FAA Airports-GIS Program

FAA | Office of the Associate Administrator of Airports (ARP)

- **ARP | Airport Safety and Standards (AAS)**
- **ARP | Airport Planning and Programming (APP)**

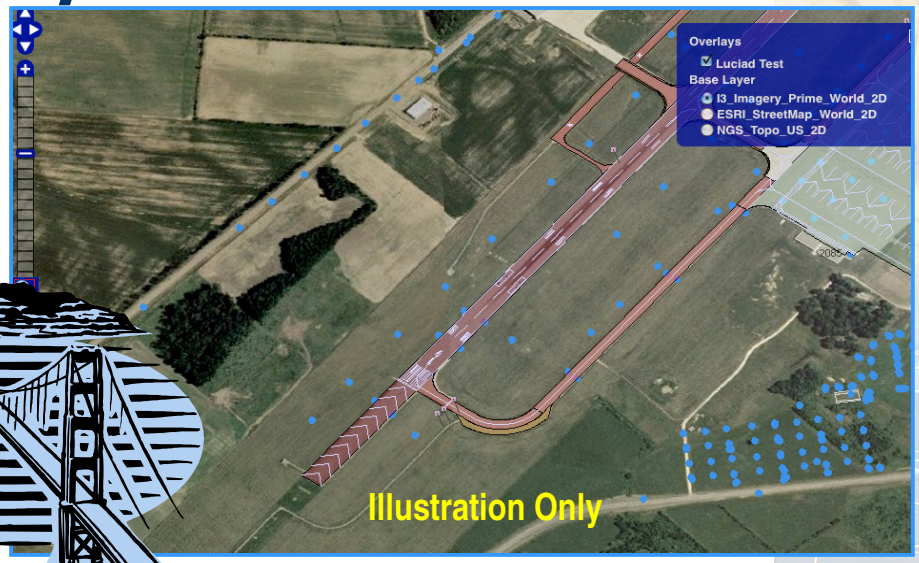
Presented to | FGDC Metadata Working Group

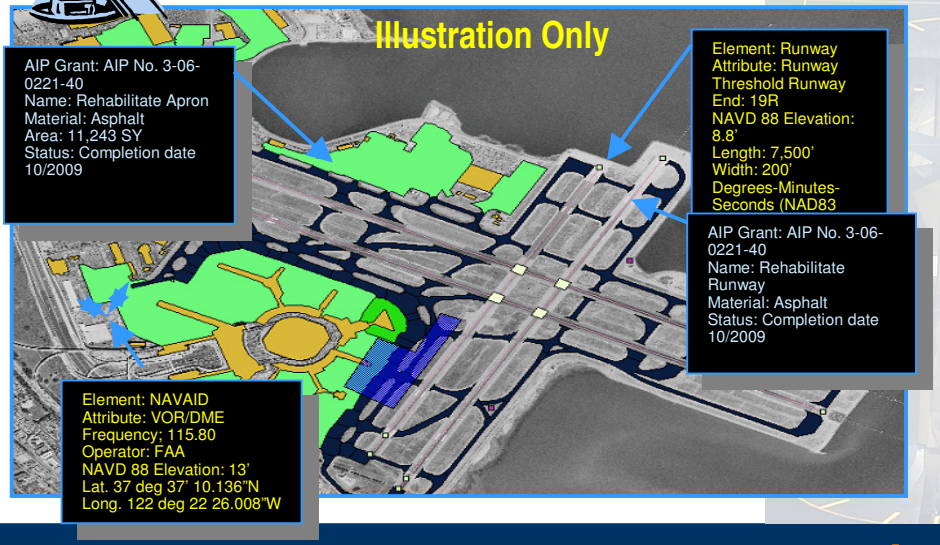
By | Randy Murphy & Charlie Adler

Date | March 10, 2010

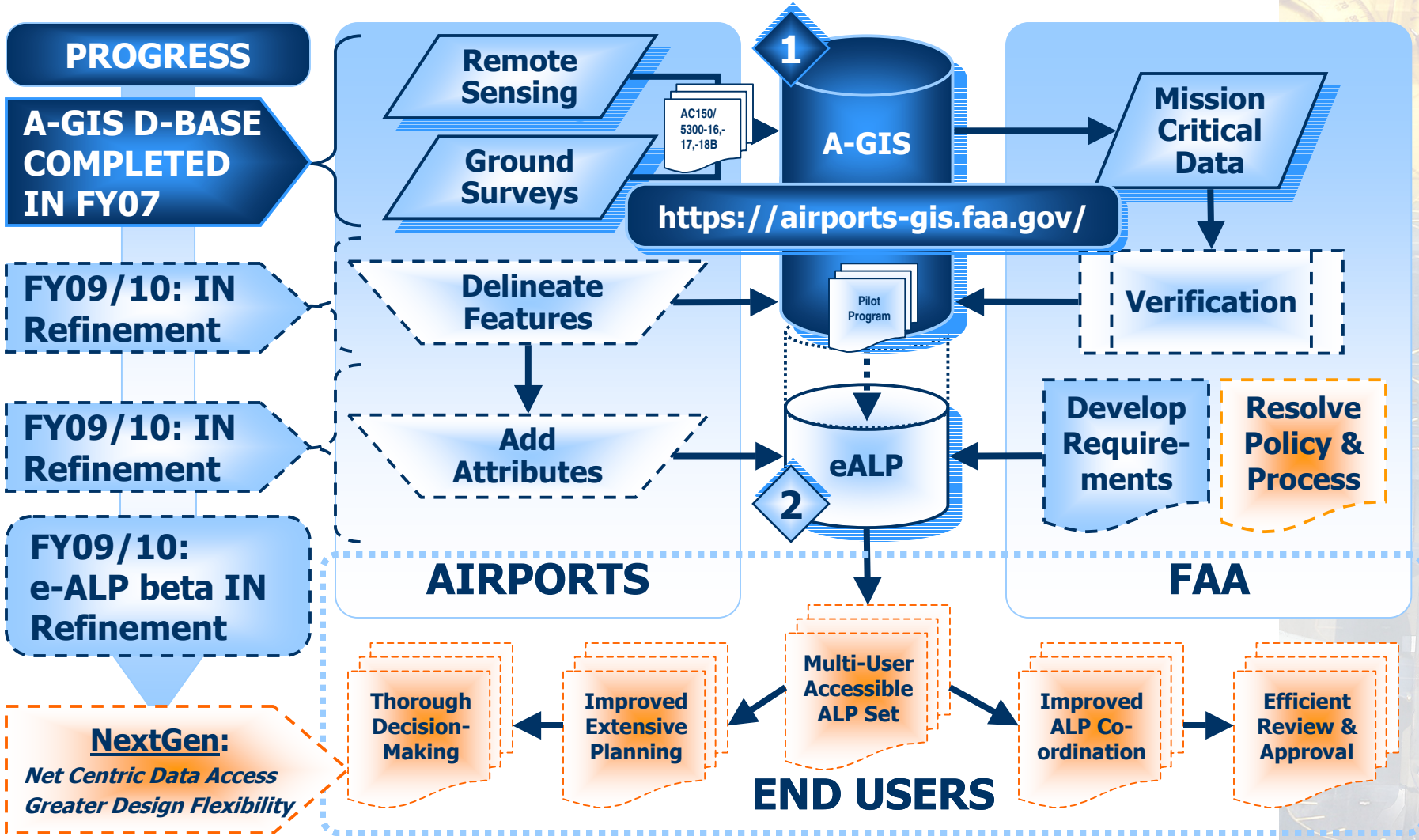
Vision | Airports GIS / electronic ALPs

What if… We could capture and validate Airport data against a defined standard, export it, and make it available electronically for whoever needs it?

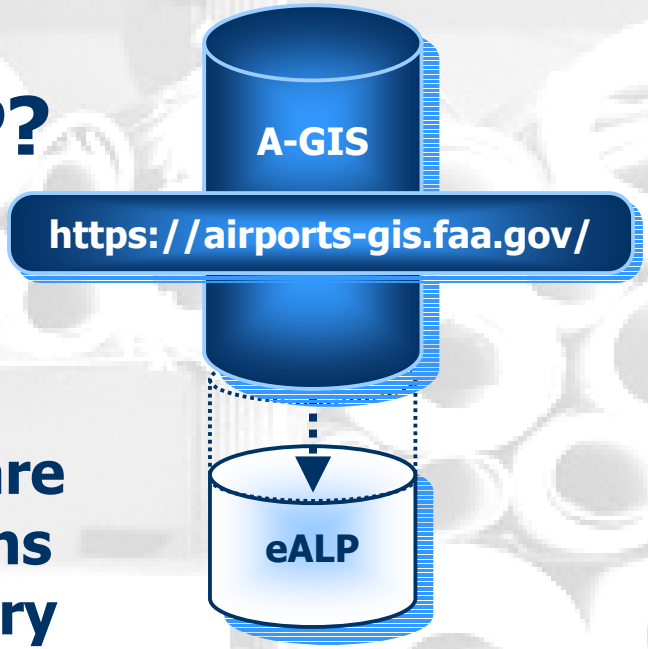




A-GIS and e-ALP | PROCESS



Why is FAA developing eALP?

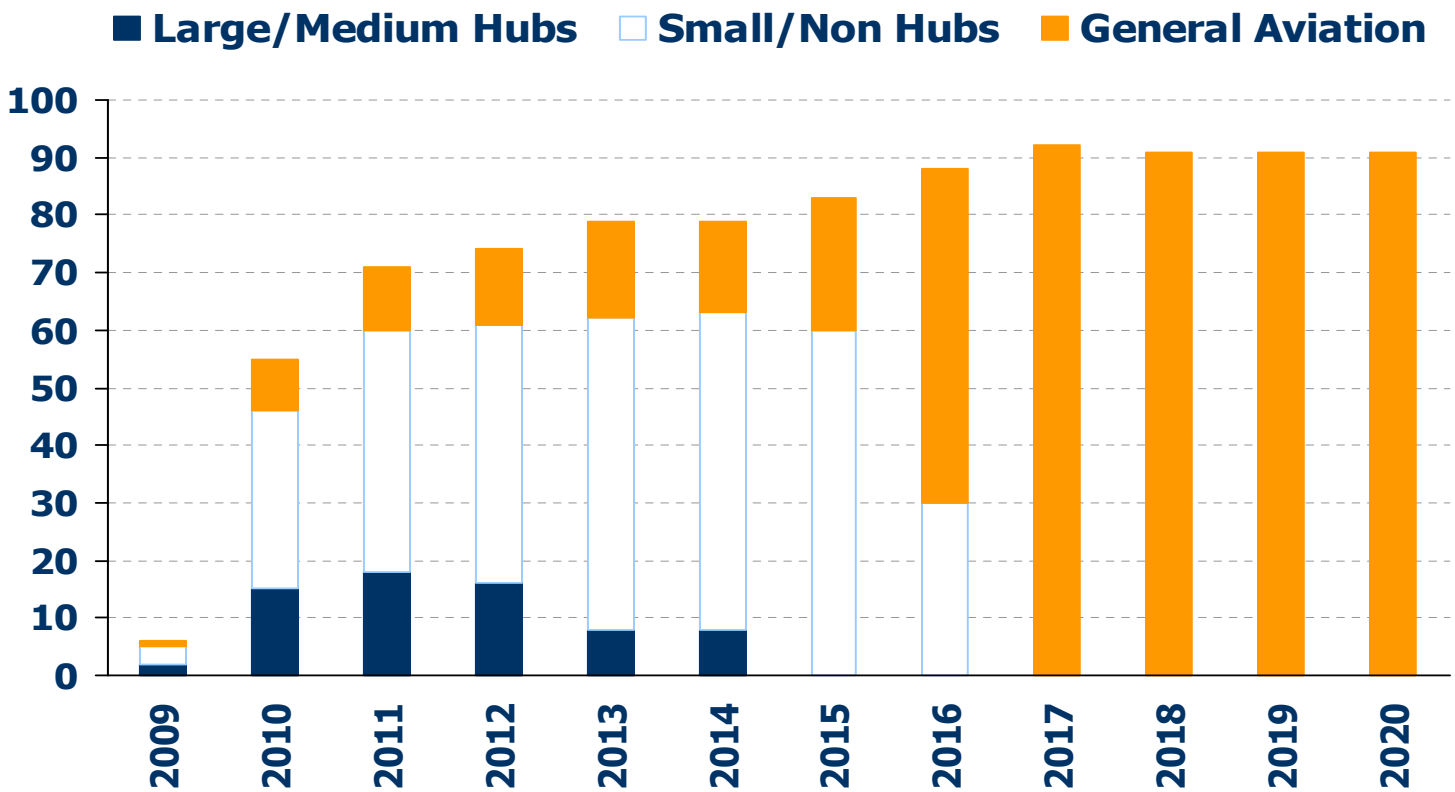


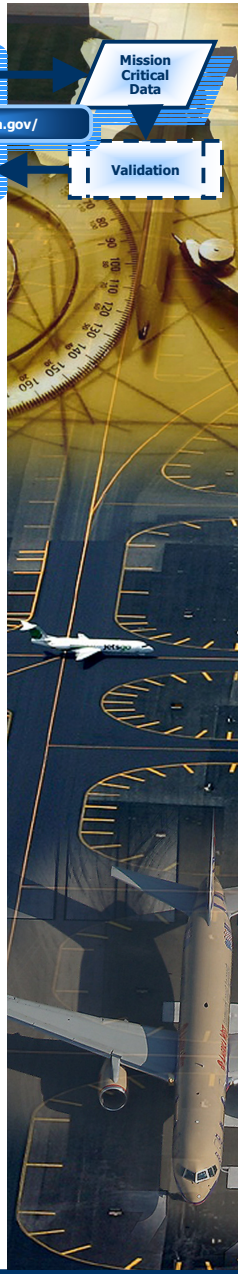
- **Currency | all NPIAS airports required to keep their ALPs current (many are outdated)**
- **Versioning | paper copies of ALPs are typically housed in multiple locations and the "latest" version(s) often vary**
- **Accuracy | plotted ALPs frequently contain airport information that differs from airports data collected for use in other LOBs and/or other airport projects**
- **NextGen | needs real-time, web-based access of the same ("living" document) version by all stakeholders**
- **Diligence | efficient use of updated, precise data (input into A-GIS) for optimal NextGen airport planning, reporting, and decision making**

Benefits of the End-State A-GIS/eALP

	Federal Aviation Administration	Airport Sponsors	Air Carriers / Pilots
Green	✈	✈	✈
Faster Actions with Reduced Costs	✈	✈	
Improved Airport Access		✈	✈
Improved Efficiencies through Envisioned Tools and Data	✈	✈	
Reduced Costs (additional)	✈	✈	
Provides Leverage for Local GIS System to Manage Non-FAA Related Items		✈	
Think Internet, e-Mail, and Google Earth	✈	✈	✈

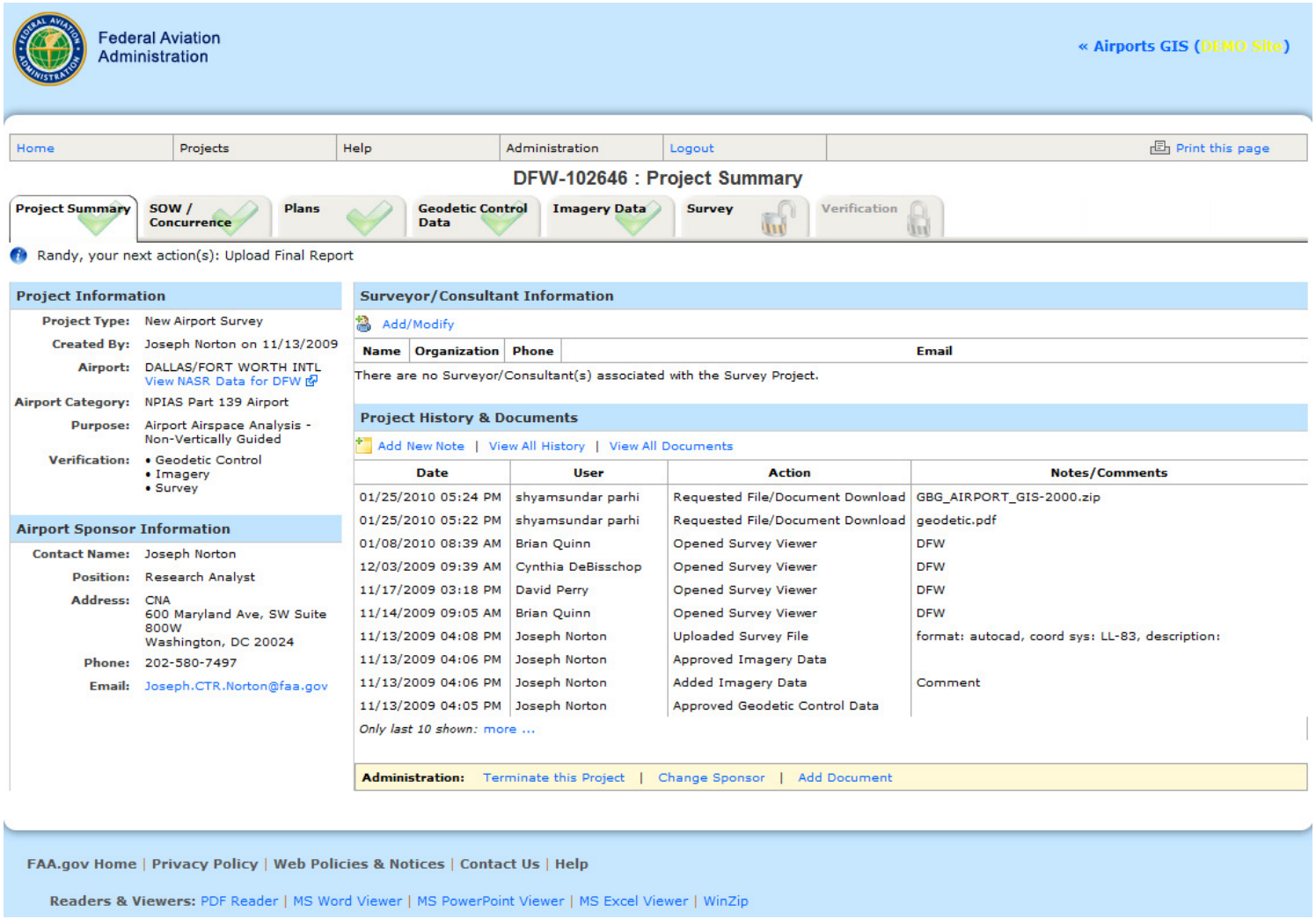
LOOKING FORWARD | A-GIS



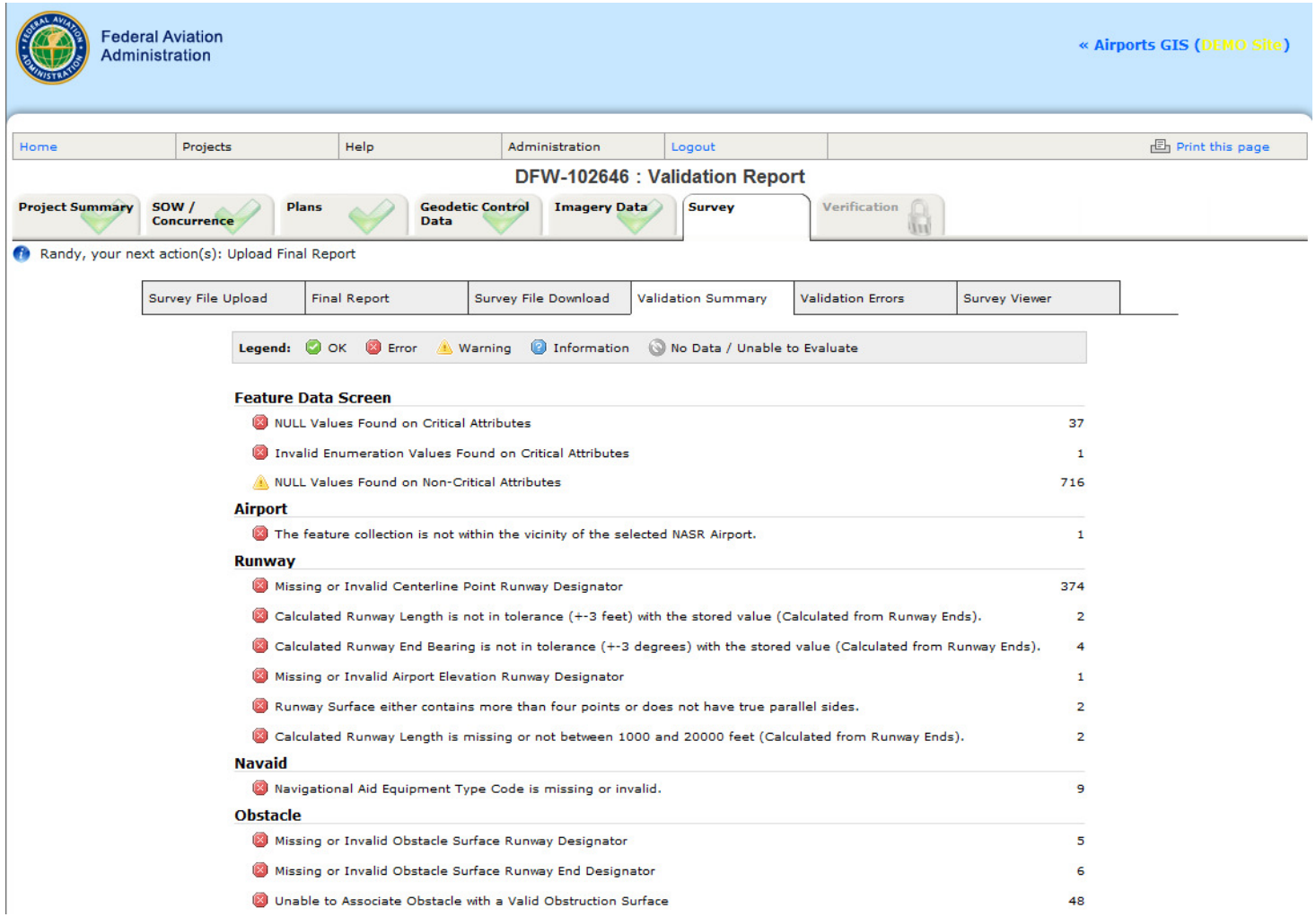


- **Initial roll-out of A-GIS pilot program happening in the Southwest Region; other regions to follow**

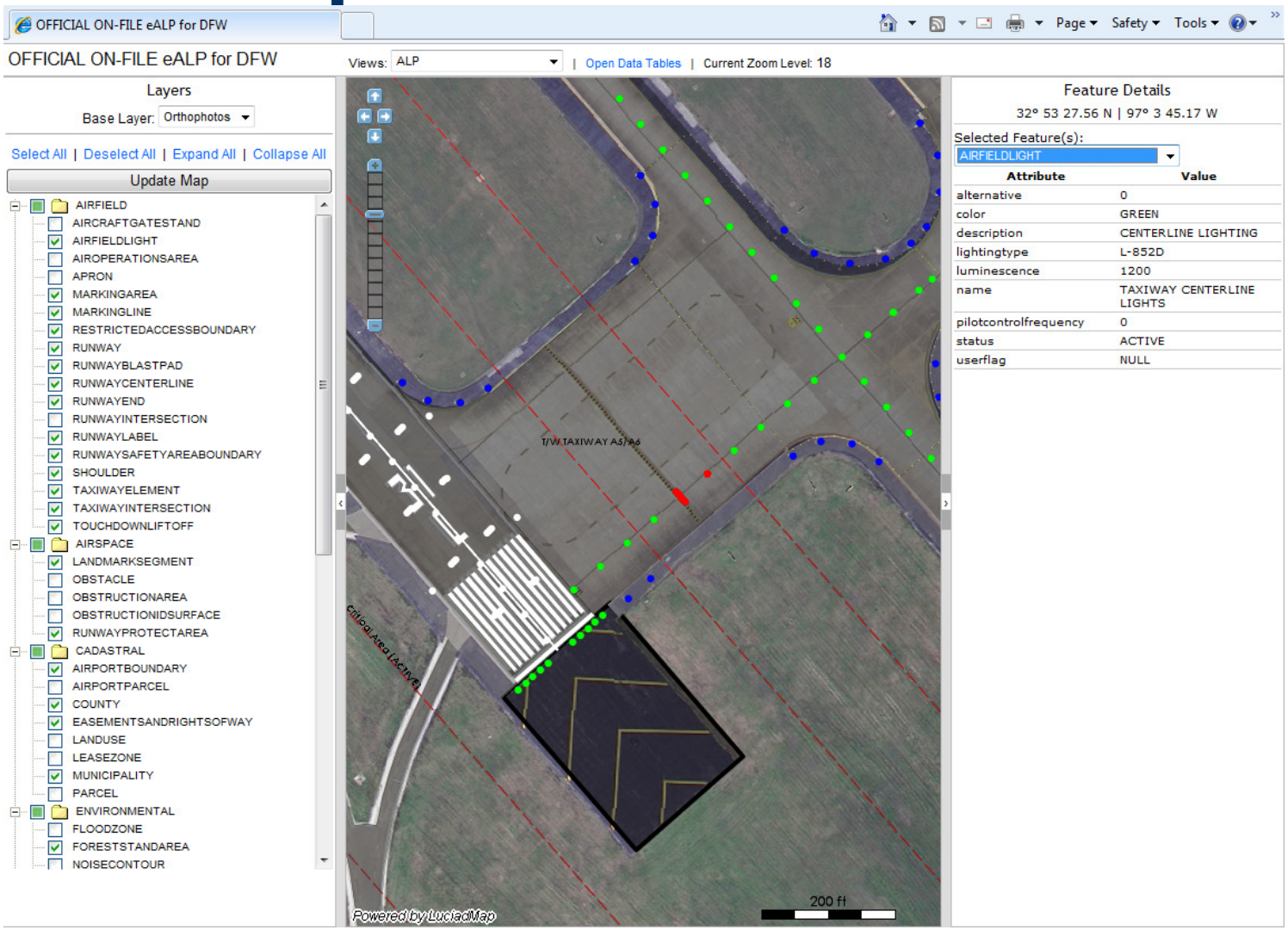
Airports Develop Data



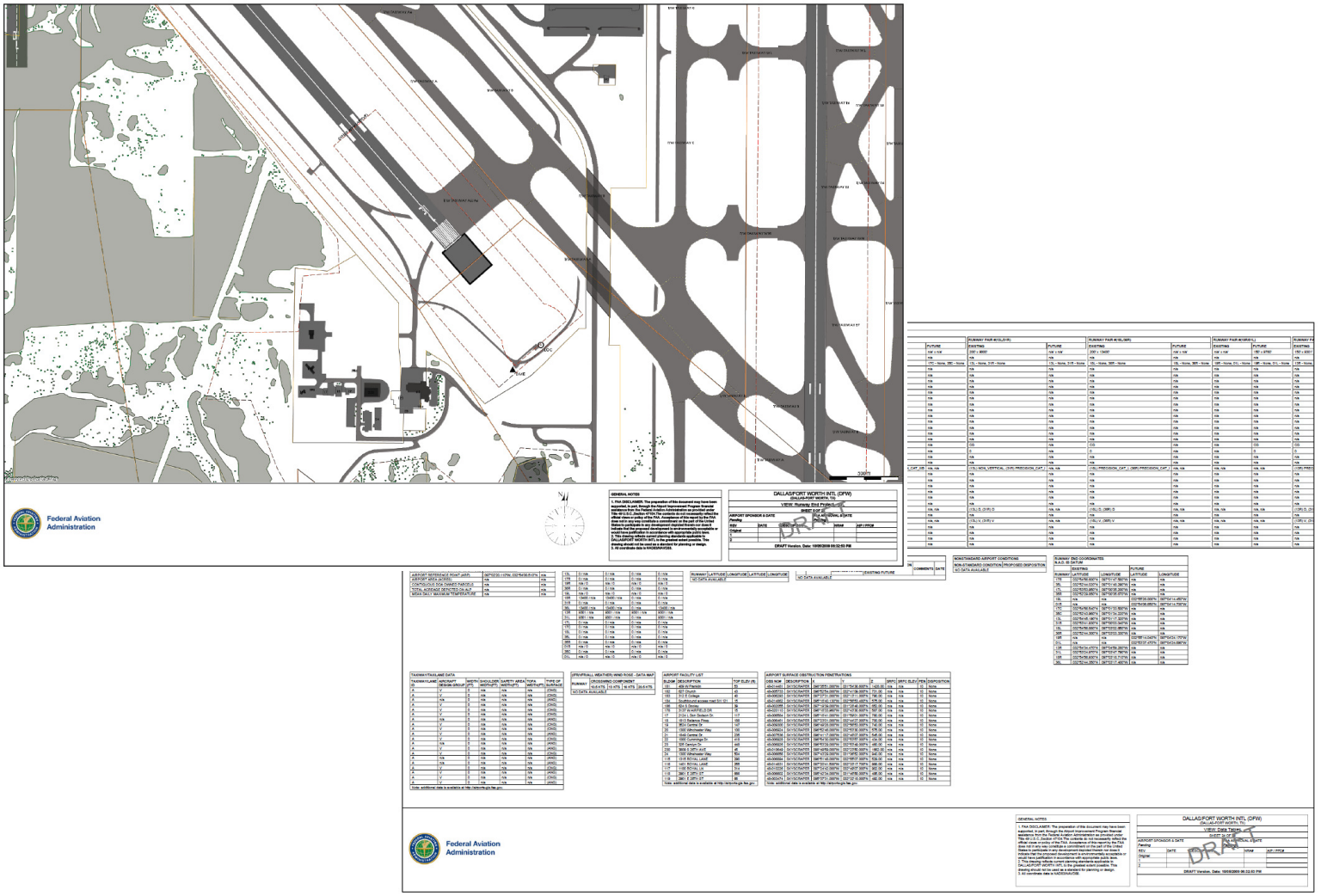
FAA & NGS Validate Data



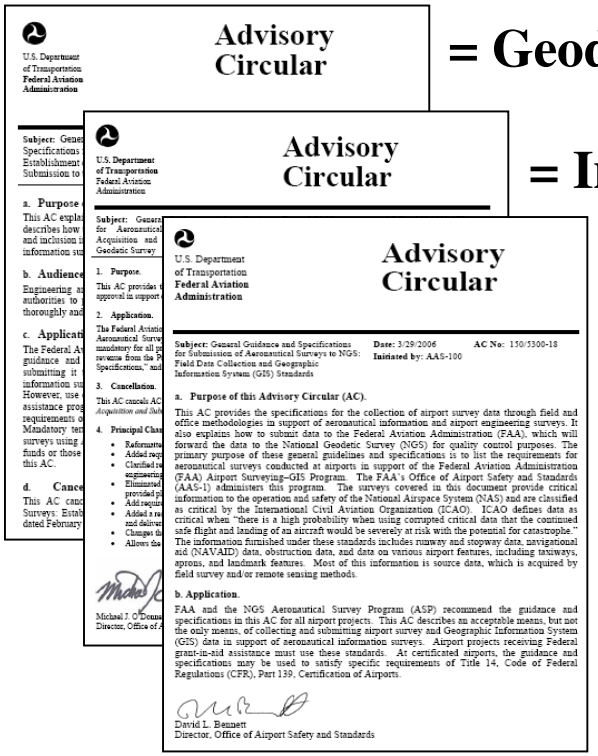
FAA & Airports Use Data – On Line



FAA & Airports Use Data – Off Line



Three "ACs" Define the Requirements

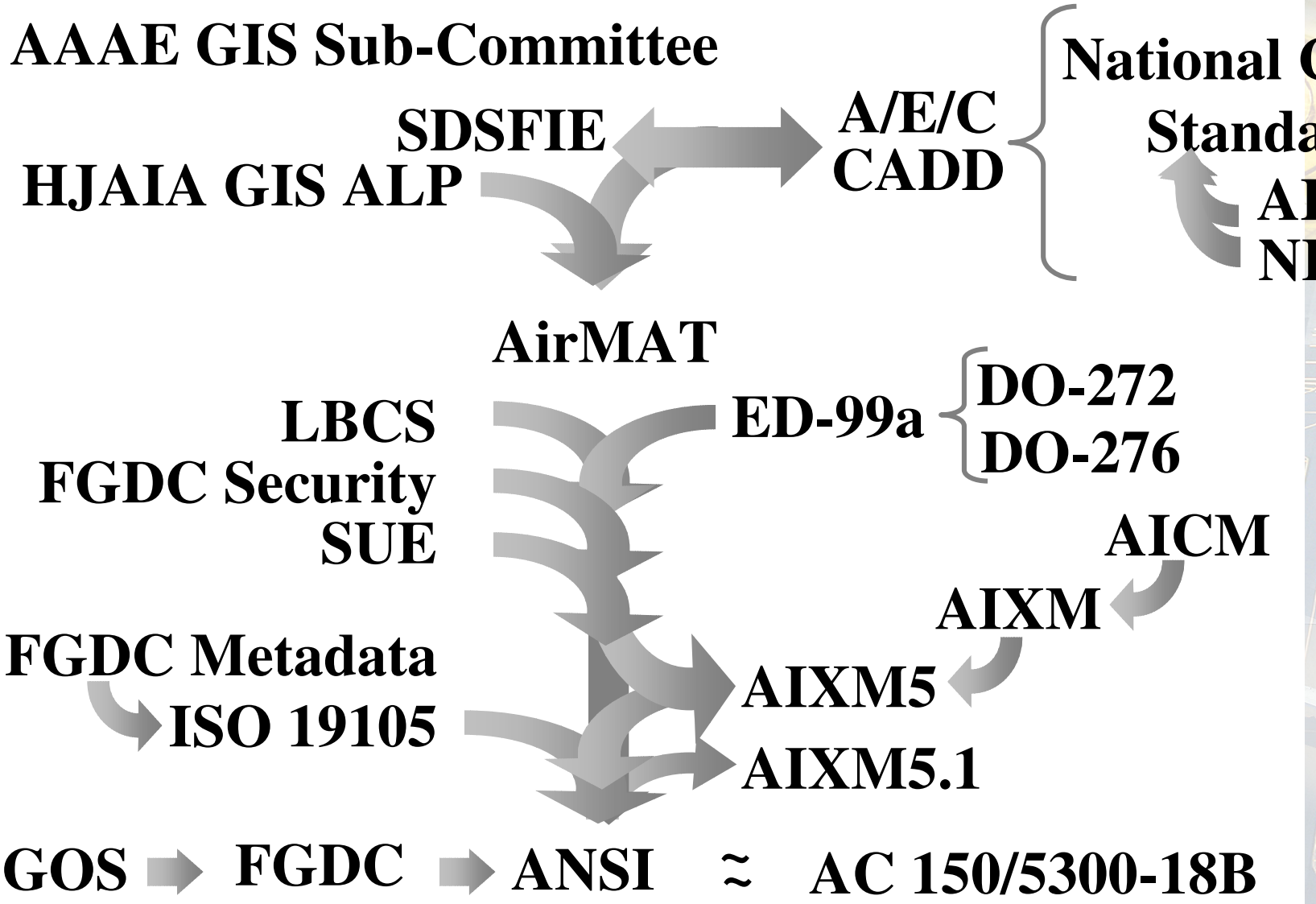


= Geodetic Control

= Imagery

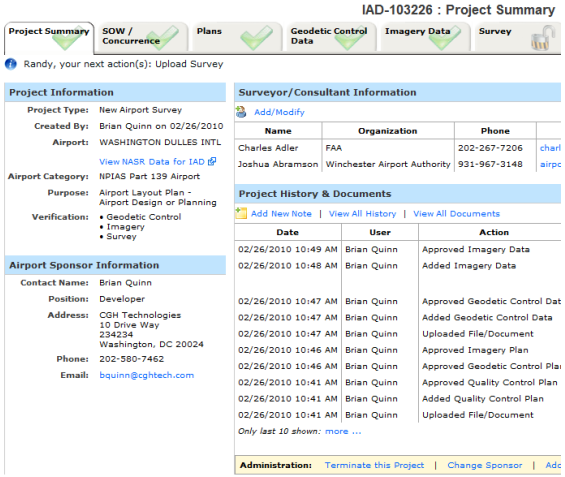
= GIS Data

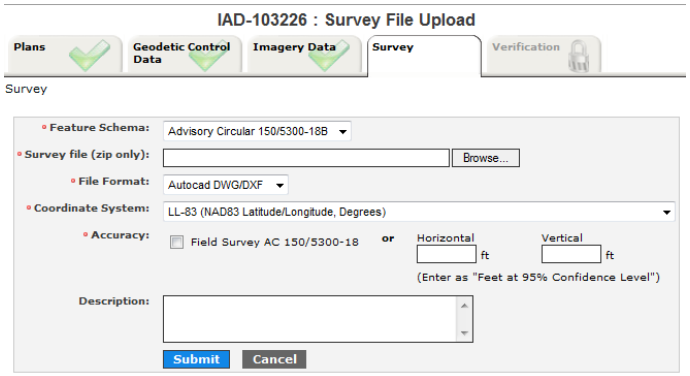
Evolution of AC150/5300-18B



Got Metadata?

- **Source & Quality at "project" level**





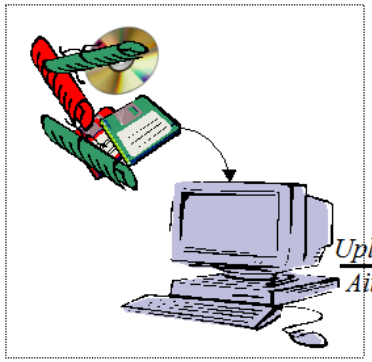
- **Version & Status in Attributes**

Feature Attributes
Attribute (Datatype)
name (VARCHAR2 (50))
description (VARCHAR2 (255))
status (Enumeration: codeStatus)
userFlag (String 254)
Alternative (Number(2))

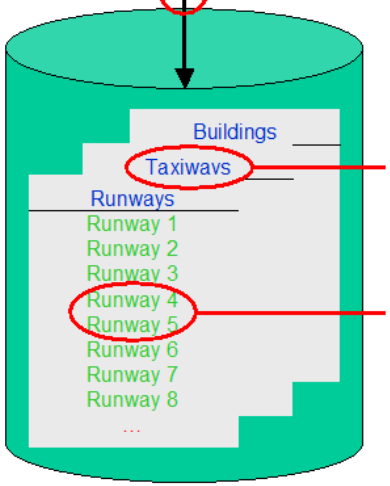
FAA Airports-GIS Metadata Needs

- **Airports change so should the data**
  - Constant construction and maintenance
  - Natural changes also need to be recorded
- **Use sources of varying qualities**
- **Different versions of the specs**
- **Contacts needed for validation**
- **Easy and intuitive to populate**

Metadata Needed at Different Levels



Upload to FAA Airports GIS



Metadata at the collection level
Applies to everything submitted in a single data exchange
(e.g. data submitted, provider, etc.)

Metadata at the Feature Type level
Applies to all features of a given type at a given airport
(e.g. accuracy, coord. system, etc.)

Metadata at the Feature Instance level
Refers to a specific instance of a feature at a given airport
(e.g. accuracy, coord. system, etc.)

Focus on Key Elements at Each Level

Table 3-1. List of MetaData elements

	Collection	Set	Feature
Overview			
Abstract	X	X	X
Status	X	X	X
GeometricObjectCount	X	X	
Scope			
Dataset	X		
Features	X	X	
Attributes			X
Usage			
SpecificUsage	X	X	X
BegusageDateTime	X	X	X
EndUsageDateTime	X	X	X
Source			
Statement	X		
IndividualName	X		
OrganizationName	X		
PositionName	X		
DeliveryPoint	X		
City	X		
AdministrativeArea	X		
PostalCode	X		
ElectronicMailAddress	X		
VoicePhoneLine	X		
Coordinate System			
Projection	X	X	
HorizontalDatum	X	X	
VerticalDatum	X	X	
Code	X	X	
Data Quality			
HorizontalAccuracy	X	X	X
VerticalAccuracy	X	X	X
EvaluationMethodName	X	X	X
EvaluationMethodDescription	X	X	X
Pass	X	X	X
GroundSampleDistance	X	X	X

Thank You!
Questions?

FAA | Airports-GIS Project Team