Unmanned Aerial Vehicles (UAV) are becoming an essential tool in both government and private businesses. Drones, as they are commonly called are used to do many tasks that may not be feasible a decade ago such as taking an aerial picture of a hazardous location or searching for a missing person at night using FLIR or night vision. How would an agency start up such a program? Is there any rules of operation and where can you fly?

This 8 hour course will answer all your questions and allow you to gain the knowledge and skill to set the foundation to develop your own UAV program based on your needs and assessment.

**UAV for Public Safety**

I. Drones

1. Equipment and devices

a. Small Unmanned Aircraft

i. Commercial

1. Drone Volt Spray

2. Xfolf Dragon X12

ii. Recreational

1. DJI Mavic Pro 2

2. Parrot ANAFI

2. Definition

 a. Low humming sound

b. Radio controlled

c. Unmanned device

d. Federal Aviation Administration’s definition https://www.faa.gov/uas/

3. Public safety purpose

a. Search and Rescue

b. Recon

c. Scene surveillance

d. Crowd control

e. Distraction

f. Search to contact

g. Emergency rescue assessment

h. Active shooter deployment

i. Building search

j. Vehicle pursuit

k. CQB entries

l. Night vision and heat signature deployment

m. EOD and suspicious package calls

n. Fire and explosive assessments

o. HAZMAT

p. Scene Recreation

q. Accidents

II. Issues

1. Environment

a. City buildings

b. Wires and telephone poles

c. Magnetic field

d. People

e. Weather

f. Temperature

g. Pollution

h. Interference

2. Internal

a. Politics

b. Privacy

c. Policy

d. Cost

e. Resources

f. Community buy-in

III. Certification

a. FAA 107

i. Remote pilot test

ii. In house training

Flightmotion

iv. LARCT

b. Department /agency requirement

c. Self taught

IV. Equipment and accessories

a. FLIR

b. Thermal Imaging

c. Night Vision

d. Servos

e. Remote control

f. Antenna Signal Attenuators

g. Extra charging HUB

h. Batteries

i. Carrying case

j. Lighting

k. Multi coated lens

l. Landing pad

m. Larger monitors

n. Mobile support unit (SUV or Mobile Command Van)

o. Secondary observer monitor

p. First Net encrypted channel 14

q. Dedicated radio channel for LE (drone)

r. Spare parts for the drone

s. Secondary unit

V. FAA Approvals

a. Sight flying with spotter

i. Benefits

1. Safer

2. 2nd set of eyes

3. Control

ii. Shortcomings

1. Limited to outdoors

2. Short range

3. POV flying

iii. Benefits

1. Speed

2. Control

3. Flexible to all terrain

iv. Shortcomings

1. Narrow view

2. Signal loss

3. Delay response

VI. Air Space

a. Altitude approval

i. News Channel

ii. Government

iii. Corporate business

b. Restricted locations

i. Airports

ii. Government buildings

* + - * 1. Freeways

iv. Densely populated areas

v. Federal parks and some State parks

vi. Private properties

VII. Policies

a. Requirements

a. Department needs

i. Goal of the program

ii. Benefits

* + - 1. Needs

b. Public need

i. Goal of the program

Benefits

Needs

VII. Liability

a. Who

b. Why

c. What

VIII. Purpose

a. Public Safety

i. Crowd Control

b. Prevention

c. Assistance

d. De-escalation

e. Investigate where…

IX. Oversight/Stakeholders

a. Citizens

b. Police Commission

c. Supervisors

d. Police

e. State and FEDs

f. FAA

g. UAV unit

X. Operation Documents

a. Operation Order

b. Memorandum

c. ICS type documents

d. FAA 107 Airspace waiver and Authorization

e. Pilot contractor agreement

f. Flight operational manual

g. Flight log

h. Pilot’s log

i. Pre-operations Check-list

j. Maintenance log

k. Pre-operation Check list

l. Emergency Execution

m. Post-operation Check list