



**Drones as First Responders: A Community Forum**  
February 7, 2019



# Tonight's agenda

- 6:05 – 6:35: Introductions and remarks by city officials
  - Mayor **Mary Salas**
  - Police Chief **Roxana Kennedy**
  - Police Capt. **Vern Sallee**
  - Police Lt. **Chris Kelley**
  - CAPE representative **Fritz Reber**
- 6:35 – 7:30: Questions and answers



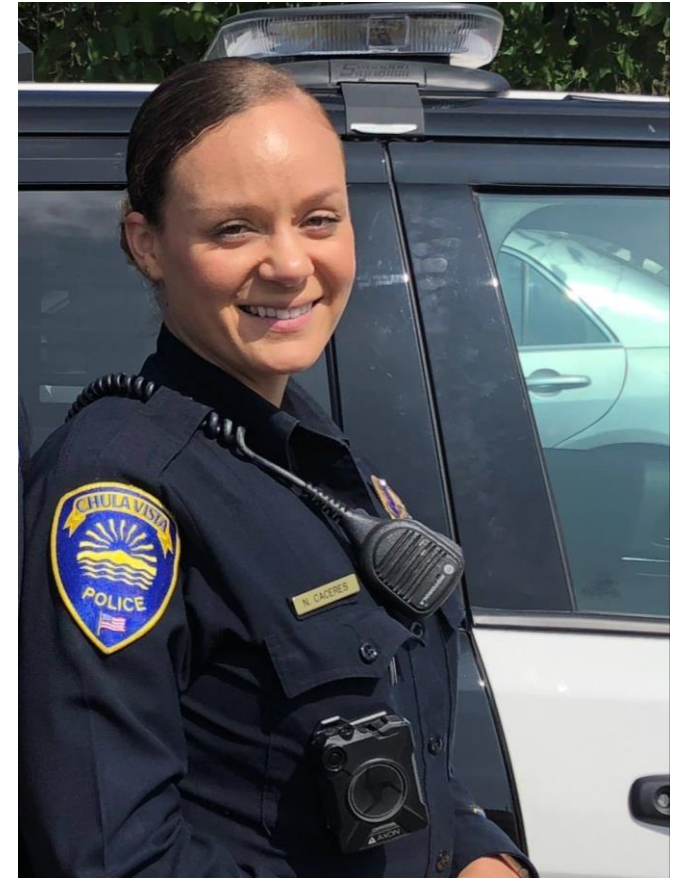
# Chula Vista's Smart City Strategy

- **Smart City Strategic Action Plan – 2017**
  - A roadmap of the city's technology and data work to improve:
    - Public safety
    - Economic development
    - Community and civic engagement
    - Quality of life
- **Measure P (2016) and Measure A (2018)**
  - Half-cent sales taxes to support police, fire and infrastructure upgrades



# Chula Vista Police technology

- **Body-worn cameras** - *Testing began 2010, fully implemented 2015*
- **Computer-aided dispatch (CAD)** - *Upgraded 2017*
- **Traffic signal camera access** - *Enabled 2018*
- **UAS/Drones** - *Planning began 2016, testing began 2017*
- **Traffic signal pre-emption** - *GPS-based testing begins 2019*

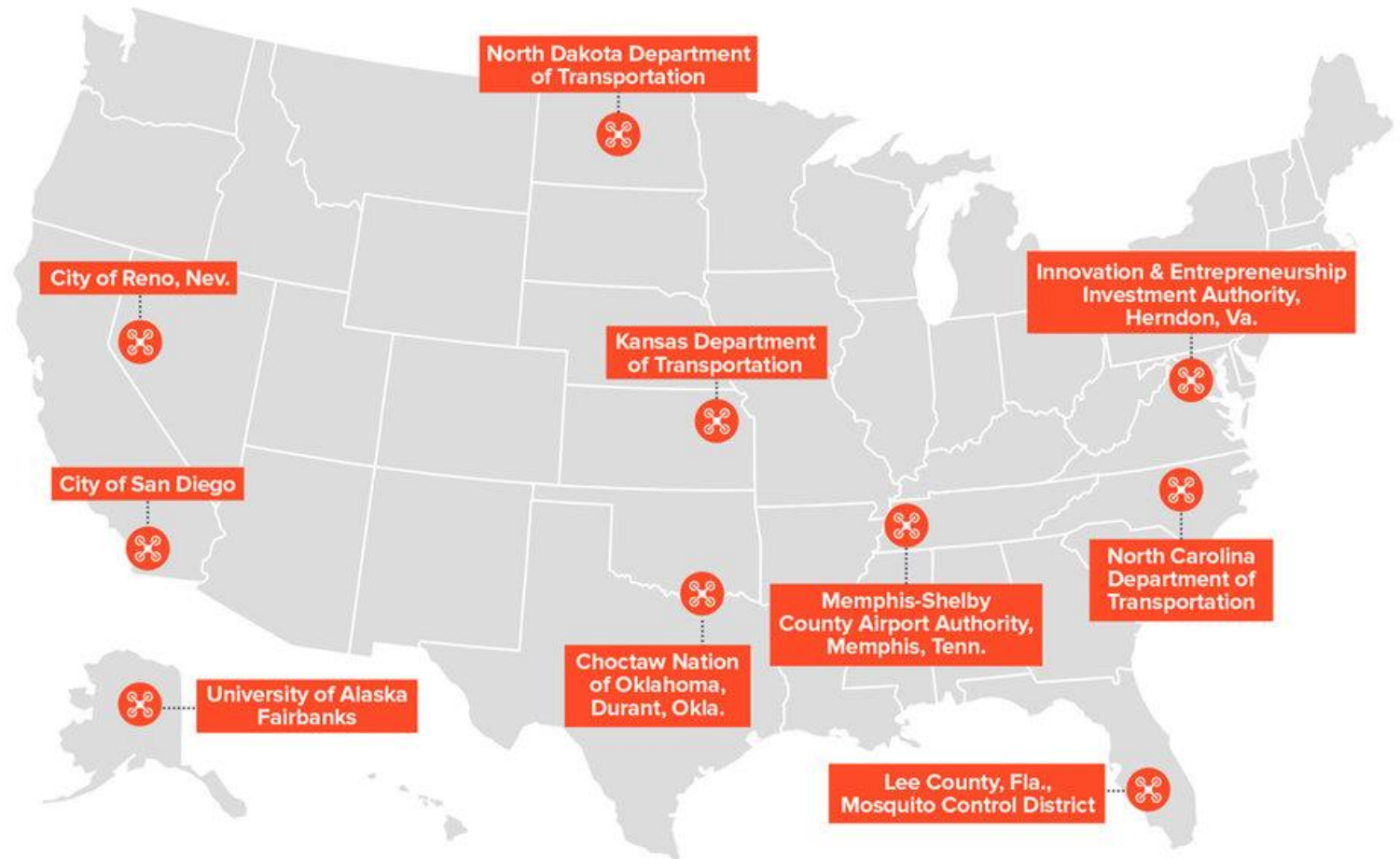






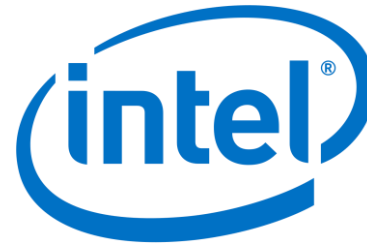
# UAS Integration Pilot Program

- **Federal Aviation Administration (FAA)** chose 10 pilot program sites in 2018
- **Goal:** Help FAA craft new national rules for integrating drones into civilian life



# San Diego Regional UAS Integration Pilot Program

- City of San Diego Office of Homeland Security
  - City of Chula Vista
  - UC San Diego Health System
  - Palomar College
  - Port of San Diego
  - Cape
  - Uber
  - Qualcomm
  - (and many more)



**CAPE**



**Uber**

**Qualcomm**

UC San Diego Health



**AIRMAP**



# San Diego Regional UAS Integration Pilot Program

## Concepts of Operations (ConOps)

1. Smart City, International Commerce and Public Safety
2. Medical and Package Delivery

## FAA Authorizations

- Part 107 Night Operations
- Part 107 Airspace Waiver
- Certificate of Authorization (COA)





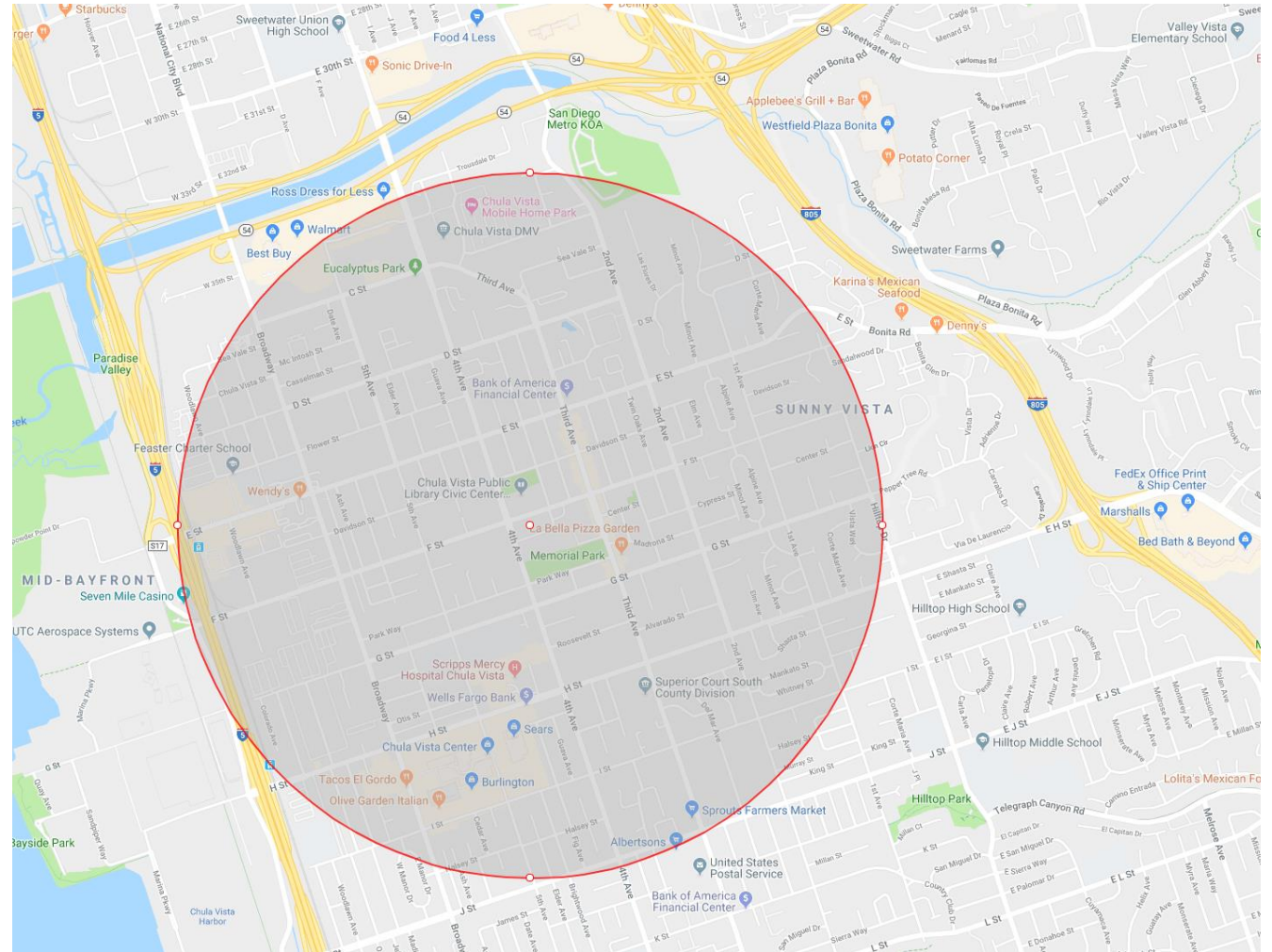
# Fleet and personnel

- Two DJI Matrice 200 drones
- One DJI Mavic Pro
- Two DJI Mavic 2 Zooms
- Nine FAA-certified pilots
  - Part 107 Remote Pilot Certificate



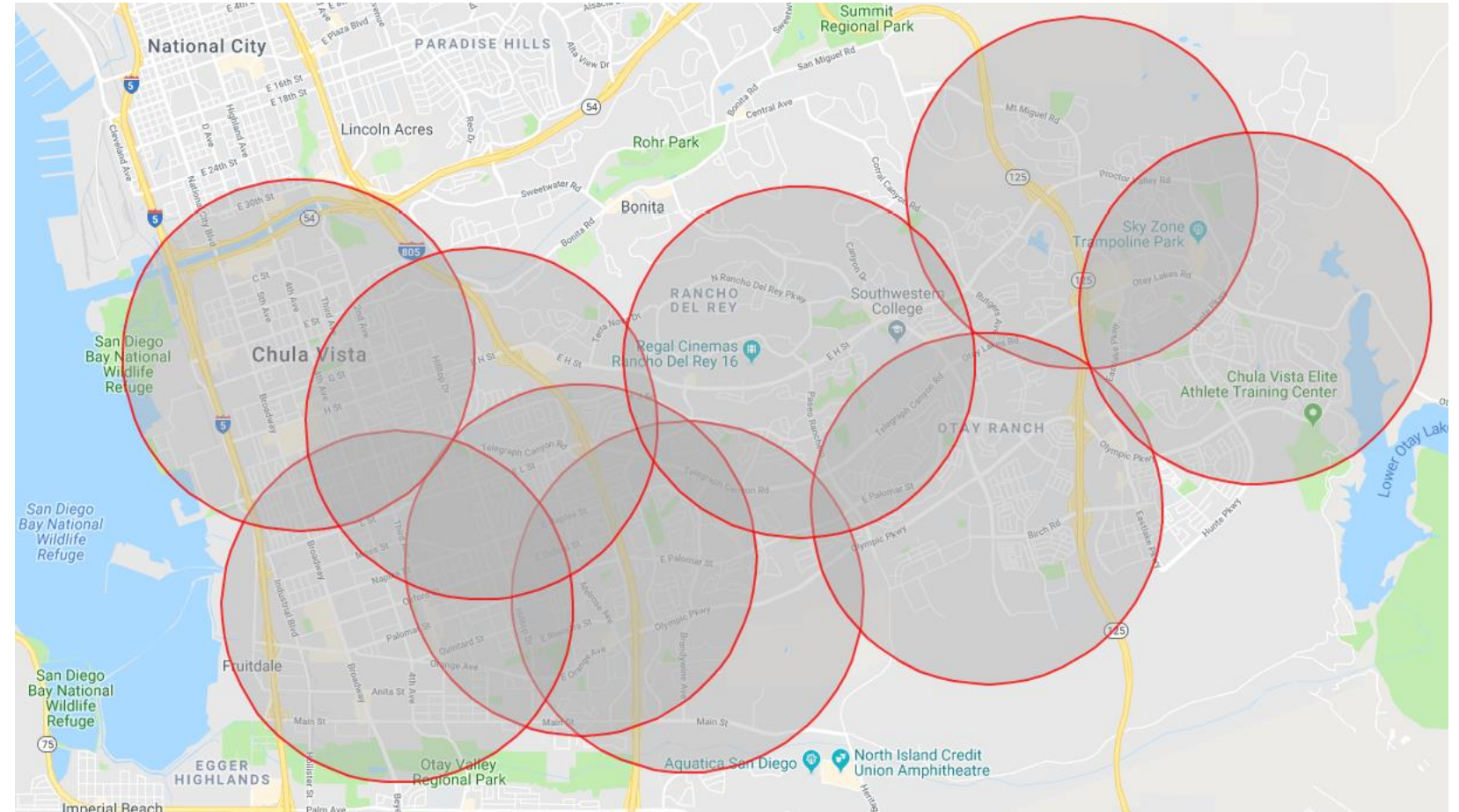
# Current deployment area

- One-mile radius from CVPD headquarters



# Future deployment area

- Nine fire stations provide citywide coverage at 1.5-mile radius





# Use cases

- Verifying complaint of vicious dog at public park
- Identifying size and behavior of brushfire
- Capturing crime scene photos
- Locating homeless encampments in difficult terrain



# Metrics

*From 10/22/18 to 2/5/19:*

- 312 flights
- 231 calls for service
- 75 flight hours
- Contributed to 20 arrests



# Chula Vista PD Policy on UAS

- No intentional observation of locations where a person has a reasonable expectation of privacy
  - Residential backyards, inside of homes or private buildings
- No random surveillance activities
  - Only deployed in response to calls or active incidents
- No discrimination or harassment
- No personal use of police drones
- Any recordings are stored in same database as body-worn cameras and deleted after one year unless part of an ongoing investigation





# Other Limits

## Technical limitations

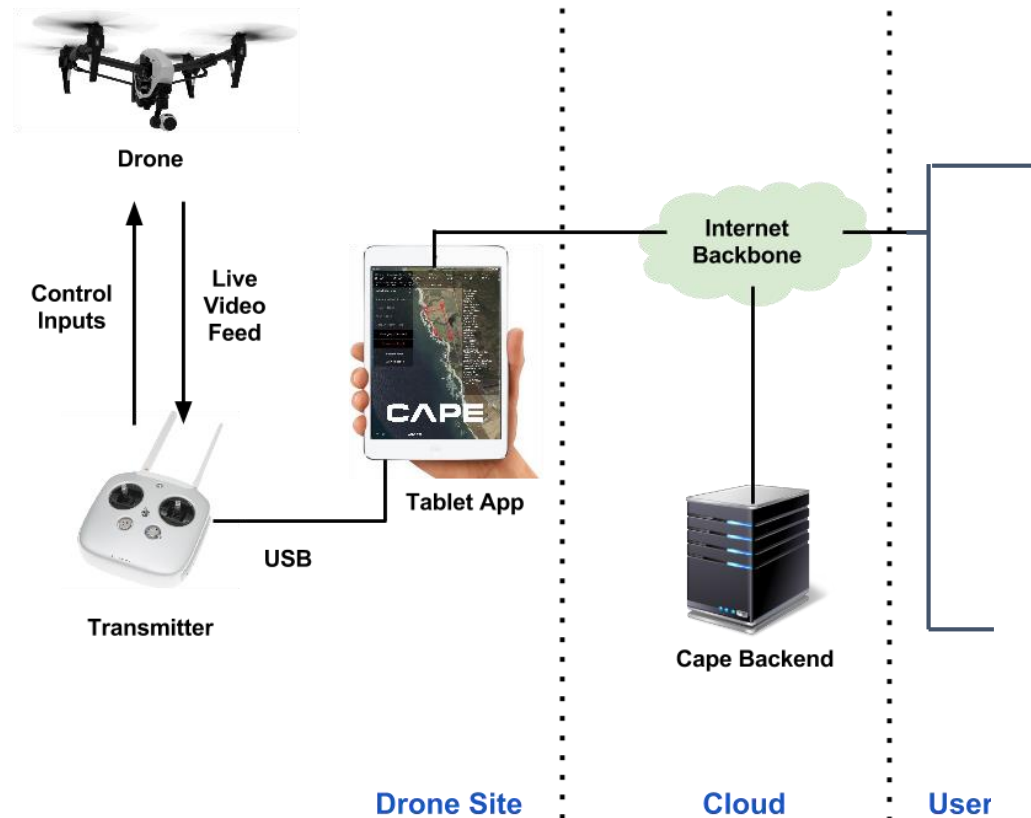
- Battery life
- Magnetic interference
- Software / firmware

## FAA restrictions

- Must remain within line-of-sight
- Must fly below 400 feet above ground level
- Cannot fly a drone over people
- Cannot fly from a moving vehicle
- May only fly during daylight or twilight hours



# How it works



Live video display

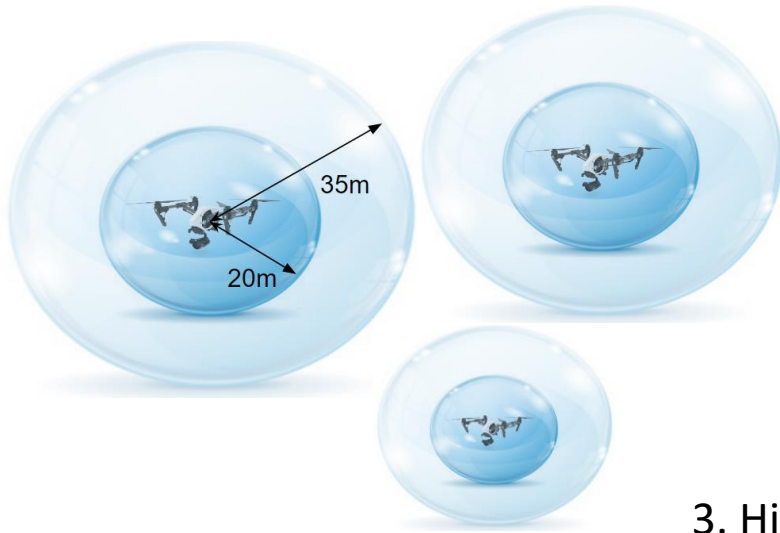


Control Inputs

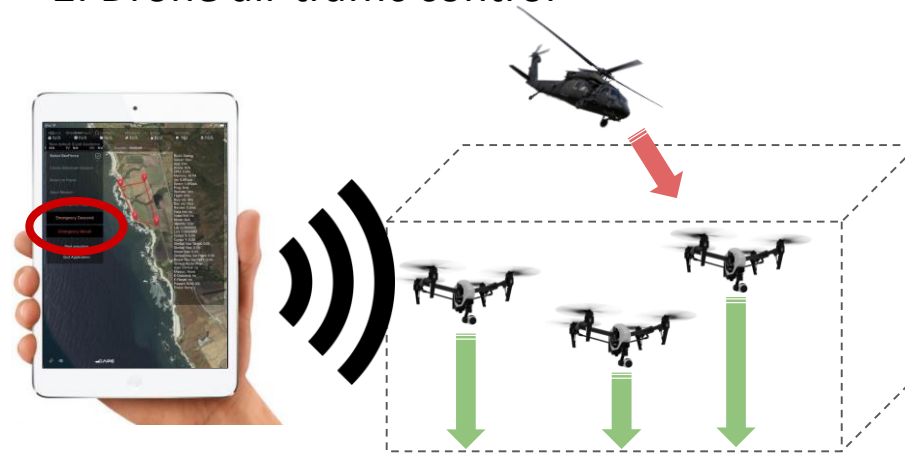


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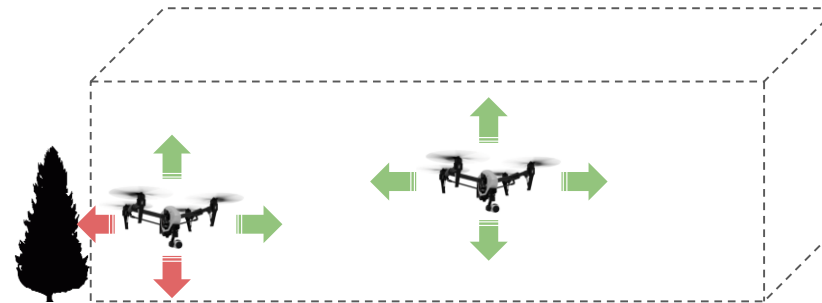
## 1. Collision avoidance between drones



## 2. Drone air traffic control



## 3. Highly customizable 3D geofencing and interactive obstacle creation





# How it works



Photo credit: Eduardo Contreras / San Diego Union-Tribune



# Get involved

- Provide your comments tonight
- Send additional comments or questions to: [UASTeam@ChulaVistaPD.org](mailto:UASTeam@ChulaVistaPD.org)
- Sign up for email updates: [ChulaVistaCA.gov/residents/enotification](https://ChulaVistaCA.gov/residents/enotification)
- Join an advisory group
- Read about other smart city efforts at [ChulaVistaCA.gov/SmartCity](https://ChulaVistaCA.gov/SmartCity)



# Your questions and comments

*Send additional questions or comments to:*  
**[UASTeam@ChulaVistaPD.org](mailto:UASTeam@ChulaVistaPD.org)**

