

Airport GIS Program Safety Benefits

A Change in Direction

Dr. Michael T. McNerney, P.E. - FAA

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US Airports 2011

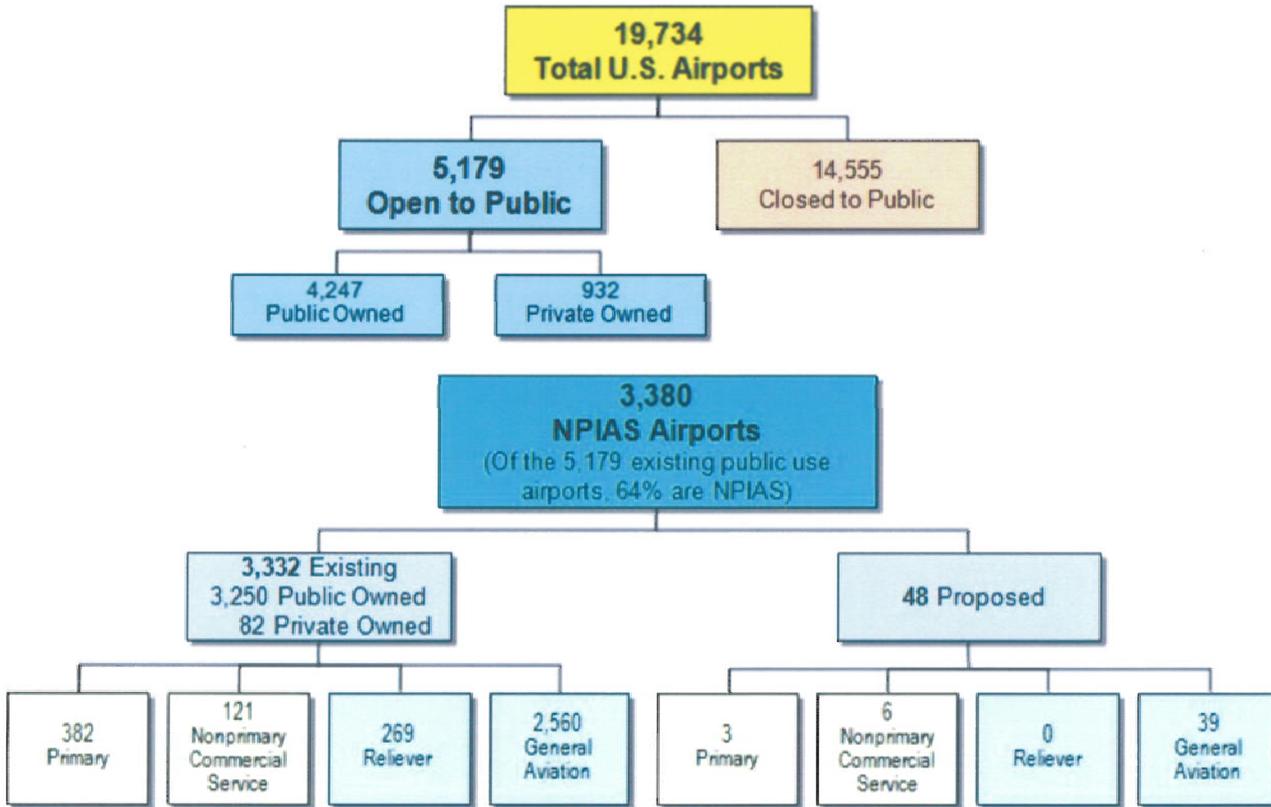


Figure 6 NPIAS Report to Congress – Sept 27, 2010



Justification for Airports GIS

Improve Efficiencies

- Single, authoritative, accessible data source

Reduce Costs

- Airports, FAA, consultants

Improve Safety

- Increased need for real-time data accuracy

NextGen

- A repository of airport information (not just survey data)



Aircraft equipped for performance-based navigation will be able to more frequently use airports where access is limited by terrain or inclement weather.

What is the FAA Airports GIS Program

- About 547 airports have commercial service in US
- About 3,331 receive federal funding and are included in the National Plan of Integrated Airport System (NPIAS)

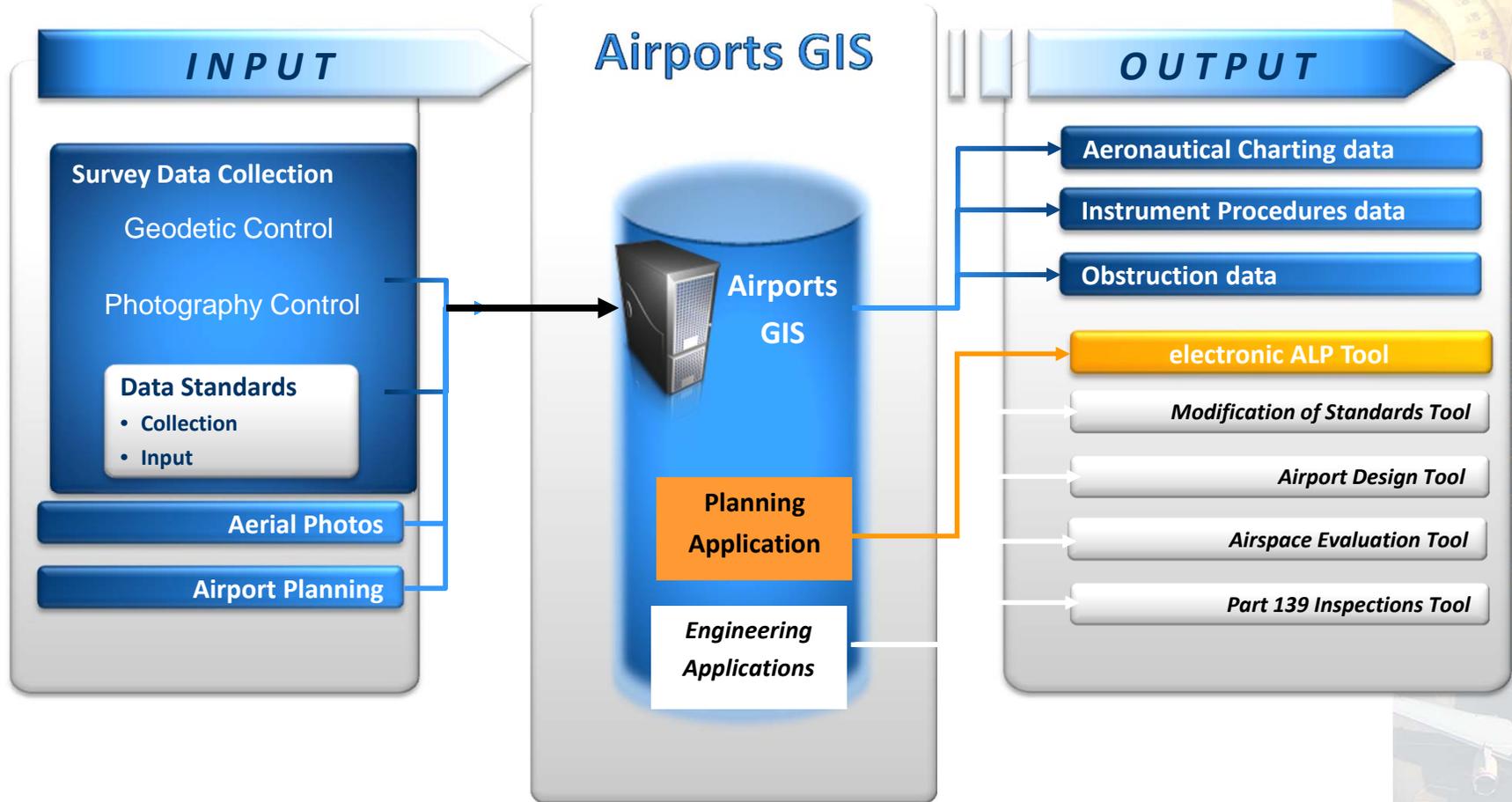
Full Feature Geospatial Data Collection

- There are about 13,450 Airports and 5,856 Heliports
- Of those about 8,377 Airports and 5,508 Heliports are private use landing facilities.
- About 19, 782 landing facilities in the FAA database including seaplane bases, gliderports, ballonports and ultralight Flightparks

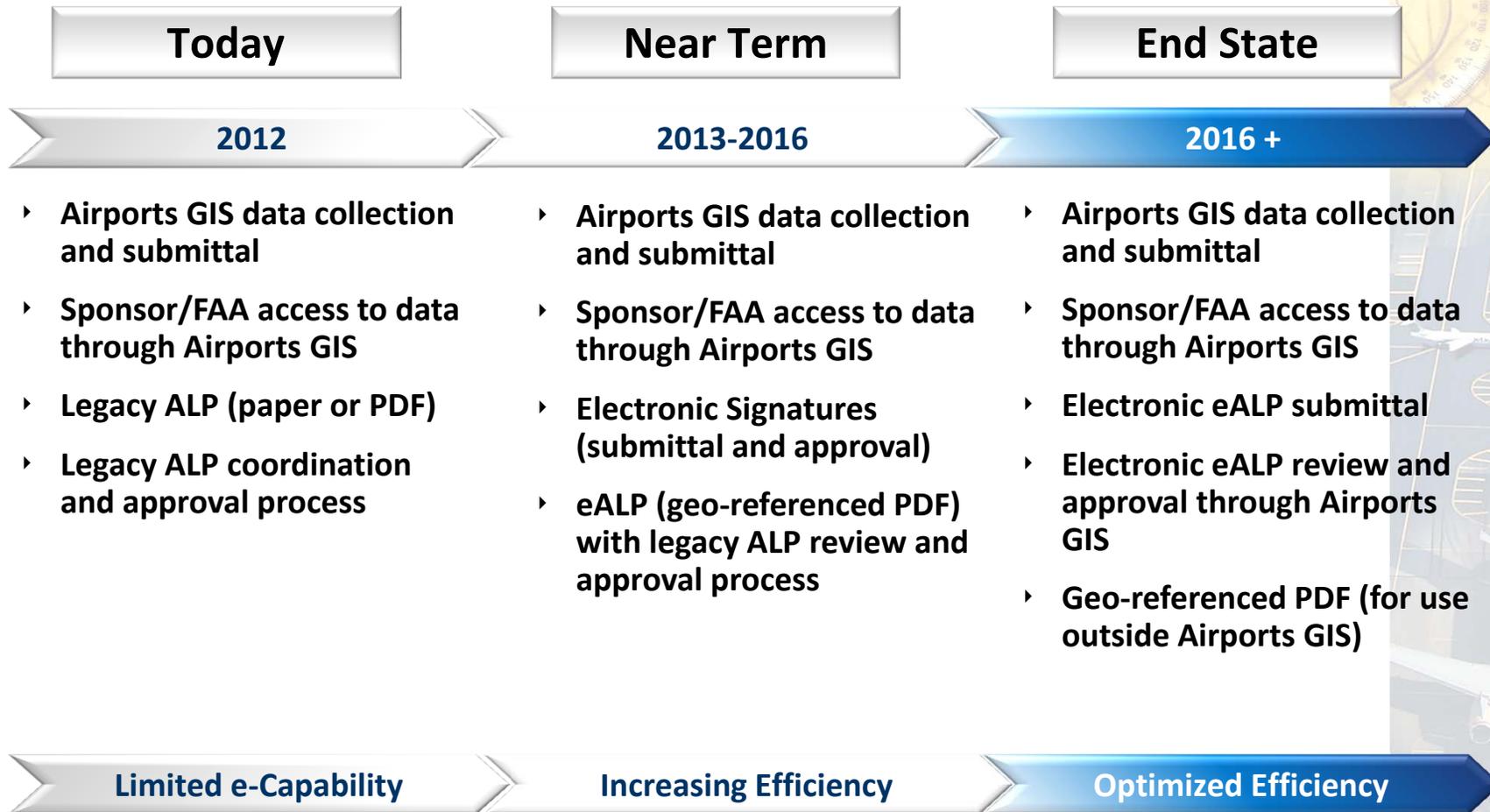
Airport point location and attributes only -2013



Airports GIS



Anticipate the Transition to eALP

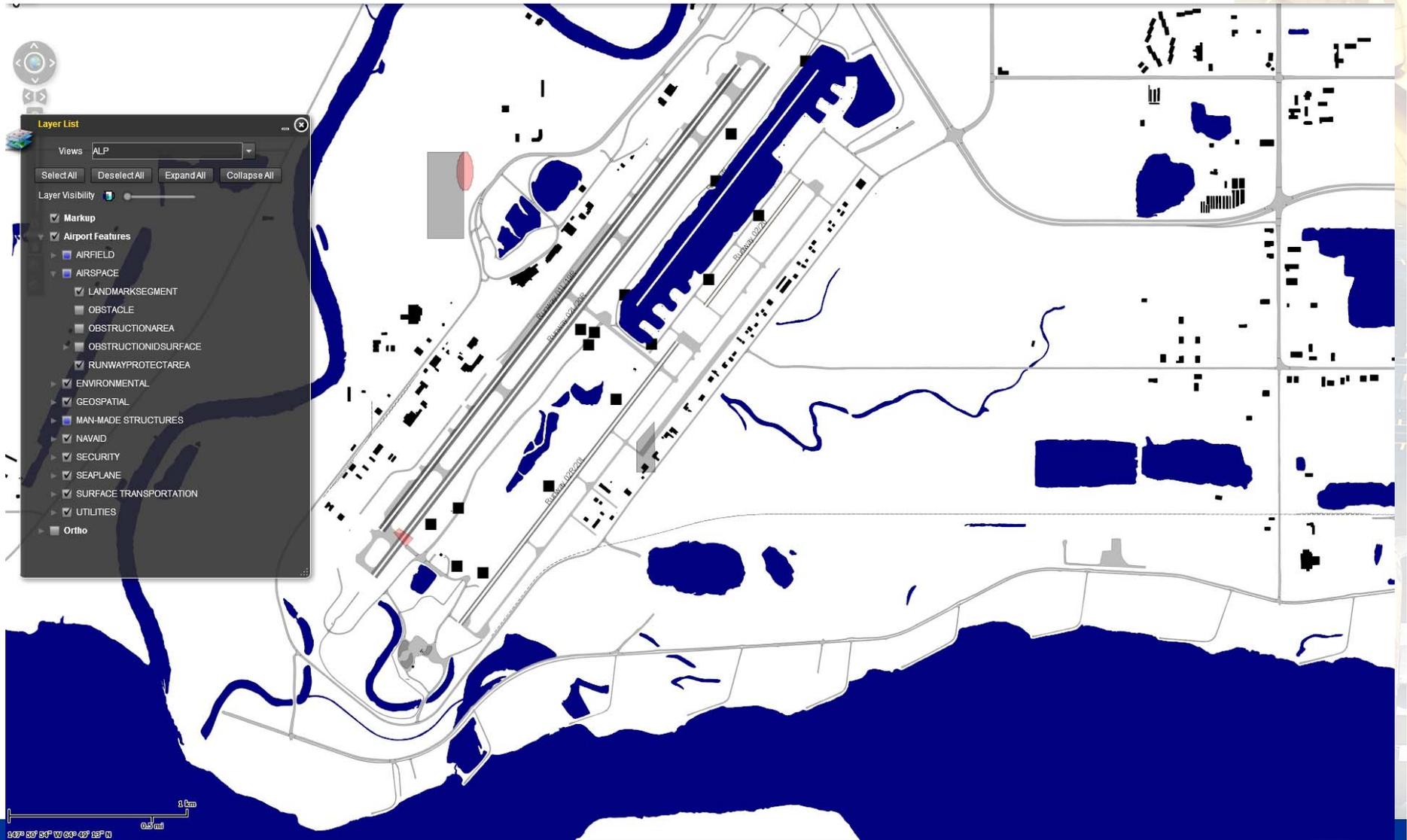


FY 2013 Limited Number of eALP to be signed

eALP

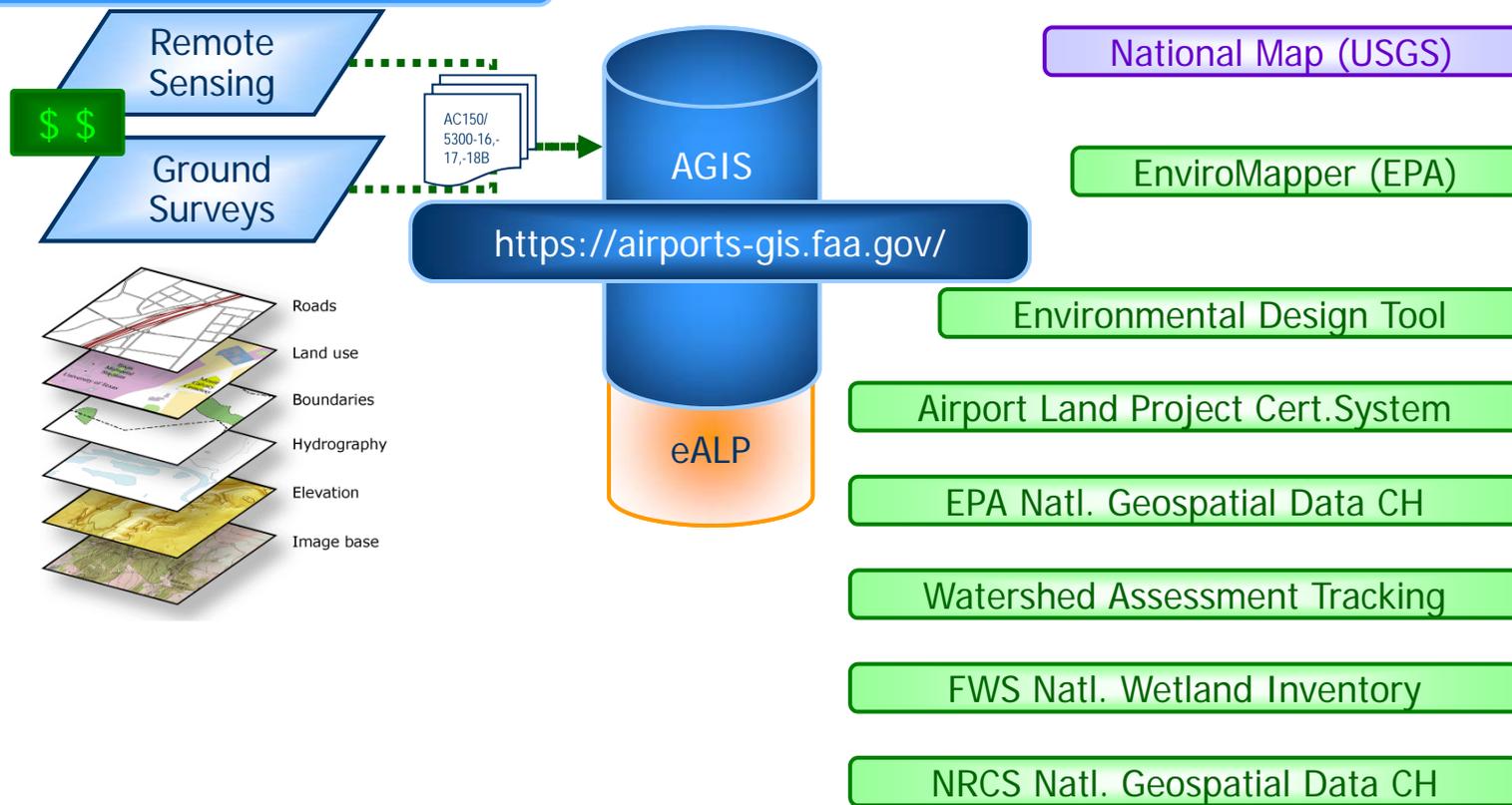


Layerlist

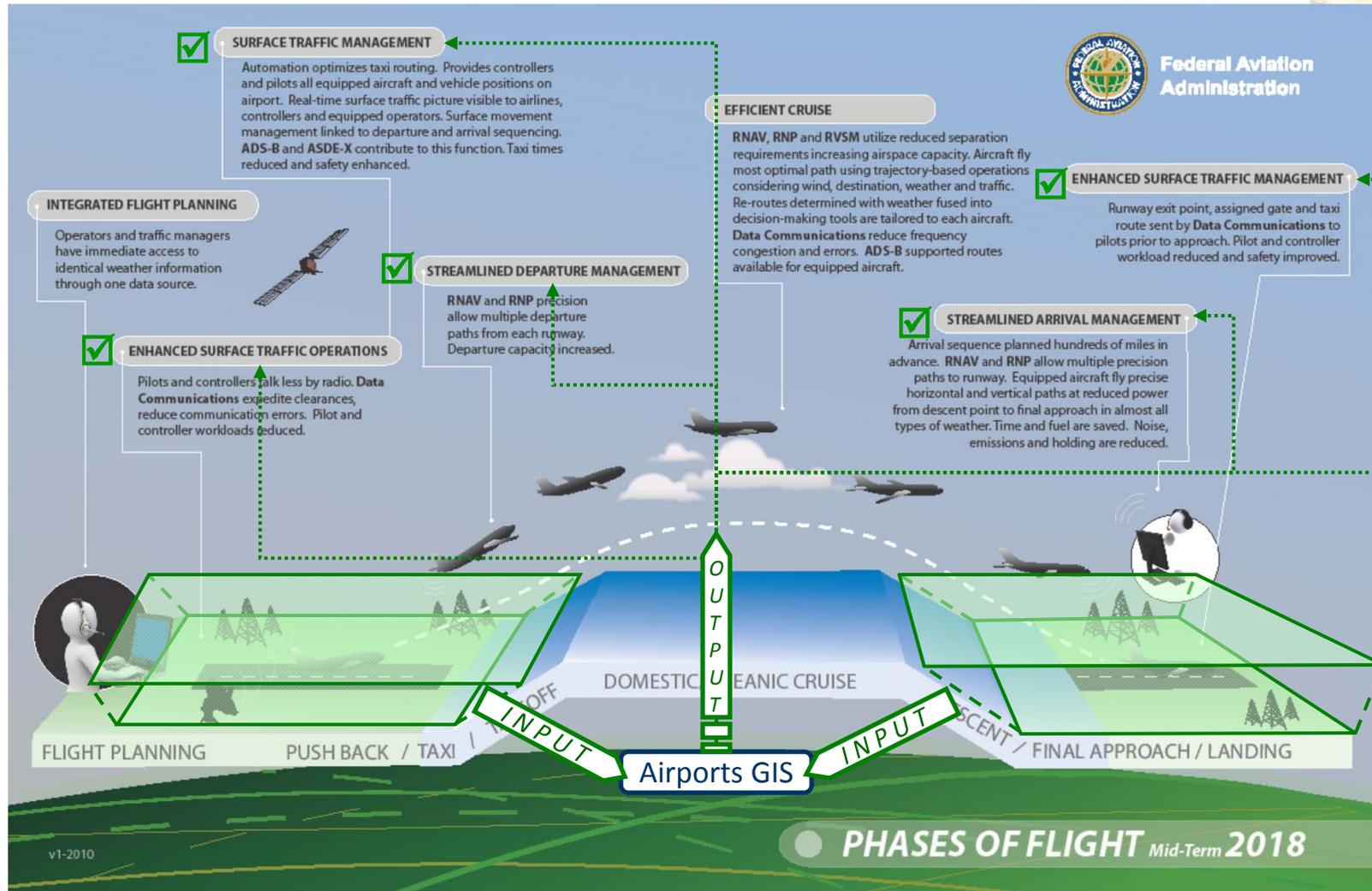


Significant Potential for Integrated Capability

Widely-accepted GIS format means there is significant potential for integrated capability/connectivity for airports data sharing



NextGen | Connection to Airports GIS data



What are the Incremental Quantifiable Benefits of FAA Airports GIS?

The primary benefits we expect Airports GIS to provide include:

1. Increased labor productivity due to improved coordination
2. Earlier completion of projects due to improved coordination
3. Better information for more efficient planning and preliminary design
4. Broader use of GIS at airports due to FAA standards and funds for data collection
5. Elimination of redundant airport mapping and survey costs

These benefits closely correspond to other major IT investments in other venues. They were identified by interviewing a broad range of stakeholders—including both supporters and opponents of the program—from the FAA, airports, consultants, and GIS vendors.

What are the Identifiable Safety Benefits of Airports GIS

- **As the Authoritative Source this will preclude other lines of business from creating airport data from a less verified source.**
- **Requiring the single entry point assures that all users have the most current data.**
- **Airports GIS safety critical data (runways and taxiways) has a very rigorous verification and validation program and QA/QC program**
- **Airports GIS has a requirement to update data for design and construction.**

Airport Data and Information Management Program

(Formerly 5010 Airport Safety Data Program)

- **About Jan 1, 2015 Transition to the new program**
- **AC 150/5300-19**
 - All Landing Areas (19,000)
 - Non Survey Data
 - Airport must submit data to web portal
 - Data fields similar to 5010 program
 - Add a sketching tool for airports
 - Data will be available in geospatial format for analysis

Safety Benefits of New Geospatial Airport Data Management Program

- **Direct Web input and transfer avoids transcription errors especially in coordinates**
- **Geospatial Plotting is an error checking mechanism for data review that catches errors**
- **Digital signature from source**
- **Review from appropriate Airports District Office**
- **Receiving about 500 new landing facilities each year and 500 abandonments each year**

Airports GIS BCA Non-Quantifiable Benefits

- Improved Safety
- Improved Funding Allocation
- Operational Efficiency
- Longer asset life due to improved maintenance
- Better Use of Land Surrounding an Airport
- Reduced Chance of Change Orders
- Better Design and Compliance Decisions



Aeronautical Data Management Initiative

- **AIM Office has embraced concept and agreed to work closely with Airports**
 - All airport diagrams changes will be submitted Airports GIS
 - All digital NOTAM maps will be submitted in Airports GIS
 - All SMGCS charts will be prepared from Airports GIS
 - Web service from Airports GIS to OE/AAA
 - 5010 Program data will be submitted in Airports GIS
 - 5010 Program data will be made available as a web service in Esri Shp files.

Conclusions

- **Airports GIS will have better than 2 to 1 Benefits to Costs ratio**
- **Safety Benefits were not measured but are significant**
- **Better Geospatial Data of Airports GIS will support the FAA NextGen Implementation**

