# Unmanned Aircraft System Community Discussion

## March 2022

City of Phoenix

# Presentation Overview

**UAS/UAV Program Benefits**

**Program Development History**

**Citywide Governance Structure**

**Safety Measures and Regulations**

**Fire, Police and Parks Program Overviews**

# Potential Benefits


Picture Sourced from Google – Dreamstime.com

- Increased Safety

- Workforce Multiplier

- Greater Efficiency and Effectiveness

- Infinite Opportunities

# Program Development History


Picture Sourced from Google – space.com

- Efforts Began in 2016
- Multiple City Departments Involved
- UAS/UAV Technology Rapid Growth
- Utilization of Subject Matter Experts
- Development of a UAS/UAV Program Administrative Regulation

# Proposed Governance Structure

**City of Phoenix**

**Unmanned Aircraft Systems (UAS) Policy**

- Provides Parameters for All Departments
  - Technical, Safety & Privacy subcommittee
  - Executive Committee
- Ensure Transparency
- Ensure Consistency
- Protect Privacy
- Path for Future Department Programs

# Safety Measures
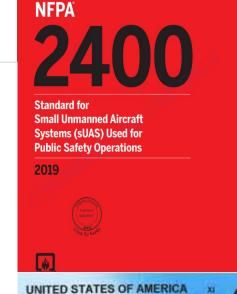


Picture Sourced from Google – unsplach.com

- FAA Certified Pilots
- Comprehensive Training Plans
- UAV Technology
  - GPS, Obstacle Avoidance, Return to Home
- UAS Acquisition approved by TS&P Sub-Committee
- Comprehensive Inventory and Maintenance Plan

# Regulations



- Federal Aviation Administration(FAA)
- City of Phoenix A.R.
  - Information Technology Security Standards
  - Privacy Standards

# PHOENIX FIRE DEPARTMENT

## PROPOSED

## CITY OF PHOENIX UNMANNED AIRCRAFT SYSTEM

# Overview



- Program Foundation
    - Initial Purchase of 3 UAS
    - Strategic Deployment
    - 12 FAA Certified Pilots
- Program Manager
- National Standards

# Uses



Picture Sourced from Google – onyxstar.net

UAS are quickly deployed to provide critical information to emergency responders

- Mountain Rescues
- Structure Fires
- Hazardous Materials
- Brush/Wildland Fires
- Non-Emergent Applications
- 1200 Annual Incidents

# Fire Related Regulations



- National Fire Protection Agency(NFPA)
- Phoenix Fire Department SOP
  - Information Technology Security
  - Privacy Standards

# Privacy and Security


Picture Sourced from Google – dronegenuity.com

- Only Used For PFD Operations
- Will Follow FTC Guidelines
- Enterprise-Grade Security
- Data Management
- All procedures have been reviewed and vetted by the City's privacy attorney

**PHOENIX POLICE DEPARTMENT**
**HOMELAND DEFENSE BUREAU**

UAS

COMMUNITY
DISCUSSION

Picture Sourced from Google – nytimes.com

# Equipment

**Samples of some of the UAS platforms currently being considered.**

* Additional manufacturers and aerial platforms are being considered based on operational demand.

## Evidence

- DJI Mavic 2 Pro
  - Compact
  - Camera sensor for scene mapping
  - Operating temp 104°

## Events

- DJI Matrice 300
  - Longer flight time
  - Payload options for larger scenes
  - Operating temp 122°

## Operational

- Brinc Lemur S
  - Indoor flying – not GPS controlled
  - Robust design
  - Operating temp 120°

# UAS Program Structure

Homeland Defense Bureau will administer the UAS program.

A sworn supervisor will be assigned as the Homeland Defense Bureau UAS Program Manager.

All requests from the field will require authorization of a lieutenant or higher to request UAS support.

Requests for UAS support will go to the UAS Program Manager who will review the request and deploy the appropriate platform and pilot.

# Authorized Uses

**Operations:** To support the operational deployment of officers and equipment in emergency situations (e.g., incidents involving hostages and barricades, support for large-scale operations and other temporary perimeter security situations).

**Investigations:** To document, measure, locate evidence at crime scenes, collision scenes or other major incidents (e.g., disaster management, incident response, large-scale forensic scene investigations).

**Event Management:** Assist decision makers (e.g., incident command staff; first responders, other city departments and city officials) in understanding the nature, scale and scope of an event or incident – and for planning and coordinating an effective response of resources and personnel.

# Prohibited Uses

Will not do surreptitious surveillance or unreasonable search and seizure.

Will not weaponize any UAV.

Will not be used to impinge or restrict 1st Amendment right to assemble/free speech.

Will not use facial recognition technology.

Will not record sound during flights. May be used for 2-way communication during negotiations if the technology becomes available.

# Data Collection and Storage

Recorded UAS flight data is accessible by the pilot, investigators and the UAS Program Manager.

Digital media collected by the PPD through the UAS program will only be for official purposes.

Evidence collected will be impounded following current department policy.
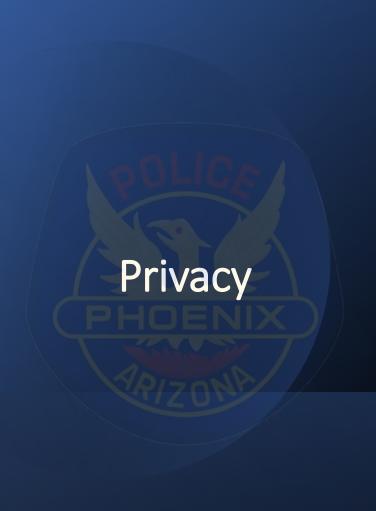
Information stored in a Criminal Justice Information System (CJIS) compliant, encrypted cloud-based environment.

When to record will be determined by the on-scene supervisor and operational needs. Not recording while flying enroute to the scene.

# Privacy

**It is the policy of the City of Phoenix that the operation of the UAS and all UAVs shall be carried out in a manner that respects and protects personal privacy consistent with the Unites States Constitution and Federal, State, and local law.** The impact on privacy and civil liberties shall be balanced against the governmental interests leading to a deployment. The Phoenix Police Department will only collect information and use, retain, or disseminate information obtained for a properly authorized purpose.

# Privacy

- Will not be used to violate a person's reasonable expectation of privacy.

- Will not impinge on the right to free speech.

- Will not be used in a prolonged or extensive tracking or surveillance.

- Will not use facial recognition technologies or software in the UAS.

- Will not harass, coerce, target, or discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law.

# Flight Reporting

UAS operations will be captured in a database for tracking and transparency.

Flight telemetry along with date, time, location and purpose of flights.

Ongoing log of flight information with incident, successes or challenges.

The Phoenix Police Department will conduct flight audits of UAS deployments to adjust training, equipment or operational needs.

# Transparency

The Phoenix Police Department will submit policy changes to the UAS Technical, Security and Privacy subcommittee and UAS Executive Committee for approval prior to implementation.
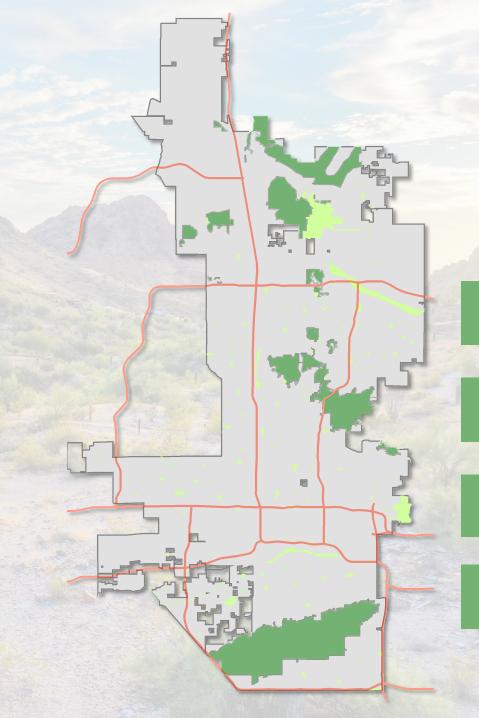
Flight records will be available to the general public via Public Records request(s).

Ongoing community engagement and education on safe drone operations as needed.

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# Desert Parks and Preserves

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**Over 41,000 acres of Desert Parks and Preserves**

**Over 200 miles of mountain trails**

**Over 3,500,000 hikers in 2021**

**Locations throughout Phoenix**

**City of Phoenix**
PARKS AND RECREATION DEPARTMENT

# Proposed UAS Uses

**Trail inspection**
- Utilize UAS imagery over time to identify problem trail areas; evaluate erosion and correct trail issues

**Cultural resource management**
- Monitor and manage archaeological sites without foot traffic

**Invasive species identification and monitoring**
- Locate and monitor invasive species outbreaks; plan remediation

**Trash and debris identification**
- Locate and monitor trash and debris areas; evaluate clean up efforts

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PARKS AND RECREATION DEPARTMENT

# Parks: Next Steps

- Submit membership for the City UAS program

- Work with Fire Department to identify appropriate UAS

- Identify appropriate number of pilots to train

- Develop Standard Operating Procedures (SOPs) that adhere to:
  - Federal Aviation Administration(FAA)
  - City Of Phoenix A.R.

- SOPs designed to protect wildlife and Preserves

![City of Phoenix Parks and Recreation Department logo — Thank you]

City of Phoenix
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Thank
you