Today’s Workshop Objectives

1. Be able to explain the long-term Vision of Airports GIS
2. Have a basic understanding of Airports GIS requirements
3. Understand which projects need to incorporate Airports GIS
4. Have the knowledge to review and approve a Statement-of-Work
5. Be able to answer Airports GIS questions and guide/help other planners, engineers, program managers, consultants, and sponsors
6. Be able to locate resources
Training Focus

- Best practices; lessons learned
- Advisory Circular interpretation and nuances
- Focus on the “what’s” rather than the “how’s”

Syllabus

- Framework/Introduction
- Geodetic Control -16
- Imagery; Remote Sensing -17
- GIS Overview; Airports GIS background
- Aeronautical Surveys; Airports GIS schema -18
- Airports GIS website portal
- RFQ; Project Scopes; Statements of Work; Plans
- Scoping Meetings; SOW workshop
- Incorporating Airports GIS into varied projects
- Resources; Wrap-Up; Q&A
Introductions

- Name
- Organization
- Position/Responsibility
- Rate your Airports GIS Knowledge/Expertise with respect to your office:
  1. lowest third
  2. middle third
  3. top third
- Top Question you expect to be able to answer at the end of the workshop?

Airports GIS/electronic ALP Vision | Airport Data Transformation

A transformational shift — from "then" to "now" — from "now" to NextGen

What if... the FAA could capture and validate data against a defined standard, import it from and/or export it to an ALP, and make it available electronically for whoever needs it?
**Airports GIS | Multiple Stakeholder Perspective**

**FAA | Air Traffic Organization (ATO)**
- Owns and operates the National Airspace System
- Needs accurate, safety critical (primary ends, NAVAIDS, obstacles) data from airport operational environments
- LPV/WAAS (stn interest in non operational airport data)

**ATO’s Office of Aeronautical Information Management (AIM)**
- Tasked with building FAA’s data sharing environment and infrastructure
- Initially developed Airports GIS and eALP
- Air Traffic-centric

**Airport Stakeholders**
- Communities own and operate airports
- Must meet FAA grant requirements
- If you’ve seen one airport...
  - Local politics often at play
  - Need for communication to projects between multiple departments
- 3,400+ NPIAS airports of varying size

**FAA | Office of Airports (ARP)**
- Stewards of airports data
- Manage programming of funds for the Airport Improvement Program (AIP) and Passenger Facility Charges (PFCs)
- AIP funds must benefit airports (not off airport data collection)
- Develop Airports GIS (programming, standards, and policy) and the eALP

The intriguing challenge of Airports GIS: complexity is added to system development, system ownership, and funding of data collection/maintenance because airport datasets provide benefits that support differing operational missions.

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**Airports GIS | Strategic Implementation Plan**

### Planning and Outreach
- **Strategic Plan - 3 page High level vision**
- **Implementation Plan - 7 page Handout**
- **Guidance/Transition**

### Data Collection
- **Remote Projects (Phases I & II)**
- **Prioritize large-, medium-, small-, non-hub airports**
- **Commercial Service, Towered, Reliever Airports**

### System Development
- **Completed transition of software development**
- **Signed a service level agreement (AIM and Airports)**
- **Selected ESRI for data Viewer**

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>FAA</th>
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<tr>
<td>NPIAS Airports</td>
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<th>FAA</th>
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<tr>
<td>Draft 5300-17C Published 9/30/2011</td>
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<td>Draft 5300-18 in early draft stage (incorporating lessons learned)</td>
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<td>Draft 5300-19 in comment resolution phase</td>
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<td>Draft 5300-YY for reduced data set for smaller NPIAS airports</td>
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### GIS Tool Development
- **The Electronic Airport Layout Plan (eALP) module** will provide planning, measurement, compliance checking and review/comment capabilities
- **The Airspace Analysis Module** will allow FAA and airport staff to check the heights of existing and/or proposed obstacles to navigable airspace.
- **The Modification to Standards Module** will allow FAA staff to review airport requests for a modification to standard airport design criteria
- **The Runway Safety Area Module** will help airports check for conflicts within the runway safety areas
- **The Airport Design Tool** will help airport planners and designers design and FAA staff to check to ensure proposed airport configuration changes fall within acceptable design criteria
- **The Assessment Management module** will allow FAA and airport staff to monitor, predict and allocate resources to better maintain airfield pavement
- **Links to Grants and PFC Data** will allow authorized users to research historic grant and PFC data as a reference
Airports GIS | FY-2011 Accomplishments

**Business Case Analysis**
- Airports Interviews
- Begin tie-in to FAA LOBs

**Policy and Guidance**
- Finalize Strategic Implementation Plan
- Update Implementation Guidance
- Revise and Implement Transition Policy
- Update AC-17; draft AC-19

**Programming and Development**
- Streamline data verification process
- Improve website
- Beta-test deployable eALP module
- Incorporate lessons learned into AC updates

**Data Collection**
- Complete Phase I pilot program
- Marked progress on Phase II
- Fund additional data collection projects

**Outreach and Training**
- Promote IDLE Training
- Continue Workshops
- Explanation of ROIs (from FAA personnel)
- Plan for resident training course at FAA Academy

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**Pilot Program | Key Lessons Learned**

- Scoping is Critical to Project Success
- Training/Outreach Must be On-going
- Two Fronts to Data Management
- Two Fronts to Acceptance and Use

- FAA Guidance Needs Refinement
- Presents New Challenges with Timing

**Pilot Program | Recommendations**

- Consider Careful Examination of Resources
- Manage the Transition
Lessons Learned / Using Airports GIS | DFW Airport

- Airports GIS Pilot Program: Dallas / Fort Worth International Airport (DFW)

DFW: LIVE Parking Status  
DFW: Flight Track Analysis

Source: DFW Airport

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electronic Airport Layout Plan (eALP) | Paradigm Shift

<table>
<thead>
<tr>
<th>Legacy ALP</th>
<th>eALP</th>
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<tr>
<td>Goal was the document</td>
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<td>Single Use</td>
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<td>‣ Red-line Changes</td>
<td>‣ Updated electronic versions</td>
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<td>‣ As-built deliverables?</td>
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<td>Many Attributes</td>
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eALP | An Inevitable Transition

Old Methods

Technological Advances

eALP | Background Imagery

eALP alpha version

Preliminary Screen Cap from eALP draft module
What’s Next Short Term? | Transition Policy

**Immediate Steps**

**Safety Critical Data:** if a survey is required for a project involving safety-critical data, ACs 150/5300-16, -17, and -18 must be used

- Any change to: new/lengthened runways, procedure design, obstruction analysis
- Obstruction survey for new (or changes to existing) Instrument Approach Procedures

No Safety-Critical Data: during the transition period, if a survey is required for a project that does not involve safety-critical data, or if a survey is not required, airports should continue to conduct surveys and collect data using current methods. For projects not involving safety-critical data, airports must incorporate Airports GIS requirements on the following schedule:

- FY-2012 – Large/Medium Hub airports
- FY-2013 – Small Hub airports
- FY-2014 – Non Hub airports
- FY-2015 – Non-Primary airports certificated Part 139 or w/an ATCT
- Other Non-Primary airports in the NPIAS are exempted from incorporating AC150/5300-18 standards for projects not including safety-critical data until further notice

Airports are encouraged to initiate their transition to Airports GIS in advance of the timelines set forth above, as appropriate

**What’s Next Long Term? | FY-2012+**

**Deployment**
- Deploy eALP Module
- Deploy airport-centric website
- Develop lessons learned from eALP

**Policy and Guidance**
- Implement via the Strategic Plan
- Develop (or weave in) GA Guidance
- Develop (or weave in) eALP Guidance
- Update Advisory Circulars 16/18

**Programming and Development**
- Continue to streamline data verification
- Work with AIM: better LOB integration
- Develop additional applications
- LIDAR, Satellite Imagery, NRA coordination

**Data Collection**
- Complete Phase II pilot program
- Fund additional projects via the Transition Policy
- Resolve challenges w/data maintenance

**Outreach and Training**
- Continue workshops and outreach
- Resident training course at FAA Academy
- Develop eALP training course
Upcoming Workshop

Airport Consultants Council
Airports GIS Workshop
February 1, 2012 | Tampa

http://www.acconline.org/