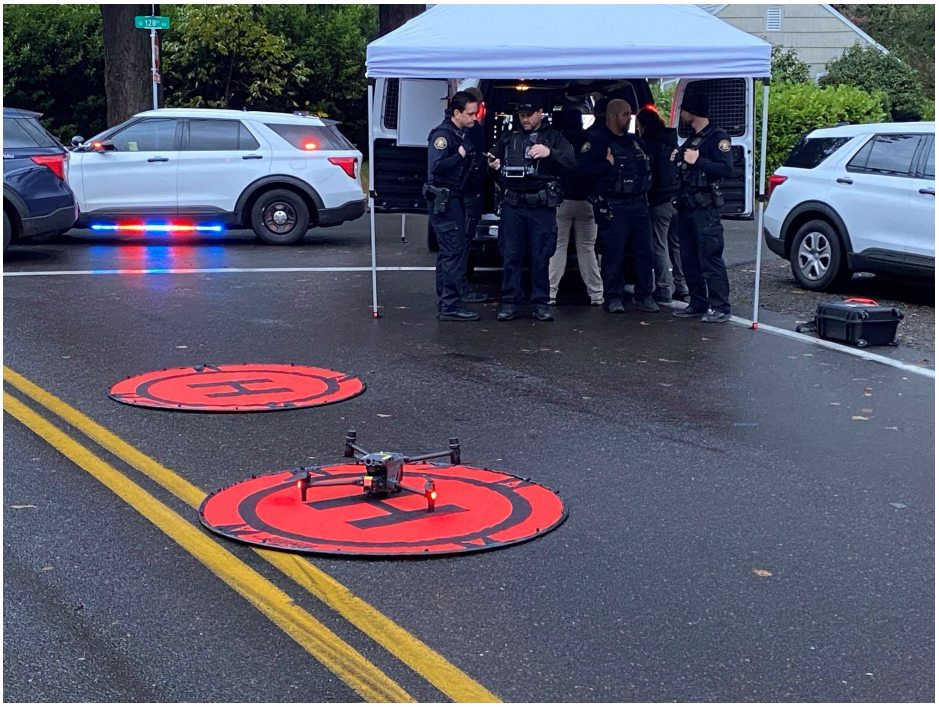


PORTLAND POLICE BUREAU
UNMANNED AERIAL SYSTEMS (UAS)

Annual Report 2024

BACKGROUND

The Portland Police Bureau has continued its work to field and implement a robust, transparent, and safe Unmanned Aerial System (UAS) program to improve service delivery and safety within the City of Portland.

The initial program concept began to take shape in 2021. Between 2021 and 2023, the Police Bureau's Metropolitan Explosives Disposal Unit (MEDU) and Air Support Units (ASU) presented a plan to individual City Council members and community groups for a one-year Pilot Project to utilize UAS for very specific tactical and traffic investigation uses. A Standard Operating Procedure (SOP) was written and approved, and a Privacy Impact Audit was completed by the city.

On April 5th, 2023, Portland City Council unanimously passed a resolution (Ordinance 191224) to authorize the purchase of UAS hardware and implement a one-year Pilot Project within the Police Bureau's Specialized Resources Division (SRD). This project allowed for use of drones in specific and limited circumstances.

The year-long Pilot Project concluded in April 2024. The project was successful in many ways, and identified multiple benefits, to include reduced time spent at crash and critical incident scenes, improved de-escalation of armed subjects, and enhanced situational awareness, all contributing to better overall outcomes. Following the completion of the pilot, a report was prepared that captured the efforts that went into the project, outcomes, successes, lessons learned, and recommendations for future use cases of UAS technology within the Police Bureau.

Based on information learned through the Pilot Project, a recommendation to expand UAS operations to each of the three Precincts (Central, East, and North) was advanced. Additionally, work was undertaken to expand the Standard Operating Procedure (SOP) that governs the use of UAS to more closely mirror allowable uses found within Oregon Revised Statutes. The expanded SOP underwent a privacy assessment by Smart City PDX, who memorialized their findings in an updated Privacy Impact Assessment (PIA) report.

On September 4, 2024, Portland City Council unanimously passed a resolution (Ordinance 191882) to approve the expansion of the UAS program within the Police Bureau and to authorize the purchase of additional UAS hardware and funding for new pilot trainings. Roughly eighteen new UAS operators were selected to serve as remote pilots within the three precincts (generally six members per precinct, with two members per shift). Precinct-based UAS operations under a newly expanded SOP went live November 1, 2024.

TRAINING

Once the program expansion approval was finalized, the eighteen newly selected remote pilots attended a 30-hour UAS operator schools in September and October 2024 and successfully obtained their FAA Part 107 certifications. The course focused on safety, pilot skills and tactical flight concepts. The FAA Part 107 certification allows for commercial drone operations within the United States. Successful completion of the certification demonstrates a knowledge of airspace regulations and safety protocols. To maintain the certification remote pilots are required to stay up to date on FAA drone rules and regulations and pass a recurrent aeronautical knowledge test every 24 months.

Each remote pilot within the Portland Police Bureau is an FAA Certified UAS Pilot, and is subject to flight hour requirements, sustainment training and regular skills testing. In order to best support the remote pilots and ensure safe and lawful operations, each remote pilot is required to attend a full-day bi-monthly training course provided by the Police Bureau.

DEPLOYMENTS: AUTHORIZED USES / PROHIBITIONS

In an effort to take a measured approach to implementing UAS technology into the Police Bureau, the pilot project and the governing Standard Operating Procedure (SOP) allowed for UAS deployments in very limited circumstances. The pilot project highlighted a number of areas where expanded criteria could benefit members of the community and the Police Bureau. As such, a revised SOP was drafted which included expanded criteria (mirroring Oregon Revised Statutes) for UAS use that was reviewed and vetted by the City through its Privacy Impact Assessment report process. Ultimately, the concepts of the expanded deployment criteria were approved by the Chief's Office and City Council.

Currently, **allowed** uses for UAS technology include:

- Deployments to enhance the protections of lives and property when other means and resources are not available, are less effective, or as a tool to augment existing tactics
- Pursuant to a valid warrant authorizing its use
- Where there is probable cause or belief that a person has committed a crime, is committing a crime, or about to commit a crime, and exigent circumstances exist that make it unreasonable to obtain a warrant authorizing its use

- With written consent of an individual for the purpose of acquiring information about the individual or the individual's property
- As part of search and rescue activities
- For the purpose of assisting an individual in an emergency where there is a reasonable belief there is an imminent threat to the life or safety of the individual
- During a state of emergency declared by the Governor
- For the purpose of reconstruction of a specific crime scene, or accident scene, or a similar physical assessment, related to a specific investigation
- For training in the use and acquisition of information

The SOP also contains a number of **prohibited uses** and privacy considerations, which included:

- Conducting random or indiscriminate mass surveillance activities
- Targeting a subject based on race, ethnicity, national origin, religion, disability, economic source or status, housing status, gender, or sexual orientation
- Harassment, intimidation, or discrimination against any individual or group
- Personal business
- Crowd control/crowd management unless a life safety critical incident occurs
- Weaponization of any UAS
- Any use of facial recognition technology

UAS CAPABILITIES / PROCUREMENT / INVENTORY

The Police Bureau initially purchased several UAS platforms and equipment necessary to conduct the pilot project and purchased additional hardware in 2024 to support the expansion into the three police precincts. As of this writing, the Bureau has an inventory of twenty-five drones. Fifteen of these are small consumer drones, which are inexpensive hobby-style drones, which are used as trainers and for interior flights. Five drones are

assigned to crash investigation and reconstruction at the Traffic Division. Only five of the drones within the inventory can fly during inclement weather and in the dark.

Primary UAS's used by PPB: PPB UAS operates the *DJI Matrice 30T* as its primary overwatch and tactical drone. This drone is (Ingress Protection) IP rated for rain and can operate in winds up to 40mph. It has thermal and (Infrared) IR cameras, obstacle avoidance and an excellent control unit. With the batteries and tools needed, the M30T costs roughly $15,000. PPB UAS currently has five M30T's allowing for continuous flight during battery changes.

PPB UAS also operates two *DJI Matrice 3T's*, which are smaller platforms with a thermal camera but cannot be flown in the rain. The M3T is about $6,000 each.

For interior flight, training, and short flights in the daylight, the *DJI Avata* and *DJI Mini 2* are utilized. These drones are very consumer-oriented and run around $1000 each.

TRANSPARENCY

Police Bureau Website

The Police Bureau website maintains a page about the UAS program (https://www.portland.gov/police/community/drones). This site covers the purposes and background of the UAS program, along with links to the SOP and City Council session videos.

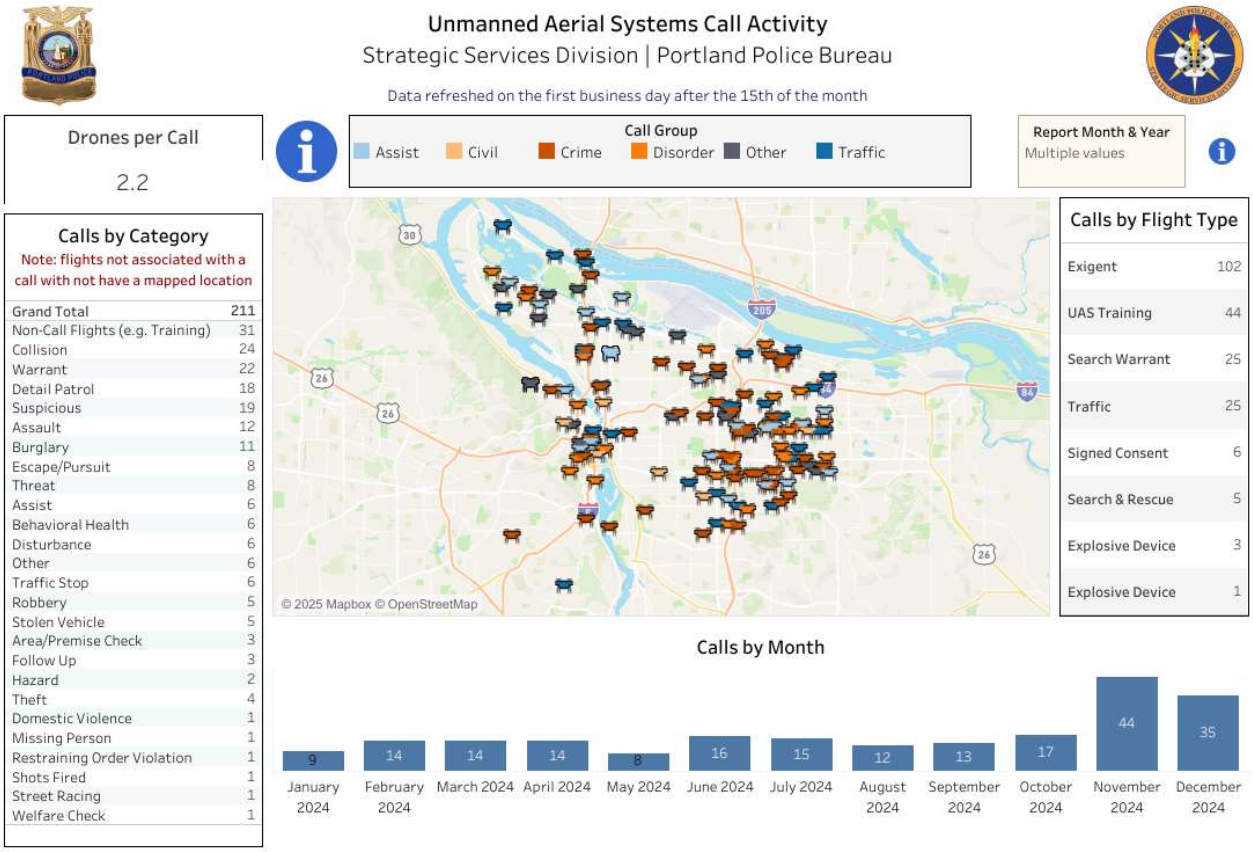
Public-Facing Data Dashboard

A public dashboard has been in existence since the inception of the UAS program. The dashboard contains information on all UAS deployments, including call type, location and other metrics (https://www.portland.gov/police/open-data/uascalls). Data points displayed within the page are updated on the fifteenth of each month and the page has been viewed nearly 4,000 times.

FLIGHTS / UTILIZATION

In calendar year 2024, the program deployed UAS technology on approximately 211 instances. Prior to November 2024, monthly deployments averaged roughly 13 per month. In November, after the allowable uses expanded and operations moved to each of the precincts, the average deployments moved to approximately 40 per month. Nearly 48% of these calls were for exigent circumstances, meaning a request from patrol or tactical teams for assistance with a high-risk event. Training comprised approximately 21% of other

utilizations. Roughly 12% were traffic-related and 12% were to assist with the service of a search warrant. The remaining use cases included Signed Consent (3%), Search and Rescue (2%) and Explosive incidents (2%).



HIGHLIGHTS

The initial pilot project that concluded in April 2024 provided a great deal of information as to safe and effective ways to deploy UAS. The project identified multiple benefits, to include reduced time spent at crash and critical incident scenes, improved de-escalation of armed subjects, and enhanced situational awareness, all contributing to better overall outcomes. The Bureau has found many successful ways to enhance community safety with UAS technologies.

- *Traffic Investigations*: The Traffic Division continues to see significant improvements in reduced time spent documenting major crash scenes, and the quality and accuracy of evidence gathered. The pilot program noted an approximately 80% decrease in time spent mapping scenes. This allows police to clear crash scenes more quickly, which significantly lessens overall impacts to the traveling public. Additionally, traffic investigators have collected “fly-thru” videos of vehicle

trajectories and overhead views of crash locations, which have been exceptionally helpful when presenting cases to Grand Jury or in courtroom trials.

- *Explosive related incidents*: Members of our regional Explosive Disposal Unit continue to utilize UAS to safely gather information on suspicious items and confirm the area is clear of potential victims. In November 2024, officers assigned to the Explosive Disposal Unit responded to a suspicious item in the Lents neighborhood. Patrol pilots arrived to assist and used UAS to gather detailed information about the location, size and placement of the item. While bomb technicians completed their work, patrol pilots scanned the immediate area for community members inside the perimeter and looked for additional items of concern.

- *Patrol*: UAS has been strategically deployed in responses to various high risk and crisis events. UAS technology has been leveraged numerous times to provide officers with additional time and distance from potential threats, which provides additional options to officers as they navigate high-risk encounters with armed suspects. A couple notable deployments highlight this added benefit:

    - October 31, 2024 - Officers responded to reports of an armed individual near passing vehicles on a heavily traveled roadway. Officers believed it to be the same person numerous people had reported in preceding days to be armed with a long barrel pistol. When officers attempted to contact the individual, he fled on foot, ultimately concealing himself in dense brush along the Eastbank Esplanade near the Willamette River. UAS technology was integral to locating the individual. It further allowed officers to develop a plan to safely place him into custody with no injuries to the individual or officers.

- November 5, 2024 – Officers were dispatched to the report of an armed robbery with a firearm. The suspect fled on foot into a residential neighborhood. Numerous officers responded to the area and set containment around the area where the suspect was last seen. The suspect trespassed onto someone's property and concealed himself. The Special Emergency Reaction Team (SERT) and the Crisis Negotiation Team (CNT) responded to the scene. UAS technology was leveraged to safely locate the suspect. As seen below, the UAS was able to observe the suspect climbing a fence of the residence. The UAS was utilized to provide critical information about the suspect's location for officers on scene. Such information allows for thoughtful planning and consideration of tactics to limit force encounters when possible and keep all involved safe.

- *Tactical Incidents*: UAS technology continues to be utilized to provide exterior overwatch and assist with interior searches for the Special Emergency Reaction Team (SERT) and Crisis Negotiation Team (CNT) during high-risk search warrants and full-team activations. UAS offers real-time information on what lies ahead for members searching for armed suspects indoors and outdoors. This situational knowledge provides critical information for tactical decision making which can greatly reduce the need for force. The use of UAS also routinely reduces time spent on these events which can be disruptive and unsettling for community members.

LESSONS LEARNED

There was significant progress in our agency's integration of Unmanned Aircraft Systems (UAS) technology during 2024. Through numerous deployments and ongoing evaluation, we have identified areas for ongoing improvement and growth, ultimately enhancing our ability to serve our community and increase safety.

- *Enhanced Safety in High-Risk Calls for Service*:

  UAS technology provides critical benefits in high-risk calls for service, significantly improving situational awareness and reducing potential dangers for both community members and officers.

  Real-time information from UAS platforms allow for rapid assessment of complex incidents, enabling well-informed decision-making and increased abilities to implement de-escalation strategies. This capability has proven invaluable in situations involving armed individuals, barricaded subjects, and active threats.

- *Optimizing UAS Operator Deployment and Equipment:*

  The effectiveness of precinct-based UAS operators is directly tied to their ability to rapidly deploy with all necessary equipment. Standard patrol vehicles are not optimally configured for the efficient transport and deployment of UAS equipment. We are prioritizing the outfitting/retrofitting of vehicles for dedicated UAS operators. These vehicles will be designed to allow for rapid deployment, secure equipment storage, and on-site operations.

- *Integration into Crime Reduction Initiatives:*

  UAS technology provides a powerful tool for enhancing crime reduction efforts through mission-based operations. Integrating UAS technology into missions to address stolen vehicles [Stolen Vehicle Operations (SVO)] and retail theft has proven effective.

- Training and Standardized Operating Procedures (SOPs):

  As UAS operations expand, consistent training and standardized operating procedures continue to be crucial for ensuring safe, effective, and lawful deployments. Ongoing training will remain essential to maintain operator proficiency, and clear SOPs provide guidance for the many considerations that come with operating UAS equipment.

The lessons learned this year will serve as a foundation for continued advancement in our UAS program. We are committed to leveraging this technology responsibly and effectively to enhance public safety.

RECOMMENDATIONS

Based on the insights gained during the past year, the following actions are recommended to further enhance our UAS program and increase its positive impact on public safety:

- *Continued Research and Development*:

  Continue to prioritize ongoing research and evaluation of emerging UAS technologies and applications to ensure our program is leveraging up-to-date technologies and practices.

- *Explore Drone as a First Responder (DFR) Operations*:

  Research the potential feasibility of a Drone as a First Responder (DFR) program within the City of Portland, much like neighboring agencies have implemented. DFR programs offer the ability to respond to emergencies very quickly, providing situational awareness and potentially reducing response times, and at times eliminating the need for police to respond to situations, instead providing an opportunity to send a different or more appropriate response mechanism.

  It will be important to analyze potential use cases, assess technological requirements, consider regulatory considerations, and consider potential community concerns and impacts.

- *Standard Operating Procedure (SOP) Suite Development*:

  Develop and implement a more comprehensive suite of Standard Operating Procedures (SOPs) for all aspects of UAS operations. Clear, consistent, and well-documented SOPs are essential for ensuring safe, effective, and compliant UAS deployments. The existing SOP provides adequate guidance; however, we believe that a more robust SOP suite could provide for additional direction and clarity for more nuanced areas of the program.