



TRUCKEE TAHOE AIRPORT DISTRICT STAFF REPORT

AGENDA TITLE: Automatic Dependent Surveillance Broadcasting (ADS-B) System Service and Delivery Price and Contract

MEETING DATE: June 26, 2019

PREPARED BY: Hardy Bullock, Director of Aviation & Community Services

RECOMMENDED ACTION: Approve an expenditure of \$939,151 (10% +/-) dollars to establish a certified ADS-B Surveillance Service Volume covering the Truckee Tahoe Airport. Also approve an annual expenditure of approximately \$205,192 dollars to maintain the service, integrate data and pay for software licensing.

DISCUSSION:

Where We Have Been

ADS-B is a type of modern surveillance technology used by the Federal Aviation Administration (FAA) to control aircraft in flight and on the ground. Over the past ten years the FAA has been working with aircraft operators, industry groups, and airports to implement the Next Generation Airspace Modernization Program (NextGen) which updates and replaces ground based legacy technology used to run the national airspace system. ADS-B is the heart of this NextGen system. Harris Corporation is the FAA's prime contractor tasked with generating and delivering high fidelity, certified data for use by the FAA to separate aircraft in flight and on the ground.

The Truckee Tahoe Airport District places high value on pilot and passenger safety as well as the reduction of community annoyance associated with operations. Staff has determined that ADS-B will allow the airport to pursue additional programs that may substantially enhance safety, reduce community annoyance, and benefit both the constituents of the District as well as users of the national airspace system. For this reason, staff has worked in partnership with the FAA and Harris Corporation to develop a service solution providing certified, integrated data for use by

the air traffic controllers, pilots and airport staff in support of current and future strategic airport goals.

This method of surveillance service volume establishment has never been completed in the United States. Because of this, staff has compiled information pertaining to several functional areas of District operations that may be affected by the deployment of ADS-B in an effort to answer important and meaningful questions from the Board and the community. These areas include: levels of aircraft control, technical integration, community annoyance reduction, aircraft equipage, control tower impacts, regional and local integration, planning, permitting, and authorization. Over the past three years staff, the Board, the Airport Community Advisory Team, and District stakeholders have discussed the merits, faults, and potential unintended consequences of an ADS-B deployment. These findings, discussions, and supporting material along with their location are summarized below.

Supporting Material

Presentations and related technical information may be found here:
<https://truckeeatahoeairport.com/aviation/ads-b>

Community Outreach

District staff and the Board of Directors began routinely discussing ADS-B in 2016. The topic was a focus of several Board workshops open to the public. Staff routinely reported back to the Board as the initiative progressed and information became available from the FAA and the vendor. The meeting minutes that include Board discussions on ADS-B are as follows:

ADS-B Airspace	Report	09/30/2015
ADS-B Airspace Tower	Workshop	02/20/2016
ADS-B Airspace	Report	03/23/2016
ADS-B Airspace Tower	Report	04/27/2016
ADS-B Airspace Tower	Community Workshops	06-07/2016
ADS-B Airspace	Report	02/22/2017
ADS-B Airspace	Report	01/24/2018
Tower ADS-B	Report	06/27/2018
ADS-B Airspace Airport	Community Workshop	06/13/2018 & 07/09/2018
ADS-B	Report	11/28/2018
ADS-B	Report	04/24/19
ADS-B	Report	05/22/19

The outreach campaign associated with ADS-B is unprecedented in the airport’s history. A comprehensive detail of this effort is found in Attachments A-D. In summary staff feels that extensive outreach has occurred including a diverse compliment of community members, neighborhoods, businesses, service groups and local organizations. The majority of response to the potential installation of ADS-B has been overwhelmingly positive and supportive.

Cost and Contract Details

ADS-B surveillance service volumes are provided to the FAA as a service, under contract, with Harris Corporation exclusively. Harris developed the technology, deployed the 650 +/- ADS-B stations and integrates the data to a final demarcation point called a service delivery point (SDP). This is a service agreement. The FAA doesn't own, manage or maintain any equipment or infrastructure. TTAD would enter the same contractual relationship with Harris, approved by the FAA. This agreement has many components. These include:

1. A scope of work called the Service Volume Design Document (SVDD) which specifies the surveillance area, the waypoints and airways to be covered and the altitudes that reliable ADS-B coverage may be expected. This includes potential/notional points TTAD may use in the future to develop flight procedures.
2. Design and Engineering Agreement Dated December 7, 2018 which pays Harris approximately \$68,000 to design the system based on the SVDD and get the FAA final approval.
3. A system price estimate (Truckee-Tahoe SBSS Data Delivery Service CCP-2019-3P01) dated June 6, 2019. This estimate describes the anticipated final cost, 10% +/- and what assumptions and requirements will need to be fulfilled to achieve the final price. Harris is confident this price is accurate. This estimate has two components:
 - A. Non-recurring cost called the Service Establishment Cost. This is \$939,151 and includes the construction of the two ADS-B sites, one at KTRK and one at KTVL.
 - B. Recurring Cost called Subscription Cost which is \$205,192 per year with a 2.2% annual increase. This cost covers the data delivery to the SDP (FAA) and associated software subscription costs as well as routine and emergency maintenance.
4. If TTAD accepts this system price estimate, a service contract will be developed with a deliverable timeline and payment schedule. This contract will cover the Service Establishment as well as the annual obligation up to September 30, 2025.

Staff Assumptions

Staff is using some assumptions to develop the business case for this initiative. These assumptions are subject to Board approval. Some of these include cost related to the installation. Based on discussions, staff is assuming some cost, less than \$1,000 per month for the site lease at KTVL however we are still negotiating and we hope to get space at no cost. Staff prefers to integrate all monthly cost for power and communications into the contract. Staff also proposes to suspend significant MLAT System maintenance and sunset that system in 2021. Some portion of the \$162,000 dollar annual MLAT maintenance will go away. The District pays for software used in our Community Noise and Annoyance Programs. Additional work is required to understand how the final software utilization and integration will work. Staff anticipates this software cost of approximately \$100,000 will remain indefinitely to pay for software such as PlaneNoise and Vector.

Because Harris sells data as part of its business offering, discussions related to ancillary revenue generated from the KTRK installation have occurred. Harris will not be paid for the data derived from the KTRK service volume and TTAD is subsidizing initial data integration through an agreement with the FAA as well as our payment to Harris for the annual recurring cost.

In summary, \$162,000 of MLAT cost will go away, approximately \$100,000 of annual cost for community annoyance software and systems will remain. An additional cost of \$205,192 for ADS-B recurring cost will be incurred.

Six Year Outlook

Harris has two milestones associated with their FAA Service Agreement. One is a renewal in 2021 and another is a rebid in 2025. The FAA and Harris have both described these to staff. Based on the total national ADS-B program scope it is anticipated that Harris will continue past 2025 as the selected vendor to deliver ADS-B service coverage. While this possibility exists, in the future, there is no reason to believe that the utility of an ADS-B deployment will end in 2025 regardless of the FAA's ADS-B vendor. Our current MLAT system has been deployed and functional for nine years. Immense value has been achieved and staff views this ADS-B initiative as a technology update/extension to the successful MLAT system.

Summary

1. Onetime annual service establishment fee is \$939,151 and will be due and payable in two increments based on vendor performance.
2. There is an annual charge of \$205,192 to maintain the ADS-B system and pay for the data feed.
3. Some financial assumptions have been made related to the forgone cost of the decommissioned MLAT system currently estimated at \$162,000 annually.

FISCAL IMPACT: A onetime expenditure of \$939,151 and recurring cost of \$205,192 per year subject to a 2.2% annual escalation for the installation of an ADS-B system. Fees subject 10% +/-.

SAMPLE MOTION(S): I move to (approve, deny, continue) a onetime expenditure of \$939,151 and recurring cost of \$205,192 per year subject to a 2.2% annual escalation. Fees subject +/-10%.

ATTACHMENTS:

Attachment A - ADS-B Communications and Public Outreach Campaign Summary

Attachment B - Airport Facebook Page ADS-B Related Public Comments

Attachment C - ADS-B Constituent Communications & Staff Responses

Attachment D - TTAD Social Media Campaign & Video