



Legislation Details (With Text)

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Request to Approve a Pilot Program to Operate a Small Unmanned Aircraft System (Drone) by Public Works Staff in Streets and Facilities Maintenance Operations

**SUMMARY AND RECOMMENDATIONS**

Staff requests approval for establishment of a 1-year pilot program to operate a City-owned sUAS, also referred to as a drone, by Public Works Staff in Streets and Facilities Maintenance Operations.

**BACKGROUND**

In January of this year, Public Works purchased a drone with the intent to utilize it in the field for both Facilities and Streets Maintenance operations. Around this same time, the City Manager’s Office initiated departmental discussions to formally catalogue the various cameras in use by the City, guidelines for placement and use, and where and for how long images should be kept (for cameras capable of video storage). Public Works did not use the drone until an initial discussion could be had with the City Council Facilities & Transportation Committee.

**Analysis**

Drone usage, whether for recreation or business, is regulated by the Federal Aviation Administration (FAA). Title 14 of the Code of Federal Regulations (14 CFR) Part 107 regulates non-hobbyist sUAS usage. The following requirements are applicable to flying for the City’s proposed use:

- Pilot must have Remote Pilot Airman Certificate and must pass TSA vetting
- Pilot must be 16 years old
- Drone must be less than 55 lbs. and registered (online)
- Drone must undergo pre-flight check to ensure sUAS is in condition for safe operation
- Can fly in Class G airspace - If within 5 miles of airport, prior notification to air traffic control (ATC) is required (Oakland and Hayward airports)

- Operating Rules, which are all subject to waiver, include -
  - Must keep aircraft in sight
  - Fly under 400 feet
  - Fly during day only
  - Fly at or below 100 mph
  - Must yield right of way to manned aircraft
  - Must NOT fly over people
  - Must NOT fly from a moving vehicle

The FAA's process includes pilot certification and drone registration; pilot certification is held by the drone pilot and similar to motor vehicles, drones should be individually identifiable.

Shawn Allison, who is currently a Streets Maintenance Worker I, has flown drones recreationally for 2+ years. In February, Shawn received his pilot certification, which allows him to fly drones under business applications.

As presented to the City Council Facilities & Transportation Committee, staff is interesting in pursuing this pilot program because drone usage has the potential to improve efficiency of certain operations, reduce costs, and improve safety. Public Works intends to utilize the drone for several applications including: roof inspections; before/after views of CIP projects, including road reconstruction projects; and specific situations, such as along Lake Chabot Road, where the steep slope precludes staff from safely viewing potential geotechnical concerns. At the conclusion of the Committee meeting, Committee members directed staff to move forward with a proposed plan for field implementation of a drone pilot program.

In addition to the requirement for drone flights in San Leandro to file a flight plan with both Oakland and Hayward air traffic control (ATC), the FAA has a free smartphone app, available for both Android and iPhone, called B4UFLY. This application pulls information directly from publicly available FAA data sources and packages the information in a user-friendly and intuitive format, allowing drone pilots to see what flights are occurring in the area and to help plan their flight. As stated on the FAA's website, they hope that the app will prevent conflicts between manned and unmanned aircraft and will support the FAA's primary mission of aviation safety. Airplane and helicopter pilots are not required to send flight information to B4UFLY (its primary target is recreational drone users).

Staff requests City Council approval for a 1-year pilot program to utilize the drone as indicated above. As part of the 1-year pilot program, City staff will work with the City Attorney's Office to implement a policy that expressly states the permissible and prohibited uses for drones. A full year will allow staff to see what seasonal applications it may be useful for. Because flight plans must be submitted to local ATC for every flight, Public Works will maintain a log of each use, indicating the proposed flight plan, duration of use, and whether video footage was saved or not. The drone purchased by the City is a DJI brand, Inspire 2 model and has both a fixed camera and a gimbal camera. It can be used with either a smart phone or tablet, with the ability to store video footage on a memory card. The California Joint Powers Risk Management Authority (CJPRMA) will provide drone insurance coverage to the City, effective July 1, 2017.

### **Committee Review and Actions**

- At the May 3, 2017 Facilities & Transportation Committee, a presentation was made regarding the City's various camera systems/usage by several departments.
- An inventory of cameras currently in use was presented, along with an indication of video ability and capacity to save images, which varies greatly not only by department but also by individual cameras.
- Recommendations from the Committee members and the City Manager were made regarding potential future camera placement.
- Direction provided by Mayor Cutter at the conclusion of this item was to provide a recap of the presentation at a future Council meeting.

### **Fiscal Impact and Budget Authority**

The cost of the drone has been incurred in the 2016-17 operating expenditures. Any additional funds necessary for the regulatory compliance and drone operations will use appropriations already approved by Council for the new fiscal year. No new funding is required.

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