

California Department of Transportation

UAS Operations

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April 6, 2016



Aeronautics' Agenda

- California Department of Transportation Overview
- Division of Aeronautics Mission, Offices & Partners
- Importance of Aviation to California
- Caltrans' interest in operating UAS
 - History
 - Present
 - Future



Caltrans Mission

- Provide a safe, sustainable, integrated and efficient (multi-modal) transportation system to enhance California's economy and livability.
 - Caltrans maintains 265 State **highways** with 15,104 centerline miles (51,326 lane miles), over 32.5M registered vehicles and 24.6M licensed drivers who traveled >178B miles!
 - Caltrans owns nearly 120 PAX cars & locomotives and partners with AMTRAK to provide **rail** service to 5.3M PAX/year covering >467.2M mi/year over nearly 1000 mi. of track
 - CA has 246 public-use **airports**, nearly 30,000 certificated aircraft and 61,100 FAA certified pilots. 28 Commercial Service airports provided transportation to 188.0M PAX



Division of Aeronautics Mission

- Foster and **promote safety** in aeronautics
- Foster the development California's air transportation system of **244 public-use airports**
- **Encourage** the development of private flying and the general **use of air transportation**
- Effect uniformity of the **laws and regulations** relating to aeronautics consistent with federal aeronautics laws and regulations
- Introduce **context-sensitive, sustainable solutions** to incompatible land use development projects near airports



Division of Aeronautics Offices

Division of Aeronautics – Three Offices and Four Specialty Areas:

- Office of Airports – Aviation Safety
- Office of Aviation System Planning – Compatible Land Use Planning
- Office of Technical Services & Programs – Airport Civil Engineers
- Other Specialty Areas:
 - Funding for Grants & Loans
 - Aviation Noise
 - Environmental Review
 - Track Aviation Related Legislation



Division of Aeronautics Aviation Partners

State:

- Department of Education (DOE)
- Department of Fish and Game (DF&G)
- California Energy Commission (CEC)
- Governor's Office of Planning and Research (OPR)
- Governor's Office of Emergency Services (OES)

Federal:

- Federal Aviation Administration (FAA)
- U.S. Department of Defense (DOD)
- U.S. Department of Agriculture (USDA) – Wildlife Services
- U.S. Department of Transportation (USDOT), Transportation Research Board (TRB) – Airport Cooperative Research Program (ACRP)

Non-Government Aviation Organizations:

- National Association of State Aviation Officials (NASAO)
- National Air Transportation Association (NATA)
- National Business Aircraft Association (NBAA)
- Airplane Owners & Pilots Association (AOPA)
- Association of California Airports (ACA)
- California Airports Council (CAC)
- California Pilots Association (CPA)
- Various universities and other stakeholders



Why Aviation is Important to California?

Aviation is vital for California!

- Provides for commerce centers that are vital for the movement of goods and people
- Contributes nearly 9% of California's employment and output – direct and indirect spending:
 - Contribution to the U.S. Gross Domestic Product: \$154.7 billion (4.8%)
 - Contribution to the U.S. employment: 1.1 million jobs (5.5%)
 - 59,841 active licensed pilot community (11% of U.S. total)
 - 29,211 registered aircraft (10% of U.S. total)



Why Aviation is Important to California?

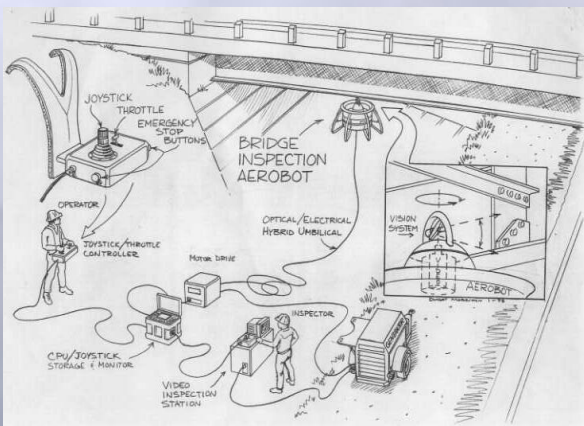
- Airports facilitate international and domestic trade
- They are necessary for “just-in-time” production and delivery
- Each airport is an essential component of the State’s emergency response and disaster recovery operations
- Aviation provides convenient and affordable air travel for tourists, as well as access for companies to conduct business in your local community
- Emerging industry of UAS manufacturing and operations presents economic opportunities



Caltrans UAS Activities

➤ History

- Caltrans Bridge Inspection Aerial Robot, Contract number UCD02-02371, Final Report *Prepared By: Advanced Highway Maintenance and Construction Program (AHMCT) University of California at Davis, October 2008*
<http://www.dot.ca.gov/newtech/researchreports/reports/2008/08-0182.pdf>
- Caltrans Division of Research, Innovation and System Information, Preliminary Investigation: The Use of Unmanned Aerial Systems for Steep Terrain Investigations *Requested by Caltrans Division of Engineering Services, Geotechnical Services, August, 2014*
http://www.dot.ca.gov/research/researchreports/preliminary_investigations/docs/unmanned_aerial_systems_preliminary_investigation_rev8-14-14.pdf
- Division staff attended UAS flight demonstration meeting sponsored by consultants to the California Film Commission in Los Angeles, February 2015



Caltrans UAS Activities

➤ Present

- Received numerous inquiries from various Districts, Divisions, and Offices to operate UAS to improve safety, save money and enhance efficiency.
- Drafted internal document to seek formal Caltrans approval to conduct UAS operations in 2015.
- Preparing responses to Caltrans Innovation Website soliciting ideas to operate more efficiently and cost effectively.
 - Evaluating suggestion to operate UAS in confined areas to enhance worker safety. If the Evaluation Team decides to move the idea forward, acquisition could occur in 3-6 months.
- Recently obtained legal declaration to formally submit application to the FAA for a Certificate of Authorization (COA) to conduct UAS operations.
- Aviation legislation in CA: 13/13 (100%) of bills are UAS related. Ref. http://dot.ca.gov/hq/planning/aeronaut/documents/leg_reports/LR03252016.pdf



Caltrans UAS Activities

➤ Future

- Evaluate more proposals and determine appropriate model and capabilities
- Determine if UAS operations will be in confined spaces or outdoors
- If outdoors, determine if contracting out or internal UAS operations are more suitable
- Internal UAS Operations
 - Determine need and associated UAS capabilities and performance requirements
 - Obtain COA and/or 333 Exemption (if required) to commence UAS operations
 - Acquire UAS to conduct Department business activities
- Contract for UAS Services
 - Determine need and associated UAS capabilities and performance requirements
 - Advertise and award contract to commence UAS operations to support Department business activities
 - Ensure Contractor has obtained COA and/or 333 Exemption to commence UAS operations



Caltrans UAS Proposed Operations

- Landslide and other steep terrain investigations
- Vegetation and soil investigations
- Disaster response
- Bridge inspections
- Topographic surveys
- Roadside and roadway inspections
- Other State agency investigations
- Confined area inspections



Aeronautics' Resources

Your CA aviation resources are only a click away!

The screenshot shows the official website of the California Department of Transportation, Division of Aeronautics. The header includes the CA.GOV logo and navigation links for Home, Travel, Business, Engineering, News, Maps, Jobs, About Caltrans, and Contact Us. The main content area features the 'Division of Aeronautics' title, a welcome message, and contact information for Gary Cashey, Division Chief. Below this, there are sections for 'OFFICES' (listing various regional offices), 'SPECIALTY AREAS' (listing programs like Airport Funding Status, Airport Noise Program, and Environmental Review), and 'EXTERNAL RESOURCES'.

This is a fact sheet titled 'Aviation in California: Fact Sheet' from Caltrans. It provides a comprehensive overview of aviation in the state, including statistics on airports, pilots, and economic impact. Key statistics include:

- 246 Public Use Airports
- 216 General Aviation (GA) Airports
- 26 Commercial Service Airports (Commercial) providing scheduled passenger service
- 65 Special Use Airports
- 8 Seaplane Bases
- 493 Permitted Heliports
- 155 Hospital Heliports
- 191 Corporate Heliports
- 89 Police Heliports
- 28 Fire Heliports
- 2 Connector Heliports
- 87 Private Heliports
- 22 Military, NASA & Joint Use Facilities

 The fact sheet also details scheduled passenger service and air cargo, and includes a section on aviation's economic impact, such as its contribution to the state's GDP and employment.

The cover of the 'California Airport Land Use Planning Handbook' is displayed. It features the Caltrans logo and the title in large, bold letters. The cover art includes a collage of images: an airport runway, a map of California with airport locations highlighted, and a group of people in a meeting. The text on the cover identifies it as a publication from the State of California Department of Transportation, Division of Aeronautics, dated June 6, 2011.

Visit the Division of Aeronautics web site to learn more.

www.dot.ca.gov/aeronautics

