

Surveillance and Broadcast Services

ADS-B Program Overview to 2nd NAS Infrastructure Management Conference

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Federal Aviation
Administration



Purpose

- **Provide overview of FAA National ADS-B Program**

Agenda

- **Objective**
- **Approach**
- **Program Status**
- **Proposed Schedule**
- **Acquisition Strategy**
- **Next Steps**
- **Summary**

Objective

- **Develop a multi-segment, life cycle managed, performance based ADS-B strategy that aligns with the Next Generation Air Transportation System (NGATS) vision and generates value for the National Airspace System (NAS)**
 - Integrate Concept of Operations for Portfolio of ADS-B Applications
 - Develop Application Life Cycle Management Approach
 - Portfolio Management for Applications
 - Requirements Management Across the Applications
 - Performance Criteria Management
 - Establish Infrastructure
 - Continuously Monitor Value and Adjust Investments

Approach: Initial ADS-B Services and Applications

Services / Applications:	Segment:
Surveillance Broadcast Services (En Route, Terminal, Surface)	Segment 1 & 2
Traffic / Flight Information Broadcast Services	Segment 1 & 2
Enhanced Visual Acquisition	Segment 1 & 2
Enhanced Visual Approaches ⁽¹⁾	Segment 1 & 2
Final Approach and Runway Occupancy Awareness	Segment 1, 2 & 3
Airport Surface Situational Awareness	Segment 1, 2 & 3
Conflict Detection	Segment 1, 2 & 3

(1) Merging and Spacing and Cockpit Display of Traffic Information (CDTI) Assisted Visual Separation (CAVS) are a part of the Enhanced Visual Acquisition Application

Additional Aircraft to Aircraft Requirements Definition – Segment 1, 2 & 3

Program Status: Segment 1 JRC-2B

June 7, 2006

- **Baseline FY07 and FY08 costs only: approved**
- **Return to the JRC for a final investment decision for balance of program prior to contract award (July 2007 timeframe): approved**
- **Joint ATO Chief Operating Officer (COO) and AVS Associate Administrator designation for In Service Decision (ISD) authority: approved**
- **Investment decision with Preliminary Hazard Analysis (PHA) action item tracked and closed through the JRC / EC Secretariat: approved**

Proposed Schedule - Segments 1, 2, 3, 4

- **Segment 1 (2007 – 2011):**
 - Begin Avionics Equipage: FY 2007
 - Expand TIS-B / FIS-B Infrastructure: FY 2007 – FY 2011
 - Additional Aircraft to Aircraft Requirements Definition: FY 2007 – FY 2011
 - ADS-B “Out” Notice of Proposed Rulemaking (NPRM) Issued: FY 2007 / 2008
 - Begin Initial Aircraft to Aircraft Application Deployment: FY 2008
 - Key Site In-Service Decision (ISD) for TIS-B / FIS-B: FY 2009
 - Key Site ISD for ADS-B: FY 2010
- **Segment 2 (2009 – 2014):**
 - ADS-B “Out” Final Rule Published: FY 2010
 - Continue Initial Aircraft to Aircraft Application Deployment: FY 2010 – FY 2014
 - Additional Aircraft to Aircraft Application Deployment: FY 2010 – FY 2014
 - Additional Aircraft to Aircraft Requirements Definition: FY 2010 – FY 2014
 - Continue / Complete TIS-B / FIS-B Deployment: FY 2009 – FY 2012
 - Continue / Complete ADS-B NAS Wide Infrastructure Deployment: FY 2010 – FY 2013
 - Complete 40% Avionics: FY 2014
- **Segment 3 (2015 – 2020):**
 - Additional Aircraft to Aircraft Requirements Definition: FY 2015 – FY 2020
 - Additional Aircraft to Aircraft Application Deployment: FY 2015 – FY 2020
 - Targeted Removal of Legacy Surveillance: FY 2018 – FY 2020
 - Complete 100% Avionics: FY 2020
 - Complete Initial Aircraft to Aircraft Application Deployment: FY 2020
- **Segment 4 (2021 – 2025):**
 - Complete Removal of Targeted Legacy Surveillance: FY 2023
 - Complete Targeted Removal of TIS-B: FY 2025
 - Complete Additional Aircraft to Aircraft Application Deployment: FY 2025

Acquisition Strategy

- **Addresses acquisition approach and total cost of ownership:**
 - Maximize competition, minimize protests due to patent issues and competition with other service providers, level playing field for all respondents to RFO, reduce total cost of ownership:
 - Performance specification maximizes acquisition alternatives
 - FAA awards, owns, and maintains
 - Service Award
 - Performance Based Acquisition can be exploited for the two approaches

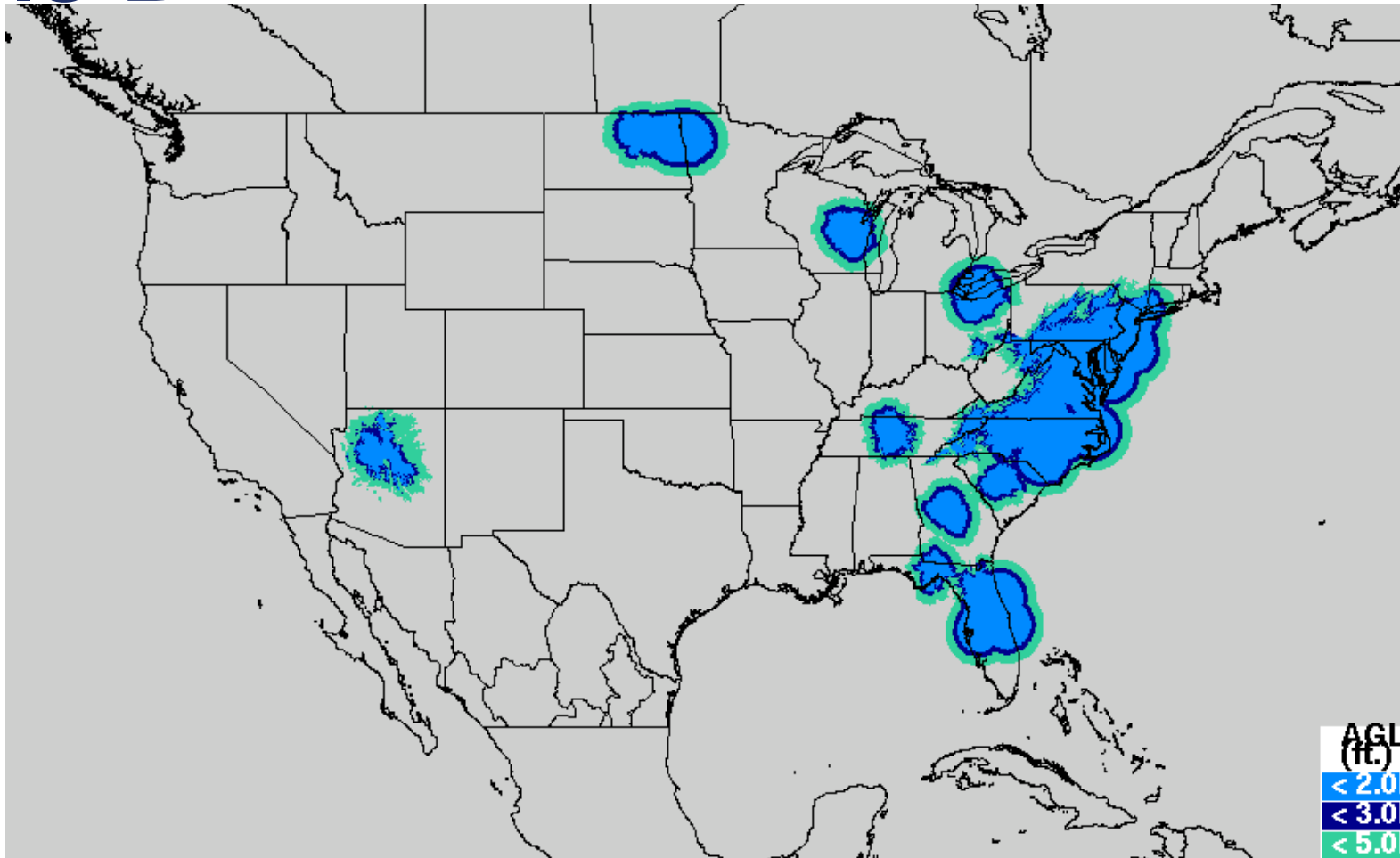
Acquisition Strategy (Continued)

- **The goal of the acquisition is to award a national ADS-B contract(s) and expand the ADS-B / TIS-B / FIS-B infrastructure**

[Link to GA Weather Accidents](#)

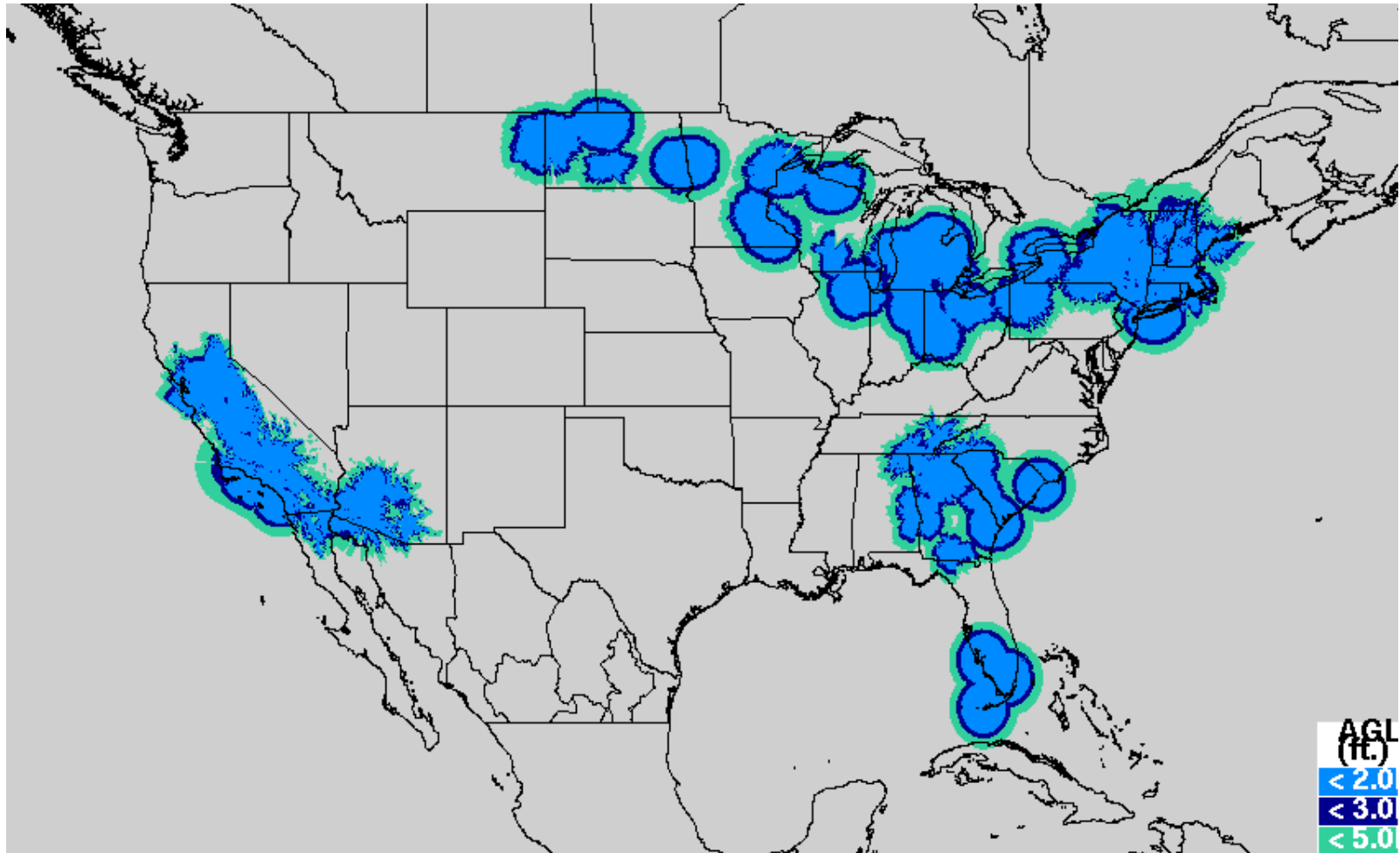


Acquisition Strategy: Legacy TIS-B / FIS-B



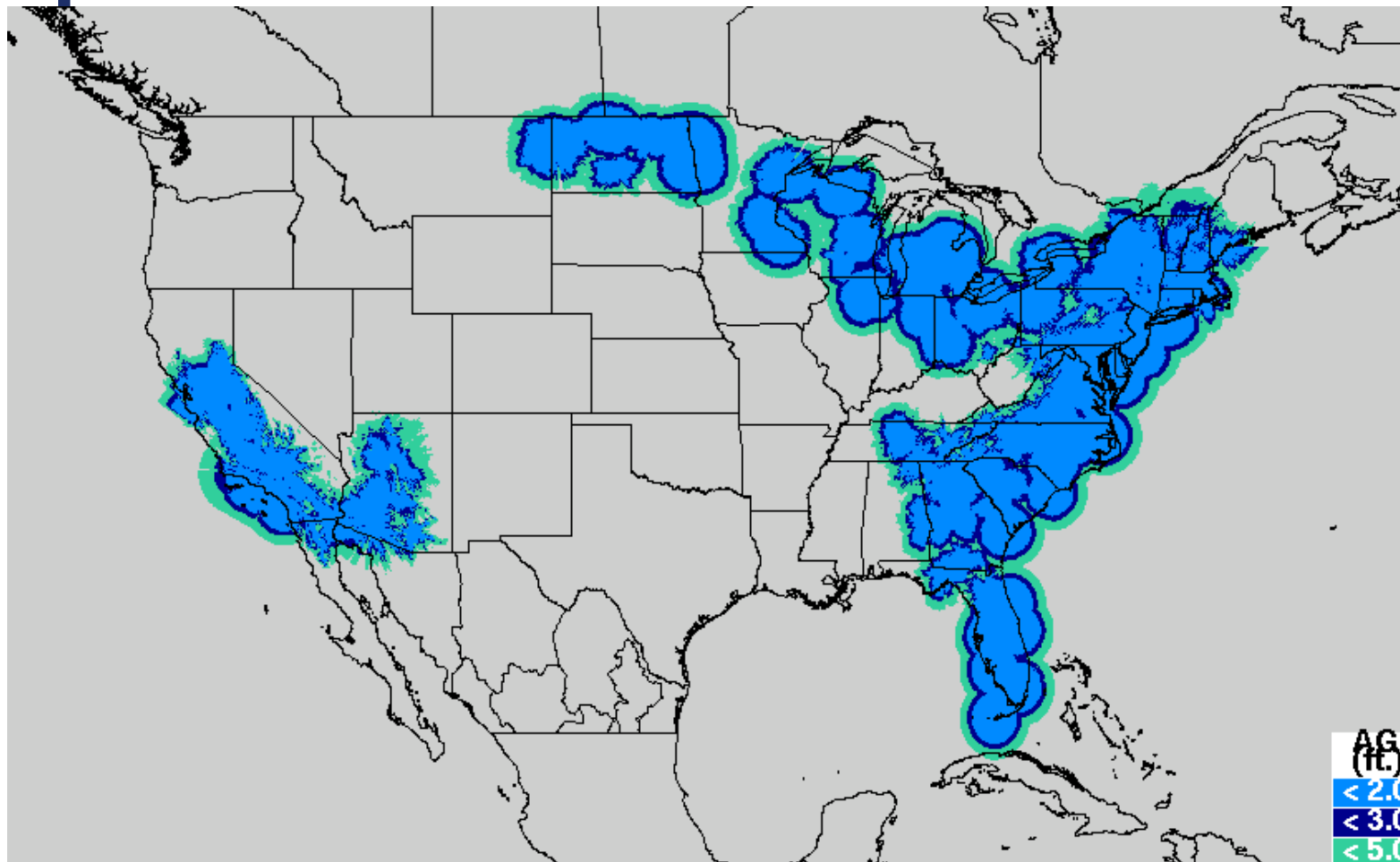
[Link to GA Weather Accidents](#)

Acquisition Strategy: Expansion TIS-B / FIS-B



[Link to GA Weather Accidents](#)

Acquisition Strategy: Legacy and Expansion TIS-B / FIS-B Combined



[Link to GA Weather Accidents](#)

Acquisition Strategy: Segment 1 Locations

- **ADS-B service locations include the following:**
 - Service Coverage Volume: Southeast Alaska Juneau Area
 - Service Delivery Point: Anchorage Center and Juneau Air Traffic Control Tower
 - Service: Surveillance, TIS-B
 - Service Coverage Volume: Gulf of Mexico Area
 - Service Delivery Point: Houston Center and Helicopter Operator Dispatch Center
 - Service: Communication, Weather, Surveillance
 - Service Coverage Volume: Louisville (KY), Kansas City (MO), Garden City (KS), and North Platte (NE) Areas
 - Service Delivery Point: Louisville TRACON and UPS Airline Operations Center
 - Service: Surveillance, TIS-B
 - Service Coverage Volume: Philadelphia, PA and Ontario, CA Areas
 - Service Delivery Point: Philadelphia TRACON and UPS Airline Operation Center
 - Service: Surveillance
- **TIS-B / FIS-B expansion**
 - Existing “east coast deployment” will be expanded westward into the Great Lakes Region
 - Phoenix/Prescott, AZ coverage will spread westward to Central and Southern California

Acquisition Strategy: Public Announcements

- **Public Announcement #1 on April 6, 2006**
 - This announcement advises industry that the FAA intends to transition R&D surveillance and broadcast services (consisting of Automatic Dependent Surveillance – Broadcast (ADS-B); Traffic Information Service– Broadcast (TIS-B); and Flight Information Service - Broadcast (FIS-B), under FAA’s Technology Development Service Unit (ATO-P), to FAA’s Surveillance and Broadcast Services Office under FAA’s En Route Service Unit (ATO-E).
- **Ad Hoc Industry Discussions with Northrop Grumman, Rannoch, Sensis, ITT Industries, Harris Corporation, Boeing, and Lockheed Martin**
- **Public Announcement #2 on May 16, 2006**
 - This announcement is a request for patent information
- **Public Announcement #3 on June 7, 2006**
 - This announcement is for Industry Week (June 19 – 22, 2006)
 - Day 1: General Group Briefing / Discussion
 - Days 2 – 4: Individual Company Detailed Meetings

Acquisition Strategy: Public Announcements

- **Performance Specification Request for Information (RFI) – Planned September 2006**
- **Performance Specification Response Due – Planned October 2006**
- **Screening Information Request (SIR) – Planned November 2006**
- **Request for Offer (RFO) – Planned March 2007**

Next Steps

- **Conduct Industry Week June 19-22, 2006**
- **Prepare for Segment 1 implementation**
- **Complete Backup Strategy Analysis**
 - Collaborative effort involving FAA, RTCA, and industry
 - Projected Milestones
 - Plan approved – May 2006
 - Preliminary report on risks and mitigations – June 2006
 - Preliminary assessment of selected alternatives – August 2006
 - Final report – November 2006
- **Finish Preliminary Hazard Analysis**
- **Prepare for Segments 2-4 JRC, Feb 2007**

Summary

- **Baseline FY07 and FY08 costs only approved by JRC**
- **Dual track service acquisition and rulemaking strategy being examined**
- **Technical issues under investigation**
- **Collaborative FAA / industry effort will achieve a balanced customer – owner – employee approach**