



Surveillance Impact Report

[Unmanned Aerial Systems]

[Police Department]

As required by San Francisco Administrative Code, Section 19B, departments must submit a Surveillance Impact Report for each surveillance technology to the Committee on Information Technology ("COIT") and the Board of Supervisors.

The Surveillance Impact Report details the benefits, costs, and potential impacts associated with the Department's use of Unmanned Aerial System (UAS).

PURPOSE OF THE TECHNOLOGY

Pursuant to the San Francisco Charter, the Police Department is required to preserve the public peace, prevent, and detect crime, and protect the rights of persons and property by enforcing the laws of the United States, the State of California, and the City and County. The Department's mission is to protect life and property, prevent crime and reduce the fear of crime by providing service with understanding, response with compassion, performance with integrity and law enforcement with vision.

The surveillance technology supports the Department's mission and provides important operational value in the following ways:

UASs may be utilized to increase officer safety, enhance the San Francisco Police Department's ability to scan, analyze, respond, and assess incidents as they unfold and strengthen police response with actionable real-time intelligence. The UAS may be utilized to enhance the Department's mission of protecting lives and property when other means and resources are not available or are less effective. The Department shall use the surveillance technology only for the following authorized purposes:

Authorized Use(s):

Support first responders/investigations that could benefit from an aerial perspective during the following:

- Sideshows (AKA stunt driving) and/or street takeover events where many vehicles and reckless driving are present.
- Major and Critical incidents as defined by [SFPD General Order 8.01](#), including but limited to mass casualty events, natural disasters or Hazardous material incidents.
- High-risk search warrant service, apprehension of armed and dangerous and/or violent suspects.
- Hostage/Crisis Negotiations Team (H/CNT) incidents.
- Pre-planned deployment mapping.
- Search & rescue operations.
- Post-incident crime scene mapping, preservation, and documentation.
- Department training relating to authorized uses.

Surveillance Oversight Review Dates

PSAB Review: August 24, 2023

COIT Review: TBD (list all dates at COIT, and write "Recommended: MM/DD/202X" for rec date)

Board of Supervisors Approval: TBD

Any use of a UAS shall comply with constitutional and privacy rights, the applicable regulations of the Federal Aviation Administration (FAA), CCSF ordinances, SFPD written directives and UAS manufacturers' approved flight manuals.

The UAS equipment may be deployed in the following locations, based on use case: The City & County of San Francisco and SFO property.

Prohibitions and Restrictions:

The UAS equipment shall not be used:

- For the purpose of harassing, intimidating, or discriminating against any individual or group.
- To monitor individuals based on their race, gender, religion, or sexual orientation.
- For a non-law enforcement related matter.
- In an unsafe manner or in violation with regulations.

The UAS shall not be equipped with weapons of any kind.

Where there are specified and articulable grounds to believe that the UAS may collect evidence of criminal wrongdoing and the UAS is used in a manner that may intrude upon an individual's reasonable expectations of privacy, the Department shall obtain a search warrant prior to conducting the flight, unless a recognized warrant exception exists, and utilize the UAS in accordance with the authorized use(s) of this policy.

UAS operations shall not exceed 24 hours of continuous monitoring or recording unless addressing prolonged Major or Critical incidents where extensive response and commitment of resources are required.

Description of Technology

Unmanned Aerial System (UAS) - An unmanned aircraft of any type that is capable of sustaining directed flight, whether preprogrammed or remotely controlled (also referred to as an unmanned aerial vehicle (UAV)), and all the supporting or attached systems designed for gathering information through imaging, recording or any other means.

Generally, a UAS consists of:

- Chassis with several propellers for flight
- Control propellers and other flight stabilization technology
- Radio frequency and antenna equipment to communicate with remote-control unit
- A camera
- A digital image/video storage system for recording into a digital data memory card
- A remote-control unit
- Battery charging equipment for the aircraft and remote control

For purposes of this 19B surveillance technology policy (STP), the following UAS model information is being provided as it is typical for law enforcement use. These UAS models are subject to change with the advancement and update of technology.

The Brinc Lemur 2 has the capabilities to live stream and record through a 4k visual camera or thermal imaging lens. It provides two-way communication via a cell phone SIM card which provides a way to de-escalate hostile situations. This model UAS provides unique benefits for interior searches of buildings and minimal exterior use.

The DJI Matrice 30T has the capabilities to live stream and record through a 4K visual camera. Its battery performance provides for a longer flight time and its IP55 protection allows it to handle adverse weather and temperature conditions. This model UAS provides unique benefits that allow for exterior open-air searches as well as overwatch capabilities during incidents.

Due to battery life, the average flight time is 28 minutes.

The expected lifespan of UAS equipment is 150-800 flight hours.

IMPACT ASSESSMENT

The impact assessment addresses the conditions for surveillance technology approval, as outlined by the Standards of Approval in San Francisco Administrative Code, Section 19B:

1. The benefits of the surveillance technology outweigh the costs.
2. The Department’s Policy safeguards civil liberties and civil rights.
3. The uses and deployments of the surveillance technology are not based upon discriminatory or viewpoint-based factors and do not have a disparate impact on any community or Protected Class.

A. Benefits

The Department’s use of UAS equipment has the following benefits for the residents of the City and County of San Francisco:

	Benefit	Description
X	Education	UAS presentations can be used to demonstrate its use as a de-escalation tool and how it can be used to safely resolve critical incidents and save lives. The Department may use footage for training purposes to improve police response methods.
<input type="checkbox"/>	Community Development	
X	Health	According to the CDC, community violence affects millions of people, their families, schools, and communities every year. Community violence can cause significant physical injuries and mental health conditions such as depression, anxiety, and post-traumatic stress disorder (PTSD). Successfully prosecuting major crime is an essential part of protecting life and building a healthy community.
X	Environment	UASs can conduct surveys and assessment of collapsed structures, damage and risk assessments, and severity of damage to affected areas including natural disasters.
X	Criminal Justice	To enhance the San Francisco Police Department’s mission of protecting lives and property, while increasing transparency by collecting and making data policies and procedures publicly available to the local community and supporting community outreach and engagement.

B. Civil Rights Impacts and Safeguards

SFPD strives to mitigate potential civil rights impacts by strictly adhering to the authorized uses and by clearly listing prohibitions and restrictions relating to UAS equipment.

Right to Privacy- While SFPD affirms that individuals have the Right to Privacy and freedom of expression in conformance with and consistent with federal, state, and local law, UASs will only be deployed in certain situations unfolding in public spaces, unless a search warrant has been authorized. UAS deployment is related to specific authorized uses and will not be used to capture or collect data of individuals legally exercising their constitutional rights.

Loss of Liberty- Surveillance footage, from any tool that records digital evidence, could lead to false conclusions or misidentifications of a person as a perpetrator. To mitigate this, SFPD will not rely solely on UAS footage to conclude a case or bring charges against a suspect. SFPD must do additional investigative work to understand the full context of a criminal incident by, for example, consulting with witnesses, review booking photos, consult with ALPR reads and/or review any evidence left at the scene. Video footage is a vital tool but cannot replace investigative processes necessary to solve a case.

Warrantless Searches- Absent a search warrant, or recognized warrant exception (e.g., valid consent, exigent circumstances), SFPD members will not pilot a UAS in spaces where individuals have a reasonable expectation of privacy.

Equal Protection of the Law- SFPD will not deploy a UAS to monitor individuals or groups based on their race, gender, religion, or sexual orientation.

Physical Safety or Economic Loss through Property Damage- To mitigate any potential impacts to resident's physical safety or property damage, all SFPD drone operators receive pilot training and will be required to sign off on the Department's Drone Use policy. The Federal Aviation Administration (FAA) requires the Department to report an accident within 10 days if it results in at least serious injury to any person or any loss of consciousness, or if it causes damage to any property (other than the UAS or drone) in excess of \$500 to repair or replace the property.

Physical safeguards:

UAS access will be limited to SFPD members who are certified and authorized to use the UAS. Data will be digitally stored into the department's digital evidence storage or uploaded to a storage device and booked into evidence in accordance with evidence booking procedures. All digital evidence captured, recorded, or otherwise produced by the UAS equipment is the sole property of the SFPD. All digital evidence shall be handled in accordance with existing policy on evidence management. SFPD members shall not edit, alter, erase, duplicate, copy, share, or otherwise distribute digital evidence in any manner without prior authorization from the appropriate designated personnel.

Administrative safeguards:

The Deputy Chief of the Special Operations Bureau and the Deputy Chief of Investigations in addition, each member of the Department belongs to a chain of command. The Officer in Charge (OIC) of that chain of command is responsible for overseeing compliance with all SFPD written directives including the UAS policy. If allegations arise that a member is not in compliance, the OIC will initiate an investigation and will take the appropriate action which could include an investigation of misconduct by Internal Affairs.

Technical safeguards:

Data and access to the data will be controlled through the SFPD Technology Division. Data will be securely stored in accordance with SFPD standards that are compliant with the FBI’s Criminal Justice Information Services (CJIS) directives. The Department maintains compliance with requirements established and enforced by the Department of Justice California Law Enforcement Telecommunications System (CLETS). Our department ensures all contractors and vendors who have access or exposure to Confidential Offender Record Information (CORI) have fulfilled training and background requirements. Click here for [CLETS Policies, Practices and Procedures](#).

C. Fiscal Analysis of Costs and Benefits

The Department’s use of the surveillance technology yields the following business and operations benefits:

	Benefit	Description
X	Financial Savings	UASs can be far more time efficient and cost effective when responding to emergency incidents. Robots and Pole Cameras are less capable and more expensive than UAS technology.
X	Time Savings	UASs reduce number of staff and time spent responding to calls for service or during authorized uses. UASs allow officers to assess and prioritize calls for service and even clear calls without ever sending ground units.
X	Staff Safety	UASs would be deployed to dangerous or inaccessible locations/incidents instead of personnel. These range from a variety of situations such as Barricaded Subjects, Hostage Situations, or Sniper Situations. They can be utilized for areas such as rooftops, at the sides of buildings/bridges, along cliff areas, and along vehicles and other inaccessible areas.
□	Data Quality	
X	Other	UAS technology creates time and distance to deescalate critical incidents, reducing risk to the public and officers.

The fiscal cost, such as initial purchase, personnel, and other ongoing costs, include:

Option #1: UAS COST FOR DEPARTMENT WIDE USE

Number of Budgeted FTE (new & existing) & Classification	<p>14 Q2-Q4, Police Officers (Pilots)</p> <p>One (1) Q2-Q4, Police Officer (Admin/Training)</p> <p>One (1) Q50-Q52, Sergeant (Program Manager)</p> <p>One (1) Q60-Q62, Lieutenant (Program Officer In Charge)</p> <p>The staffing configuration includes existing sworn members who would not be dedicated to the UAS program full-time.</p>													
Total Salary & Fringe	<p>Fifteen Q4 = \$2,998,395</p> <p>One Q52=\$228,891</p> <p>One Q62=\$258,560</p> <hr/> <p>Total \$ 3,485,846</p>	<i>The staffing cost is not directly associated with the UAS program.</i>												
	Annual Cost	One-Time Cost												
Software	\$2,000	\$14,000 (Flight Mgmt. software and AXON integration)												
Hardware/Equipment		<table border="1"> <tr> <td>2</td> <td>Skydio X2E</td> <td>\$15,000.00 each</td> </tr> <tr> <td>2</td> <td>Brinc Lemur 2 with protection plan and software</td> <td>\$20,000.00 each</td> </tr> <tr> <td>10</td> <td>DJI Mavic 3E Fly More Combo</td> <td>\$7,899.00 each</td> </tr> <tr> <td colspan="3">Total \$128,990</td> </tr> </table>	2	Skydio X2E	\$15,000.00 each	2	Brinc Lemur 2 with protection plan and software	\$20,000.00 each	10	DJI Mavic 3E Fly More Combo	\$7,899.00 each	Total \$128,990		
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Total \$128,990														
Professional Services														
Training		17,000 (1,000 per pilot)												
Other		\$180,000 (AV Integration into existing vehicles)												
Total Cost		\$254,697												

OPTION #2: UAS COST FOR TACTICAL UNIT ONLY

Number of Budgeted FTE (new & existing) & Classification	<p>Four (4) Q2-Q4, Police Officers (Pilots)</p> <p>One (1) Q2-Q4, Police Officer (Admin/Training)</p> <p>One (1) Q50-Q52, Sergeant (Program Manager)</p> <p>One (1) Q60-Q62, Lieutenant (Program Officer In Charge)</p>
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	The staffing configuration includes existing sworn members who would not be dedicated to the UAS program full-time but are assigned to the Tactical Unit full-time.							
Total Salary & Fringe	Five Q4 = \$999,465 One Q52=\$228,891 One Q62=\$258,560 <hr/> Total: \$1,486,916	<i>The staffing cost is not directly associated with the UAS program</i>						
	Annual Cost	One-Time Cost						
Software	\$2,000	\$14,000 (Flight Mgmt. software and AXON integration)						
Hardware/Equipment		<table border="1"> <tr> <td>2</td> <td>Brinc Lemur 2 with protection plan and software</td> <td>\$20,000.00 each</td> </tr> <tr> <td>2</td> <td>Skydio X2E</td> <td>\$15,000.00 each</td> </tr> </table> Total \$ 70,000	2	Brinc Lemur 2 with protection plan and software	\$20,000.00 each	2	Skydio X2E	\$15,000.00 each
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2	Skydio X2E	\$15,000.00 each						
Professional Services								
Training		\$7,000 (1,000 per pilot)						
Other		\$15,000 (AV Integration into existing vehicles)						
Total Cost	\$2000	\$106,000						

The Department funds its use and maintenance of the surveillance technology through the SFPD Operational budget and/or grant funding.

COMPARISON TO OTHER JURISDICTIONS

Other law enforcement agencies have used the surveillance technology during the following circumstances:

Oakland Police Department Authorized Use(s):

- Mass casualty incidents
- Disaster management

- Missing or lost persons
- Hazardous material releases
- Sideshow events where many vehicles and reckless driving is present
- Rescue operations
- Training
- Hazardous situations which present a high risk to officer and/or public safety
- Post-incident crime scene mapping, preservation, and documentation

Alameda County Sheriff's Office Authorized Use(s):

- Post-incident crime scene documentation.
- Explosive ordinance disposal missions.
- Response to hazardous spills, search and rescue, critical incidents.
- High-risk search warrants, apprehension of armed and dangerous and/or violent suspects.
- Disaster response, training missions, request from fire department.
- Any incident where there is probable cause to believe that a felony has been committed or about to occur.
- Pursuant to a search warrant, and any law enforcement mission or event approved by the Sheriff or the Sheriff's designees.

West Sacramento Police Department Authorized Use(s):

- Utilize UAS technology to minimize risk to the public and officers by providing additional options to avoid violent encounters and utilize de-escalation tactics.
- Aid in the search and rescue of missing persons, swimmers, and boaters.
- Enhance response to bomb squad incident, fire support, hazardous materials incidents, and other critical incidents in which it would reduce the risk to personnel entering a hazardous environment.
- Provide traffic collision and crime scene evidence documentation methods which will integrate with existing department technology.
- Aid in providing a more expedient and safe resolution to incidents or events which impact the community.

San Jose Police Department Authorized Use(s):

- Search and rescue operations.
- Public safety and life preservation missions.
- Probable cause to believe that a felony was occurring.
- Apprehension of armed and dangerous and/or violent fleeing suspects.
- Post-incident crime scene preservation and documentation.
- Pursuant to a search warrant.
- Disaster response and recovery.
- Command authorized special event(s).

Chula Vista Police Department Authorized Use(s):

- UAS operations are conducted withing FAA regulations and only by operators who have completed the required training.
- Use of vision enhancement technology is permissible only where there is no protectable privacy interest or when in compliance with exigent circumstances a search warrant, or a court order.

The effectiveness of the surveillance technology while used by law enforcement agencies is determined to be the following:

- De-escalation – UAS visual support can correctly identify the type of response needed for a particular incident.
- Response Time – Law enforcement agencies report that UAS beats patrol response by an average of 7 minutes during Priority 2 calls.
- Cost Effectiveness – Traditional police air support helicopters can cost law enforcement millions of dollars. UAS are an affordable option to traditional air support.
 - LAPD Air: Per 2023 Budget report, LAPD Air Unit has requested \$15.6 Million to purchase two helicopters; Training and certifications will cost \$633,627.00; and fuel and maintenance is not included within these requests.
 - Per Alameda County Sheriff's Office Air Unit 2023 budget, costs are dependent on yearly city allocations. As a reference, it's stated to cost \$600 an hour to maintain a deployable Air Unit. They have 3 aircrafts costing \$5.2 million with an airport hangar contract at \$7,600 per month.
- Decrease Reliance on Patrol Response – In 2018, Chula Vista Police Department UASs cleared 219 calls without sending ground units.
- Lower Barrier to Entry – It is far easier to train law enforcement officers to operate drones in police related deployments rather than training them to pilot air support helicopters. The associated costs are significantly reduced as well.
- Rapid Aerial Perspective – UAS allows police departments to survey crime scenes and search grids within moments of arriving on scene, and to do so much more comprehensively from the air.
- Reduced Risk – Since UASs are remotely operated, they allow police officers to conduct crime scene searches and assess dangerous situations up close (such as active shooter incidents) prior to having to physically send police officers into harm's way.

- According to [Atlas of Surveillance](http://atlasofsurveillance.org) (atlasofsurveillance.org), over 1,400 police departments in the United States are using drones.
- Since 2015 over 500 lives have been saved using UAS (dronelife.com).

CCSF agencies are authorized to use UASs in the following ways:

San Francisco Fire Department is authorized to use UASs for disaster response, emergency response, search & rescue and for training purposes.

Department of Technology is authorized to use for video production as elements of the SFGovTV.

San Francisco Public Utilities is authorized to use UASs for construction management, environmental monitoring, inspections, disaster relief and marketing/public education.

San Francisco Recreations and Park Department is authorized to use for disaster preparedness and response, environmental monitoring, inspection and surveying properties and assets, project inspection and mapping data collection.

	Effect	Description
<input type="checkbox"/>	Unanticipated Costs	N/A
<input type="checkbox"/>	Failures	N/A
<input type="checkbox"/>	Civil Rights and/or Civil Liberties Abuse	N/A
<input type="checkbox"/>	Other	

There have not been widely reported adverse effects of UAS deployments by US police departments, however, there is an understandable concern with law enforcement utilizing pervasive, mass surveillance without suspicion of a crime or identifiable law enforcement purpose on the communities they serve. Maintaining a list of specific authorized uses will mitigate mission creep and ensure the public is aware of UAS restrictions. Further, standard, and annual reporting as well as annual public hearings with the Police Commission will ensure continued transparency and accountability to the public.

U.S. Department of Transportation, Federal Aviation Administration

[Summary of Small Unmanned Aircraft Rule \(Part 107\)](#)

[State and Local Regulation of Unmanned Aircraft Systems Fact Sheet](#)

[Letter to Certificate of Authorization Holders-Statutory Requirements to Register UAS](#)

[First Responder Tactical Beyond Visual Line of Sight \(TBVLOS\) 91.113 Waiver Guide](#)

The U.S. Department of Commerce's National Telecommunications Information Administration (NTIA)

[2016 Voluntary Best Practices for UAS Privacy, Transparency, and Accountability](#)

U.S. Department of Justice, Community Oriented Policing Services

[Drones: A Report on the Use of Drones by Public Safety Agencies-and a Wake-Up Call about the Threat of Malicious Drone Attacks](#)

International Association of Chiefs of Police, Law Enforcement Policy Center

[Small Unmanned Aircraft Systems](#)

Other reports:

[2023 ACLU Report Eye-in-the Sky Policing Needs Strict Limits](#)