



DATE: September 3, 2019

CATEGORY: Unfinished Business

DEPT.: Police

TITLE: **Use of Unmanned Aircraft Systems (Drones) in Support of City Operations**

RECOMMENDATION

Adopt City Council Policy, Use of Unmanned Aircraft Systems, governing the responsible use of Unmanned Aircraft Systems by City staff (Attachment 1 to the Council report).

BACKGROUND

Unmanned Aircraft Systems (UAS) technologies have been successfully used for a variety of purposes by municipal governments throughout the country. From building inspections to disaster recovery and mitigation, UAS technologies can allow for better situational awareness and decision making. Additionally, as cities seek to implement “smart city” strategies, the use of UAS technology can play an integral part.

Several Mountain View City departments (i.e., Public Works, Fire, and Police) are interested in using UAS technology to enhance operations, work safer, and provide better and more efficient service within their respective areas of responsibility.

UAS provide an affordable aerial view of a location or event that allows decision makers to quickly evaluate the situation and make better, more well-informed decisions. Available technologies, such as high-zoom-capable cameras, infrared cameras, and environmental sensors, further enhance analysis of a potential problem or emergency incident. In addition, streaming and live-sharing of videos deliver real-time situational awareness as well as the ability to review footage for after-action analysis.

Regardless of the specific departmental mission, the use of UAS can raise understandable concerns and questions about civil rights, privacy, and the appropriate use of such technology. The American Civil Liberties Union has noted benefits of UAS technologies and has published recommended safeguards to protect individuals’ rights around government use of UAS, to include limiting usage, data retention policies,

policies for abuse prevention and accountability, and prohibiting use of weapons with UAS technology.

The City Council held a Study Session on this topic on April 9, 2019 and provided direction to staff, resulting in the proposed draft policy.

The Council Policy and Procedures Committee reviewed and accepted the proposed policy on August 27, 2019.

Potential Use by City Departments

The uses for UAS technology have been expanding for municipal operations. As outlined below, the City of Mountain View's Public Works, Fire, and Police Departments have identified various benefits in using UAS technology.

Public Works Department

The Public Works Department is tasked with the design, construction, maintenance, and operation of public infrastructures, facilities, and services throughout the City. This requires employees to inspect facilities and construction/improvement sites.

UAS technology would help enhance safety and accelerate projects by allowing employees varying views of a development without the need to climb on roofs or ladders. For example, an employee could deploy a UAS and carefully inspect a roof and gutter system in great detail from the street/sidewalk nearby. UAS equipped with thermal imaging technology could also allow operators to inspect pipes, wires, and other equipment.

The Public Works Department seeks to use the UAS to provide:

- Roof/gutter inspections
- Canopy inspections
- Roadway improvement project oversight
- Environmental assessments
- Project management

Fire Department

UAS technology has proven to be a valuable asset during active fire events as well as during incident investigations. Several local fire departments are utilizing UAS for their operations: Alameda County Fire Department, Menlo Park Fire District, Fremont Fire Department, and the San Jose Fire Department are acquiring the technology.

UAS technology provides the ability for commanders to have a bird's-eye view of an event, allowing for asset allocation decisions as well as fire-fighting strategy and monitoring of smoke and other chemical plumes. Equipped with thermal imaging technology, commanders can also monitor hot spots throughout an event to help with suppression strategy and, after an event, to help ensure the fire is completely extinguished.

The Fire Department seeks to use UAS to provide:

- Lifesaving efforts during/after natural disasters
- Active monitoring of fire events
- Hazardous material incident management
- Mass casualty incident management
- Evidence and scene documentation

Police Department

UAS technology has been put into practice as an invaluable tool for law enforcement. California agencies, such as the Sunnyvale Department of Public Safety, Fremont Police Department, the Modesto Police Department, the Alameda County Sheriff's Office, and the Chula Vista Police Department, are currently using UAS systems to enhance overall police response. Other agencies, including the San Jose Police Department and Santa Clara Police Department, are in various stages of considering UAS programs.

Providing real-time aerial views of active incidents allows officers to work safely and efficiently and provide commanders with better situational awareness. For example, traditionally, when a suspect has fled from police and is hiding, officers would search the area on foot and with police canines, if available. UAS equipped with thermal imaging and a high-resolution camera would greatly improve the chances of locating

the suspect, lessen the chance of officers and/or suspects being injured, and could limit the need for officers to enter private property as part of the search.

In addition, UAS technology provides investigators with the ability to document a crime scene or a traffic collision quickly and accurately with aerial video and photographs.

The Police Department seeks to use UAS to provide:

- Aerial perspectives of an incident/investigation for situational awareness
- Evidence collection and documentation
- Searching for and locating lost or missing people
- Disaster response and recovery
- Response to suspected explosive devices or dangerous scenes
- Crime/collision scene documentation and/or reconstruction

Technology Platforms

There are a variety of UAS platforms, cameras, and software available for municipal operations allowing for the secure dissemination of video throughout an event as well as varying flight platforms/software with different levels of flight autonomy.

For example, most off-the-shelf and/or commercially available UAS products are flown directly by a pilot, have built-in camera systems, and include a small amount of autonomy, which can be turned on and off as needed. Examples of autonomous functions include obstacle avoidance and the ability to return to a specific area if the signal is lost or in an emergency. There are also more robust systems which can be flown remotely and even some with complete autonomy, and many with a combination of the two, which allow for video streaming to a large number of devices as the incident is occurring.

Mission and budget are two main factors to consider when deciding which system(s) to purchase and/or deploy, and City staff suggests that the City consider testing both technologies for a variety of applications.

UAS Deployment Requirements

All UAS flights must be conducted in accordance with Federal Aviation Administration (FAA) guidelines, and any policy adopted by the City would be in compliance with FAA Rules. Specifically, the UAS Rule, “Operation and Certification of Small Unmanned Aircraft Systems” (Part 107), governs UAS operations and sets forth operation, registration, and operator certification requirements. In addition, Part 107 authorizes operators to obtain waivers of certain rules for special circumstances (such as operations at night or in restricted air space), where there is a legitimate public purpose for such operations, and the FAA finds the UAS will not endanger other aircraft or people and property on the ground or in the air.

In addition, public agencies wishing to operate drones for public purposes must obtain a Certificate of Authorization (COA) from the FAA. To obtain this authorization, the public agency must submit to the FAA a Public Declaration Letter which attests to its valid existence as a public agency and certifies that it will operate its UAS only for public, noncommercial purposes.

UAS equipment is deployed by at least two people consisting of a pilot and an observer, who function as a team. The pilot operates the UAS for the mission, generally switching between watching a controller screen and visual observation of the UAS itself. The observer maintains visual contact with the UAS throughout the flight, looking for any other aircraft and/or obstructions, and keeps radio contact with flight towers (if necessary) and any others involved in the mission (command post, etc.).

The Police and Fire Departments have explored the use of UAS through research of programs operated by other municipal agencies, reviewing publications and articles, and testing a UAS platform during a concert event at Shoreline Amphitheatre. This experience has helped inform the UAS policy for Council consideration.

Summary of Council Direction

At the Study Session regarding City use of UAS on April 9, 2019, the City Council heard staff present about City UAS use, listened to community comment, and ultimately directed staff to develop an overarching City Council policy governing the responsible use of UAS. The City Council also requested staff conduct community outreach to hear and address any questions and/or concerns.

ANALYSIS

Based on this direction, staff developed a City Council policy which has been reviewed and accepted by the Council Policy and Procedures Committee on August 27, 2019.

City Council Policy Development

Following the April 9, 2019 Study Session, staff drafted a City Council policy intended to address questions and concerns about government use of UAS technology, especially related to how privacy will be maintained and how the collected data/evidence will be retained and used. The policy is intended to be the framework for departments deploying UAS technology, and those departments will develop specific operational policies and procedures for any UAS operations with strict adherence and accountability to the Council policy and all relevant regulations and laws.

The use of the UAS raises privacy considerations. The protection of individual civil rights and the reasonable expectation of privacy remain key components of any decision made to deploy UAS. Operators will take reasonable precautions to avoid inadvertently recording or transmitting images that infringe upon an individual's right to privacy. This includes consideration by the operator on when to turn on/off the recording function and the route of the UAS during deployment.

The following uses would be prohibited:

1. Conducting any business other than official City business;
2. Conducting random/proactive surveillance activities;
3. Targeting a person based solely on individual characteristics, such as race, ethnicity, national origin, religion, disability, gender, or sexual orientation; or
4. Placing weapons on the UAS.

Data Collection and Retention

1. All video, photo, and sound recordings retained as a public record will be collected and stored in compliance with an approved digital evidence management system.
2. Data will be maintained in accordance with the City's records retention schedule or as required for criminal and/or civil proceedings.

3. Unauthorized use, duplication, publication, and/or distribution of UAS videos and images are prohibited.
4. Release of video, photo, and sound recordings shall be in compliance with relevant Public Records Act laws with requests made through the City Clerk's Office.
5. Requests for deletion of accidental recordings shall be completed in accordance with current department policy.

Department Roles and Responsibilities

1. Each department will assign a staff person who will be responsible for managing that department's UAS program and ensuring compliance with applicable Federal, State, and local laws, regulations, as well as policies. Contact information for staff responsible for UAS operations will be available on the City's website.
2. Departments shall adopt UAS use guidelines in order to inform residents on the City's use of UAS by, but not limited to, law enforcement, fire, emergency medical, and public works functions. These guidelines will be available to the public through the City's website.
3. Training will be conducted as required by current FAA rules and regulations and managed by department program supervisors. Regular training will include, but not be limited to:
 - a. Civil liberties and privacy;
 - b. Safety and risk mitigation;
 - c. Current industry best practices and standards; and
 - d. Cross-training with other City departments.

Community Outreach and Public Comment

At the Council's direction, staff also conducted a public information campaign, proactively seeking concerns and questions from the community through in-person and online opportunities.

On August 5, 2019, the City published a public service announcement video requesting community participation in an information session held on August 15, 2019. The video was disseminated on the City's various social media channels to include the Police Department's robust community network. The community was encouraged to attend, ask questions, and be engaged in the process as the City explores the use of UAS technology.

On August 13, 2019, the Police Department published the latest episode of the Silicon Valley Beat featuring a guest speaker from the FAA. In this episode, the responsible use of UAS technology was discussed, including relevant laws and impacts for government entities interested in using UAS.

The episode has reached over 2,500 people directly through iTunes and Facebook and many more through additional shares on other social media channels available throughout the City.

Additionally, throughout the podcast, the community informational session scheduled for August 15 was also discussed, as was the ability to live-stream the meeting and interact and ask questions for community members unable to attend in person.

On August 15, 2019 at 7:00 p.m., a Community Informational Meeting was hosted at the Police Department. Staff from Public Works, the Fire Department, and the Police Department presented to community members who were present as well as to those attending via live stream. Five community members attended the meeting in person and less than five were streaming the meeting throughout the presentation. The live stream is available on the Police Department's Facebook page.

At these community outreach and public comment opportunities, staff received overall favorable comments for the City to adopt a UAS program, and no new issues or concerns were identified. Questions about privacy protections were noted, and the proposed City Council Policy and subsequent department policies and procedures have measures to address those concerns.

FISCAL IMPACT

The summary of staff recommendations in this report, and based on Council direction, are fully funded for this fiscal year with funds appropriated as part of the Fiscal Year 2019-20 Adopted Budget and/or through a grant.

CONCLUSION

UAS technology has quickly become an invaluable tool for municipal governments throughout the country. The proposed City Council Policy ensures all UAS technology utilized by the City of Mountain View is deployed responsibly, holding the privacy and civil rights of our community at the forefront.

It is recommended that the Council adopt the City Council Policy on the Use of Unmanned Aircraft Systems.

ALTERNATIVES

The Council could consider the following alternatives to the recommendation:

1. Council could decide not to adopt a City Council policy on the Use of Unmanned Aircraft Systems and not allow them.
2. Council could direct staff to make modifications to the draft policy.
3. Council could provide other direction.

PUBLIC NOTICING

Agenda posting, web and social media advisories, and a copy of the report was sent to stakeholder group members, ACLU, and, as feasible, others who have corresponded with the City Manager's Office on this topic.

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- Attachments: 1. City Council Policy – Use of Unmanned Aircraft Systems
2. Council Policy and Procedures Committee Memo, August 27, 2019