



# Albemarle County

## Legislation Details (With Text)

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**AGENDA DATE:** 9/13/2017

**TITLE:**  
Donation of Unmanned Aerial Device

**SUBJECT/PROPOSAL/REQUEST:** Acceptance of Donated Unmanned Aerial Device

**ITEM TYPE:** Consent Action Item

**STAFF CONTACT(S):** Walker, Kamptner, Eggleston, Oprandy, Lagomarsino

**PRESENTER (S):** Howard Lagomarsino

**LEGAL REVIEW:** Yes

**REVIEWED BY:** Douglas C. Walker

**BACKGROUND:** Albemarle County Fire Rescue (ACFR) began researching the viability of the establishment of an Unmanned Aerial Systems (UAS) Program last fiscal year. During this process, Crutchfield learned of our research through conversations with Virginia Department of Emergency Management (VDEM) and the UAS Education program at Piedmont Virginia Community College (PVCC). Crutchfield expressed a desire to donate a UAS to ACFR. The donation will include the UAS and a flight-training simulator. The total value of the donation is estimated to be one thousand five hundred thirty-nine dollars (\$1,539).

**STRATEGIC PLAN: Thriving Development Areas:** Attract quality employment, commercial, and high density residential uses into development areas by providing services and infrastructure that encourage redevelopment and private investment while protecting the quality of neighborhoods; **Natural Resources Stewardship:** Thoughtfully protect and manage Albemarle County's ecosystems and natural resources in both the rural and development areas to safeguard the quality of life of current and future generations; **Quality Government Operations:** Ensure County government's capacity to provide high quality service that achieves community priorities

**DISCUSSION:** A growing number of fire rescue organizations are establishing UAS programs to overcome

specific challenges with providing fire rescue services. Challenges include limitations on initial response staffing, scenes requiring rapid assessment of a widespread area, disaster assessments, and safety and efficiency of personnel and the public.

Listed below are some specific areas where a UAS program provides benefits to the organization:

- Structural Firefighting
  - Rapid 360 degree scene survey
  - Imagery in large structures such as industrial buildings and malls
  - Rapid roof assessment
  - Record incidents for investigation, documents and training
  - Pre-planning and training events
- Wildland Firefighting
  - Assessment of smoke sightings
  - Assess fire movement
  - Triage of scene
  - Track crews and progress
  - Record incidents for investigation, documents, and training
- Rescue
  - Rapid survey of search area, despite the terrain, to focus resources - for example, searching a section of the Rivanna River for a missing Kayaker. Once found, quickly deploying all resources directly to that spot.
  - Survey with video/thermal imagery use without placing personnel in danger
  - Motor vehicle collision - assessment in difficult terrain or over a large area.
- Hazardous Materials
  - Scene size up without endangering personnel
  - Atmospheric monitoring safely, rapidly and with one person
  - Monitor “hot-zone” activity
  - Document scene
- Disaster Response
  - Rapid damage assessments
  - Assess dams, levees, flood walls and other mitigation efforts
  - Rapid notification of people
  - Evaluate roads and evacuation routes
  - Document response, damage and effects of disaster for FEMA

Based on an analysis of historical emergency response data over the past year, staff conservatively estimates that a UAS would have proven useful about 150 times. Recent examples where a UAS would have provided value include the Walnut Creek brush fire, several rescues on Preddy Creek Trail and the Rivanna River, several hazmat incidents (overturned tanker/cargo trucks), and several missing person searches.

Staff is developing an operating policy for the use of the unmanned aerial system (UAS) and will ensure that the policy complies with federal and state codes, regulations and rules. Before the drone may be used, the County will be required to register the drone with the Federal Aviation Administration and obtain a Certificate of Authorization from that agency. Use of the drone will also comply with Virginia Code §19.2-601, which restricts the use of drones for criminal law enforcement or regulatory violations. Special attention will be given to ensure compliance with individual privacy rights.

**BUDGET IMPACT:** PVCC offers a UAS training program that meets FAA requirements to operate a UAS in the public safety realm. To adequately provide support for the ACFR UAS program, staff identified the need to train (6) UAS pilots at a total cost of four thousand five hundred six dollars (\$4,506). Funding to support staff training can be covered in ACFR’s current operating budget.

Annual operating costs include repair and maintenance of the UAS and associated equipment (replacement rotors and batteries) and are estimated to be one thousand dollars (\$1,000). These costs can be covered within ACFR's current repair and maintenance budget.

The estimated life expectancy of the UAS is five (5) to seven (7) years and replacement costs are estimated to be one thousand six hundred dollars (\$1,600). The replacement will be planned and budgeted within ACFR's small capital items replacement plan and operating budget.

**RECOMMENDATION:**

Staff recommends that the Board adopt the attached Resolution (Attachment A) to accept the donation of the Unmanned Aerial System (UAS) and associated equipment from Crutchfield.

**ATTACHMENTS:**

A - Resolution