


# Airports GIS

## Project Types and Workflow

Presented to | FAA Regions | Alaskan  
 By | Gil Neumann, APP-400 | Thomas Wade, ASW-611  
 Date | October 19-20, 2011

1 Regional Workshop - AAL  
 Oct 19-20, 2011

Federal Aviation Administration 

## Agenda

- Robust Data Collection – “eALP” (10 min)
- Runway Extension/New Runway with New Instrument Approach Procedures (10)
- No Safety Critical Data - Apron/Taxiway (5)
- Establish Geodetic Control (5)
- Other – Land Acquisition, Boundary Survey, Noise, Planned Development (5)

2 Regional Workshop - AAL  
 Oct 19-20, 2011

Federal Aviation Administration 

## Robust Data Collection (eg., eALP project)

- Critically evaluate features and attributes to include in project
- Some attributes, for non safety-critical features, may be omitted from original project, then collected during a future initiative
- Evaluate which runways need AS/AAA to support IAP development in the near term (5-7 years)
- Consider 65 DNL contour and limits of noise program
- Two Airports GIS projects:
  - Airport Airspace Analysis: VG (data includes all existing data)
  - Airport Layout Plan: airport design or planning (planning & design data)
- SOW, Plan(s), NGS review and approval
- If “Triggering Event,” the airport must incorporate contract requirements and processes for upcoming projects to ensure Airports GIS deliverables

3  
Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



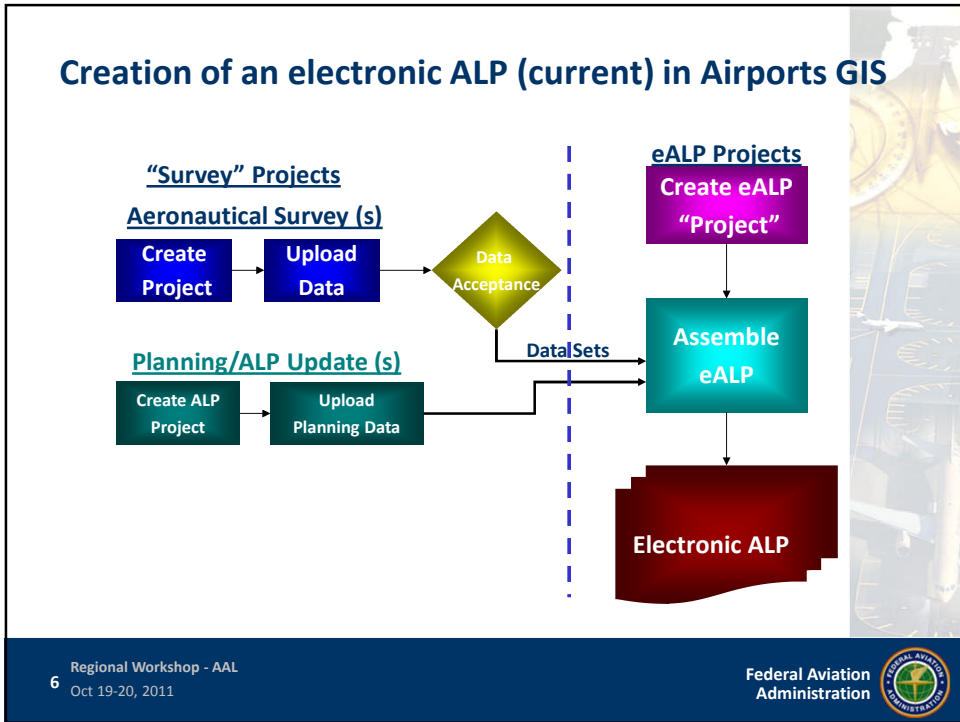
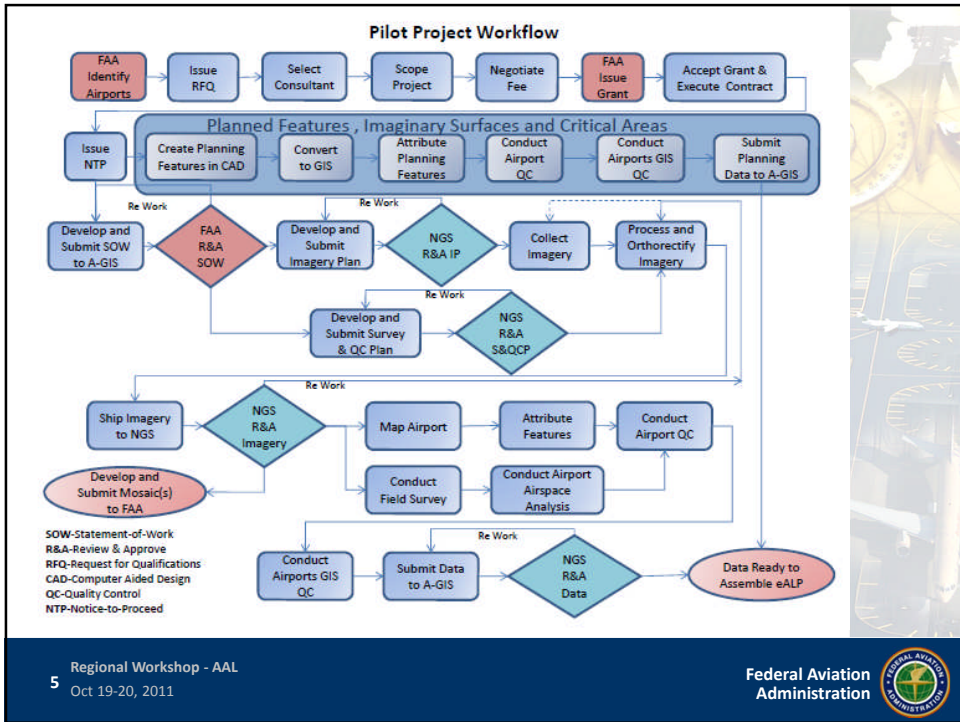
## Robust Data Collection Project | Getting Started

- Consultant Selection
  - Reference APP-1/AAS-1 working guidance: 06/24/2010-Attachment A
- Scoping Meeting with airport/consultant team/FAA
  - Working guidance, Attachment B
  - Scoping meeting guide/agenda (handout)
- Negotiate scope/fee and issue NTP
- Create two Airports GIS “Survey” projects
  - Project 1 | New Survey: Obstruction Survey (or similar)
  - Project 2 | Planned and Design Data (ALP, eALP)
- SOW (Project 1)
  - Develop, Submit, and Approve (FAA | Region/HQ (Contractor))
- Plans
  - Develop and Submit for NGS Review and approval

4  
Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration





## New instrument approach with runway extension

- Timing: usually must collect imagery before extension/new runway is in place
- Recommend collecting low-level (high-resolution) imagery for entire airport property, not just in runway environment
- After Construction: may re-fly runway flight line (new tiles) for orthoimagery and may wish to use to extract new features (e.g. lights, marking) rather than using CADD/survey data
- Airports GIS Project Type: AAA/VG
- SOW, Plan(s), NGS review and approval

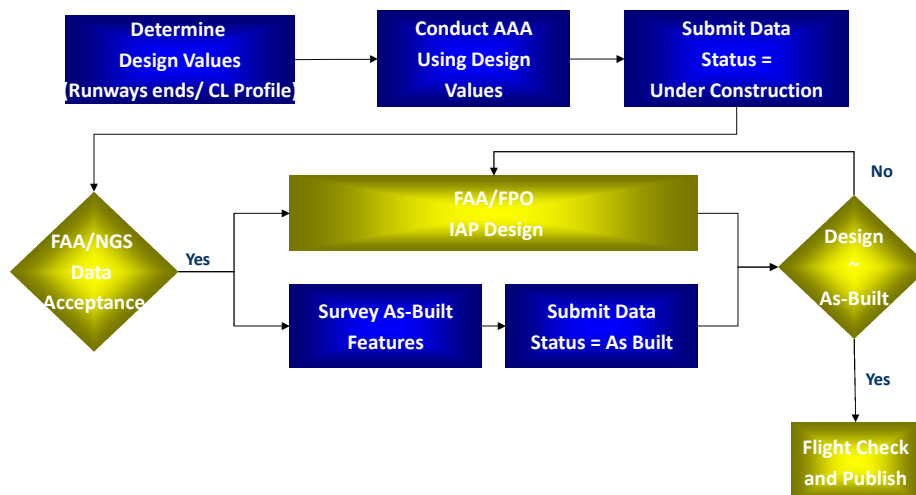


7 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



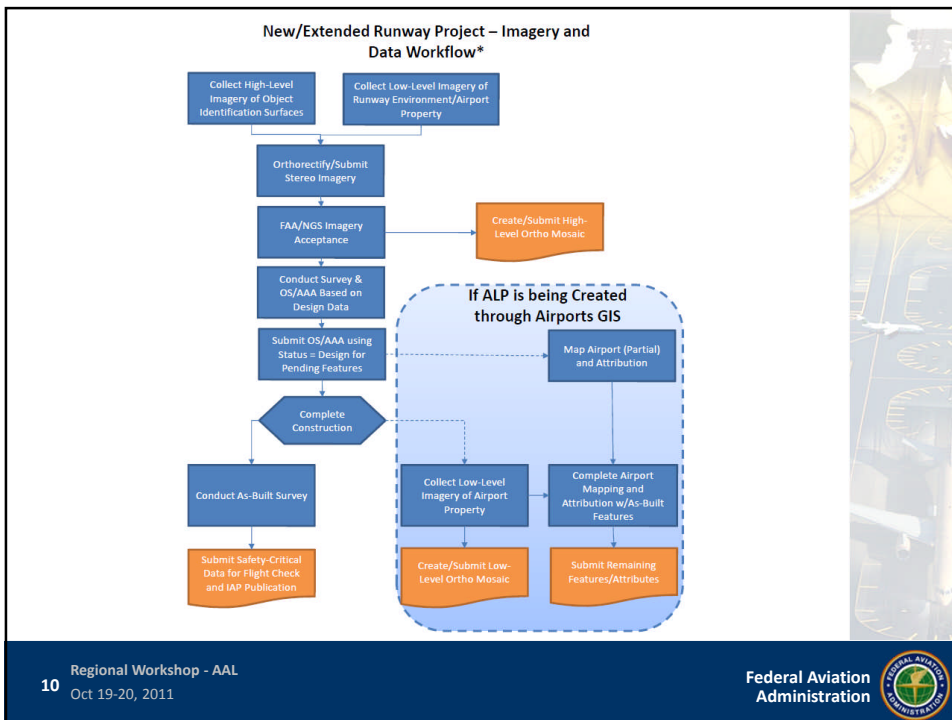
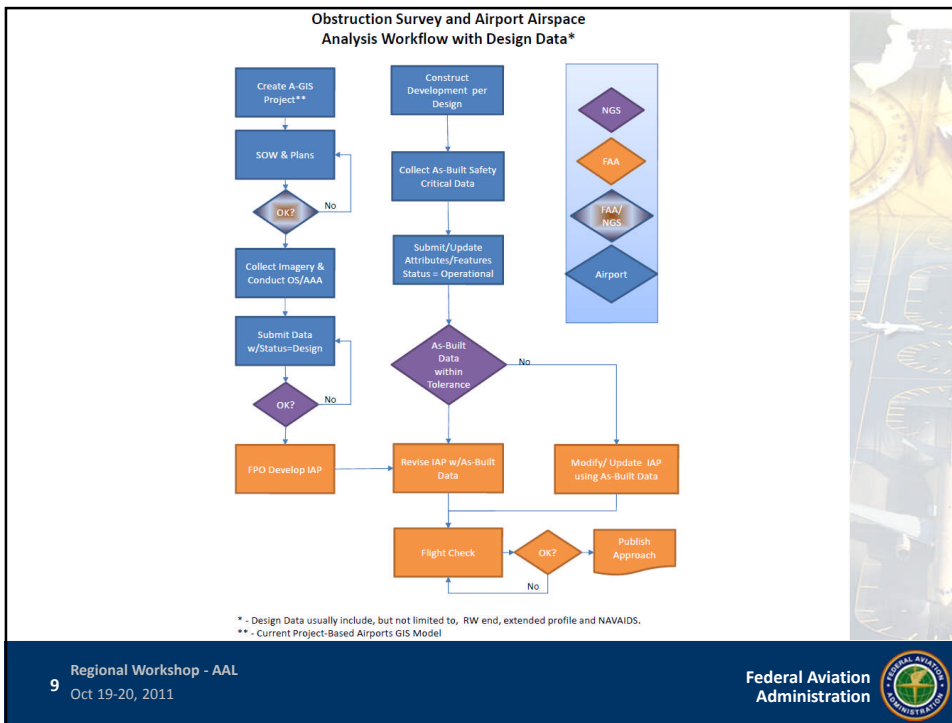
## Workflow - IAP Development with Design Values



8 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration







## How to treat obstacles or NAVAIDS shown in the imagery, but scheduled for removal or relocation

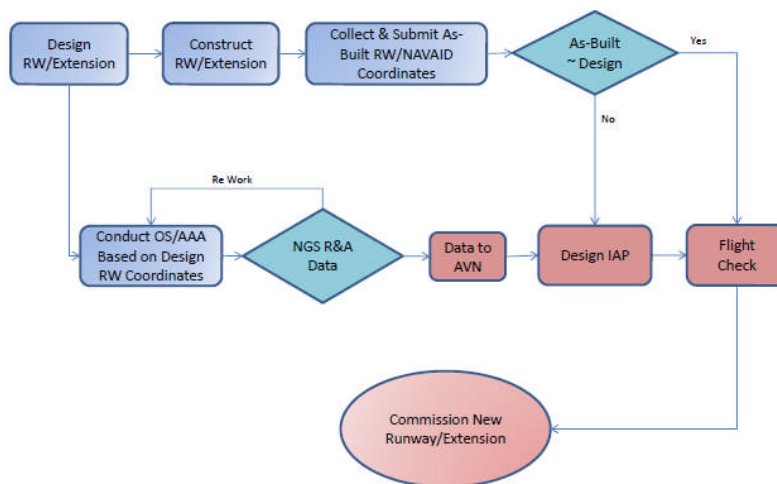
- **Use Status Attribute to differentiate**
- **NAVAID/Obstacle scheduled for removal/relocation**
  - Status = “Temporary”
  - Recommend additional information in UserFlag
- **After Removal**
  - Status = “Demolished”
  - Provide Documentation

11 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



### New Runway or Extension Workflow

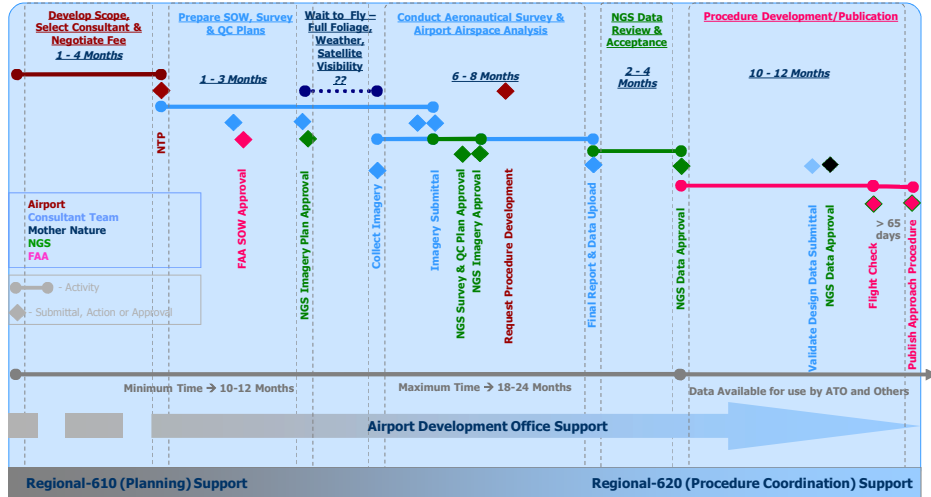


12 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



## Instrument Approach Procedure Development – Survey and Data Approval Timeline



13 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



## No Safety-Critical data project (new taxiway/apron)

- Determine how Airports GIS Will be incorporated into both design and construction phases of project.
- Determine who is responsible to QC and upload Airports GIS data
- Planned Major Feature (RW/TW) should be in Airports GIS with status code as near-term, eventually feature will be refined and status changed during airspace and or SMS review
- Identify as-built features to be included in the upload before the project can be closed (e.g. – Taxiway, Shoulder, Lights, Signage, Marking and Utilities)
- Collect all attributes
- Airports GIS Project Type – Construction/Airside (or Landside)
- SOW, Plans with Airport Review and QC of Data
- QC and Upload Data near end of project
- Close project

14 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation  
Administration



## Establish Geodetic Control

- **Recommendations**
  - Separate Airports GIS project
  - Not in Planning Project (e.g. – Robust Data Collection)
- **Project Type – Construction – Landside**
- **SOW, Geodetic Control Plan (only), NGS Review and Approval**
- **SOW Review (FAA) Focal Point**
  - Proposed Location of PACS/SACS



## Land Acquisition, Noise (Contours or Mitigation), Environmental or Planned Development

- **Determine how Airports GIS will be incorporated into the project**
- **Determine features to be included and review attributes (expect all are included in the project)**
- **Determine who is responsible to QC and upload Airports GIS data**
- **Determine Airports GIS Project Type**
- **Airport has responsibility for data**
- **Upload data and close project**
- **Planning Data – SOW?, Plans?**





## Airports GIS – SOW and Plan Requirements

Project Goal	Airports GIS Project Type	Statement-of-Work	Plans		
			Geodetic Control	Imagery	Survey & Quality Control
New Approach <sup>1</sup> RW - Extension/New <sup>1</sup>	AAA-VG or Non VG	✓	✗	✓	✓
Robust Data Collection - "eALP" <sup>2</sup>	AAA-VG or Non VG	✓	✗	✓	✓
Runway Reconstruction	Construction - Airside	✓	✗	✗	✓
Taxiway/Apron Construction	Construction - Airside	✓	✗	✗	✓
Noise Contours, Planning Data <sup>3</sup>	ALP - Airport Design / Planning	✗	✗	✗	✗
Install PACS/SACS	Construction - Airside <sup>3</sup>	✓	✓	✗	✗
Land Acq./Wetlands/ Environmental Mapping	Construction - Landside <sup>3</sup>	✓	✗	✗	✓

17 Regional Workshop - AAL  
Oct 19-20, 2011

1 - No Installation of PACS/SACS  
2 - VG Approach Analysis  
3 - Including eALP Planned data (non Surveyed)  
4 - Temporarily

Federal Aviation Administration 

**Gil Neumann**  
Senior Airport Planner | APP-400  
[gil.neumann@faa.gov](mailto:gil.neumann@faa.gov)  
Office: 202.267.5840

**G. Thomas Wade, P.E.**  
Senior Planner | ASW-610  
[thomas.wade@faa.gov](mailto:thomas.wade@faa.gov)  
Office: 817.222.5613

18 Regional Workshop - AAL  
Oct 19-20, 2011

Federal Aviation Administration 