White Paper

Patrol-Led UAS Deployment with Oklahoma City PD

By Fritz Reber, Head of Public Safety Integration at Skydio

ABOUT THE AUTHORS

Fritz Reber

Head of Public Safety Integration at Skydio

Before Skydio, Fritz was the UAS Commander with the Chula Vista Police Department. He retired after 27 years as the Patrol Captain in 2018. While at CVPD he developed and worked to implement the Drone as First Responder (DFR) Program and Live911. He authored the agency's Concept of Operations for the IPP submission and co-authored the safety case for the CVPD BVLOS waiver as well as the recent Tactical BVLOS waiver.

Cole Martin

Product Marketing Manager at Skydio

Cole joined Skydio in February 2021 as a representative on the public safety sales team, where he worked directly with Skydio customers and prospects to best understand their needs in the field. In 2022, he made the transition to the Product Marketing team, taking that knowledge of the customer base into a cross functional role. He now manages content and communications for Skydio’s public safety focused marketing efforts.

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Thesis

When it comes to using drones for public safety, the capability of the drone is important but the deployment tactics matter just as much. This paper explores the importance that the chosen method of drone deployment has in driving value for public safety drone teams.

In particular, this paper analyzes the intentional and specific decision to integrate drones into everyday patrol operations — a method of operation known as “Patrol-Led-Deployment”, a term coined by Capt. Jason Bussert and Sgt. Dax Laporte of the Oklahoma City Police Department. Equipping officers with drones at the patrol level posits that the value of a drone is directly related to its proximity to the incident. Patrol-Led-Deployment operations complement other forms of operation, such as Drone as First Responder (DFR), and deliver tremendous value to the officers, their agencies, and the communities they serve.

Background

Historically, public safety UAS (Unmanned Aerial Systems) teams have been made up of individuals with specialized expertise that lends itself to managing a complex, technical new tool. When deciding who to select for the team or where to house them, command often selects specialized units, such as manned air units, tech support teams, and tactical response teams. That approach offers some upside, but it does have a downside--in particular, the delayed response time to rapidly unfolding emergencies in the field. The tool that is there in the first minutes is infinitely more useful than the tool that is back at the station, or in the trunk of the "drone expert" who is enroute, but 30 minutes away.

Public safety departments have learned this lesson with other tools. For example, prior to the Columbine High School shooting in April 1999, most incidents that involved barricaded suspects or hostage situations were "contained" by patrol and held until those with specialized weapons and tactics could respond (SWAT Teams with advanced training and rifles/special equipment).

Post-Columbine and with the emergence of perpetrators with the sole intent to kill until stopped, agencies decided they had to move these capabilities to the front lines. Patrol was equipped with advanced weapons like AR-15's and advanced training like "Active Shooter" response techniques. This essentially moved "SWAT" level capabilities to the front line of police response.

This same advantage of taking rapid action with appropriate tactical gear can be achieved when reducing the response time for drone-related services to as close to zero as possible.

Drone as First Responder (DFR) was born out of this desire to arrive on scene as fast as possible. DFR is a drone deployment method, not a type of drone, and is designed to get drones over an incident before the arrival of ground units. It consists of having predetermined launch sites for UAS placed around a given jurisdiction that are deployed to the scene immediately upon an emergency call. These drones can get on scene quickly to start gathering situational awareness to improve response tactics, sometimes before first responders are even aware of an ongoing incident.

This level of intelligence exponentially increases public safety team's ability to respond effectively, safely, and with the right equipment and tactics for success; however, DFR is currently complex, relatively expensive, and requires advanced waivers from the FAA. Follow this link or visit droneresponders.org to learn more about DFR via the DRONERESPONDERS Resource Center.

Establishing a Patrol-Based Style of Deployment

Historically, there have been terms to describe two general types of deployment methods. One is drone-in-the-trunk, and the other is DFR. Drone-in-the-trunk, however, can describe both the specialized unit-style deployment as well as the front-line Patrol-Led-Deployment. There is value in identifying a distinction between the two types of drone-in-the-trunk deployments so agencies can make an informed choice on how to deploy and select equipment accordingly.

The distinction is very clear when watching the success of the Oklahoma Police Department, led by Capt. Jason Bussert and Sgt. Dax Laporte, who were among the earliest to understand and acknowledge the difference and intentionally structure the team, training, and deployment methods around this distinction.

In structuring his team for success, Capt. Bussert selected patrol officers, most of whom had no special interest or experience in drones, to join the team and be responsible for deploying drones as often as possible on everyday incidents. The idea is to provide an overhead view of rapidly unfolding incidents to provide first responder and incident managers with immediate, decision-quality data on evolving, complex situations. In this way, it provides value in a similar fashion to DFR.

Capt. Bussert and OKCPD evaluated systems from a multitude of manufacturers before they made a decision. They ultimately decided on the Skydio X2E because he felt it best fit the style of deployment he envisioned for the team. There were several reasons for this; not the least of which was the ease of use and autonomous features that ensured officers in patrol, with limited training time, could safely and confidently deploy the drones in the field.

> *With the features of the Skydio, [pilots] don't have to have prior drone experience or be a seasoned drone pilot. They can take the product, deploy it and be comfortable that they are going to be able to have success.*
>
> **- Sgt. Dax Laporte, recent webinar with DRONERESPONDERS.**

The Skydio drones also have a unique combination of satisfying the network, data management (via **Axon Evidence integration**), and data security needs of the agency and city.

OKC PD had enormous success in just a few short months, including 3 Officer Involved Shooting (OIS) Incidents where the drone was overhead to assist.

Commonality of Terms

All studies of sciences start with nomenclature and commonality of terms. This provides consistency of communication, creating a more clearly cut path to success. Incident Command Systems (ICS) are a perfect example of how public safety agencies see value in standardization and commonality of titles, phrases, terms, and definitions. In addition to DFR, we know other leaders in public safety have found value in specifying deployment types, such as the recent webinar (link here) with DRONERESPONDERS and Clay Regan, identifying the term and use case of “Drone Clear”.

Drone Clear is essentially indoor clearing with the addition of using multiple drones to clear and hold positions. This is a tactical method already common with clearing teams where team members are assigned to hold doorways and other areas to ensure that those cleared areas stay cleared. Again, the term “Drone Clear” wasn’t revolutionary except to take a drone deployment method and encapsulate it in a single term. This made it recognizable, put it on the board as a tool for other agencies to emulate, and shortened the learning curve for agencies across the country.

Patrol-Led-Deployment: a Deployment Method to Maximize UAS Impact

“Patrol-Led-Deployment” is defined as the method of drone deployment where the drone is seen as a patrol resource and assigned to a specific position, shift, and area, so as to increase the likelihood of its presence in the first minutes of an incident.

If individuals are promoted out of patrol or move into a specialized position, rather than the drone and skillset moving with them, the priority would be to replace the drone and training to ensure the resource stays in patrol. This is similar to K-9 units: when officers move out of patrol, the dog will move to another handler who is trained and continues to be a patrol resource. Patrol-Led-Deployment is a deployment method perpetuated by a drone system that’s scalable and easy to fly. The broader it is deployed the better.

Agencies going forward can start with a Patrol-Led-Deployment strategy, graduate to DFR, and continue with this layered approach of deployment. Patrol-Led-Deployment would offer a second drone on scene, or drones in areas inaccessible from DFR drones. This still leaves room for specialized units with drones that would be utilized for more complex deployments like indoor operations, drones with drop kits and gas sensors, or other less frequent and less time-sensitive deployments. The demand for the expert pilot will not go away; it will just allow them more opportunities to develop advanced techniques, and broader deployment will solidify the value that drones have to everyday public safety operations.

Police Drone Operations

The ability to have a capable drone and pilot on scene in the first minutes of an incident is what made the success of Oklahoma City PD possible. Their early accomplishments with Patrol-Led-Deployment foretells a world in which drones will become ubiquitous tools available to every officer. Whether it is stored in their trunk, deployed autonomously from their vehicle, or deployed from a nearby building or static site, there is no emergency that wouldn’t benefit from an overhead view in the first seconds.

sales@skydio.com