not a search, obtaining a warrant when using sUAS over private property is strongly recommended.

California v. Ciraolo (1986)
Florida v. Riley (1989)
United States v. Cuevas-Sanchez (1987)
Legislative protections at the state level

To date there has been much sUAS legislation introduced and some of it has been enacted at the state level. Because of the changing nature of the legislative environment, always check for current state and local laws applicable to UAS.

Some of the legislation that has been enacted:
- Defines what “drones” are
- Limits police ability to gather information or evidence with sUAS
- Addresses use of sUAS by the general public
- Regulates the maintenance and admissibility of data obtained by police with sUAS
Recommendations

Understand the technology and concerns about its use
- Benefits
- Legal limitations
- Regulatory environment
- Privacy laws
- Community concerns

Community engagement prior to sUAS acquisition is crucial
Create opportunities for community outreach and input instead.
- Surveys
- Town hall meetings
- Citizen police academies

Strong policies and operating procedures are essential
- Departmental sUAS policy should clearly define procedures for safe, legal, and ethical use.
- Policies for accountability and transparency are key and should be shared with the:
  - Community
  - Policy-makers
  - Media

Additional Resources (www.policefoundation.org)
- 5 Things you need to know about small unmanned aircraft systems (sUAS) in law enforcement
- Community Policing & Unmanned Aircraft Systems (UAS): Guidelines to Enhance Community Trust guidebook

*Definitions are from the new Part 107 (Federal Aviation Regulations) aimed at standardizing the terminology used.
Disclaimer: The application of sUAS technology for public safety use is emerging. As a result, the legal and regulatory environment is continually changing. Always be sure to consult the most current federal, state, and local laws applicable to sUAS.

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