Katie Thielmeyer

DRONERESPONDERS
Drones in Public Safety
Over 40 Public Safety Use Cases
Thermal Imaging Structure Fire
Optical View vs. Thermal Image View

See through Smoke and Effective Application of Water on the Fire
Major Traffic Accidents

Mass Casualty

Multiple Vehicle Fires
HAZMAT Operations
CBRNE
Train Derailment, Crash, Fire & Spill

East Palestine, OH

Philadelphia, PA

Lynchburg, VA
Drone Radiation Detection & Mapping
Law Enforcement
Tactical Ops
Overwatch
Oklahoma City PD Drone Incidents

- Avoids Ambush
- Suspect Reaching for AR15
- Detect Thieves Hiding on Roof
Law Enforcement Indoor Flights Room Clearing
Quickly Assess

How Bad is Bad?
Tornado – Dallas TX
Search & Rescue, Damage Assessment
Drone Imagery & Damage Assessment Combined with GIS
AIRT stands watch over the response effort for the 8th Street Pedestrian Bridge Collapse in Miami.
• Surfside Condominium Collapse
Charlottesville Unite the Right Rally & Protest
Traffic Crash Reconstruction – 1/3 Time, Reduces Secondary Accidents, Restores Commerce and Normal Traffic Flow
ACTIVELY TETHERED DRONE

Public Safety Vehicle or Portable Tethered Drones – Continuous Power
- Can maintain constant overwatch – no batteries as tether provides power
- Quick setup – one button launch, one button land
- Switchable visual optic and thermal view
**Tactical Beyond Visual Line of Sight Waiver**  
*Requires a COA*

**Background:** In a time of extreme emergencies to safeguard human life, first responders require the capability to operate their unmanned aircraft (UAS) beyond visual line of sight (BVLOS) to assess the operational environment such as a fire scene at a large structural fire, to conduct an aerial search on a large roof area for a burglary in progress, or to fly over a heavily forested area to look for a missing person (see diagram below for a visual perception). To support public UAS operators acting in an active first responder capacity, the FAA may approve “First Responder Tactical Beyond Visual Line of Sight” (1BVLOS) waivers to 14 CFR 91.113(b).
DRONE AS A FIRST RESPONDER (DFR)

*Requires a COA

Drone launches from rooftop at same time as 911 dispatch
CHULA VISTA POLICE DEPARTMENT - DRONE AS FIRST RESPONDER (DFR)

TOP 10 CALLS RESPONDED WITH DFR ASSISTANCE

<table>
<thead>
<tr>
<th>Call Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTURBANCE - PERSON</td>
<td>0.43K (5.3%)</td>
</tr>
<tr>
<td>STS EVAL</td>
<td>0.4K (5.73%)</td>
</tr>
<tr>
<td>DOMESTIC VIOLENCE</td>
<td>0.54K (6.62%)</td>
</tr>
<tr>
<td>PERSON DOWN</td>
<td>0.64K (7.88%)</td>
</tr>
<tr>
<td>WELFARE CHECK</td>
<td>0.06K (7.15%)</td>
</tr>
<tr>
<td>UNKNOWN PROBLEM</td>
<td>0.56K (6.87%)</td>
</tr>
<tr>
<td>SUSPICIOUS PERSON</td>
<td>0.54K (6.62%)</td>
</tr>
<tr>
<td>MIN INJ TC</td>
<td>0.64K (7.88%)</td>
</tr>
<tr>
<td>ASSAULT</td>
<td>2.34K (28.62%)</td>
</tr>
<tr>
<td>INFORMATION</td>
<td>2.34K (28.62%)</td>
</tr>
</tbody>
</table>

DFR ACTIVITY BY THE NUMBERS

- TOTAL CALLS RESPONDED TO: 18371
- DFR ASSISTED ARRESTS: 2508
- DFR DEPLOYMENT AVOIDED DISPATCHING A PATROL UNIT: 4171
- DFR FIRST ON SCENE COUNT: 13.72K
- AVG RESPONSE TIMES - FIRST ON SCENE (IN SECONDS): 94.16
- AVG RESPONSE TIMES - ALL CALLS (IN SECONDS): 111.89

CHULA VISTA POLICE DEPARTMENT

- Selected as part of the IPP on October 2018
- First program in the nation using Drones as a First Responder (DFR). See FAA site
- Current status: DFR Pilot Program currently based from CVPD HQ with limited flight range of about 1 mile radius
- Common use of drones in Chula Vista: Drones as first responders, documenting crime and accident scenes, searching for missing or wanted persons, fires, and evaluating damage after a major incident or natural disasters

* Response times from dispatch to arrival.

EARLIEST RESPONSE: 10/23/2018 8:29:57 ...
LATEST RESPONSE DATE/TIME: 1/30/2024 1:27:58 PM
Public Safety UAS Programs 2023

- There over 5000 public safety UAS Programs
- 70% are law enforcement, 25% fire, 5% EM & SAR
  - Safer for Responders & Community
  - Better Operational Effectiveness (Better Decisions)
  - Real Time Situational Awareness
  - A Major De-escalation Tool
- Flying with Part 107 & Certificate of Authorization (COA)*
What’s Next?

- BVLOS Rules – 1st Qtr 2024
- Autonomous Flight
- 1 Remote Pilot To Many Aircraft
- Drone Swarms
- Fully BVLOS Autonomous DFR
  - NARCAN to Scene
  - Defibrillator to Scene
- Artificial Intelligence
  - Analytics (search, damage assessment, predictive fire behavior, etc.)
  - Smart Cities & Integrated Systems
- Larger Aircraft w/Longer Flights
- Development of UTM
Register on the website
(it’s FREE)

JOIN and access the largest online collection of Public Safety UAS documents (SOPs, Best Practices, Lessons Learned, Training Info and more)

DRONERESPONDERS.ORG
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