

Airports GIS | Workshop

A Change in Direction

Presented to | Alaska Region Field Personnel, Alaska DOT, and Consultants/Surveyors

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• Date | Wednesday: October 19, 2011

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October 19, 2011

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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

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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



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

Airports GIS | Strategic Implementation Plan

Planning and Outreach

- Strategic Plan - 3 Page High level view
- Implementation Plan - 7 page Handout
- Implement. Guidance / Transition Policy
- Outreach with Industry Groups
- ✓ TRB Aviation GIS Subcommittee
- ✓ AAAE
- ✓ ACI-NA
- ✓ ACC
- ✓ NASAO

Data Collection

- Pilot Projects (Phases I & II)
- Prioritize large-, medium-, small-, non-hub airports
- Commercial Service, Towered, Reliever Airports
- NPIAS Airports
- Collect ALP Digitally (CAD or PDF)
- 5010 Airport Safety Data Program

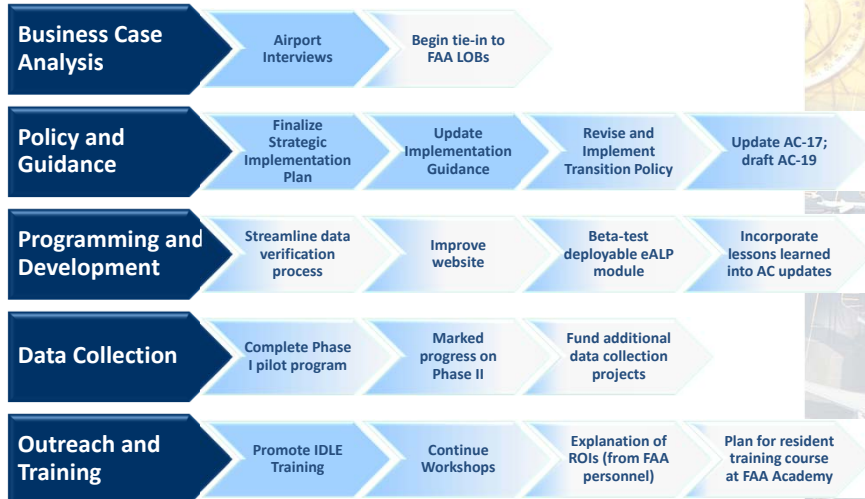
System Development

- Completed transition of software development
- Signed a service level agreement (AIM and Airports)
- Selected ESRI for data Viewer
- Draft 5300-17C Published 9/30/2011
- Draft 5300-18 in early draft stage (incorporating lessons learned)
- Draft 5300-19 in comment resolution phase
- Draft 5300-YY for reduced data set for smaller NPIAS airports

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 **Pavement 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



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
 • Airport Sponsors
- Data Verification Needs Refinement
- FAA Guidance Needs Refinement
- Presents New Challenges with Timing

Pilot Program | Recommendations

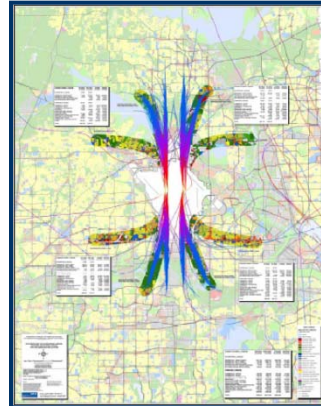
- Consider Careful Examination of Resources
- Manage the Transition

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

Legacy ALP

eALP

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Goal was the document ▪ Single Use <ul style="list-style-type: none"> ▸ Red-line Changes ▸ As-built deliverables? ▪ Mapping Accuracy ▪ Few Attributes | <ul style="list-style-type: none"> ▪ Goal is the data ▪ Multiple Uses <ul style="list-style-type: none"> ▸ Updated electronic versions ▸ As-built data updates req'd ▪ Higher Accuracy ▪ Many Attributes ▪ Metadata |
|---|--|

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eALP | An Inevitable Transition

Old Methods

Technological Advances



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eALP | Background Imagery

eALP alpha version

Preliminary Screen Cap
from eALP draft module



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What's Next Short Term? | Transition Policy

Updated draft pending APP 1/AAS 1 signatures

Immediate Steps

Associated PGL to be released in tandem

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

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What's Next Long Term? | FY-2012+



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Upcoming Workshop

Airport Consultants Council

Airports GIS Workshop

February 1 2, 2012 | Tampa

<http://www.acconline.org/>

