



## TRUCKEE TAHOE AIRPORT DISTRICT STAFF REPORT

**AGENDA TITLE:** ADS-B Program Updates and Clarification of Technical Questions

**MEETING DATE:** May 22, 2019

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

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**RECOMMENDED ACTION:** Accept guidance and information related to the Automatic Dependent Surveillance-Broadcast (ADS-B) initiative currently under study by the District. Ask clarifying questions related to ADS-B, its potential impacts, its benefits, and associated program cost and timelines.

**DISCUSSION:** The information provided here is designed to inform the Board and District constituents in advance of a Board decision to fund an ADS-B project. Staff will present cost estimates at the June 2019 Board meeting in preparation for a July 2019 Board meeting action item on the entire ADS-B initiative. The specific questions outlined for staff by the Board at the April meeting include the following:

**Question:** How much aircraft control is allowed by the tower and/or flight procedures absent any surveillance such as ADS-B?

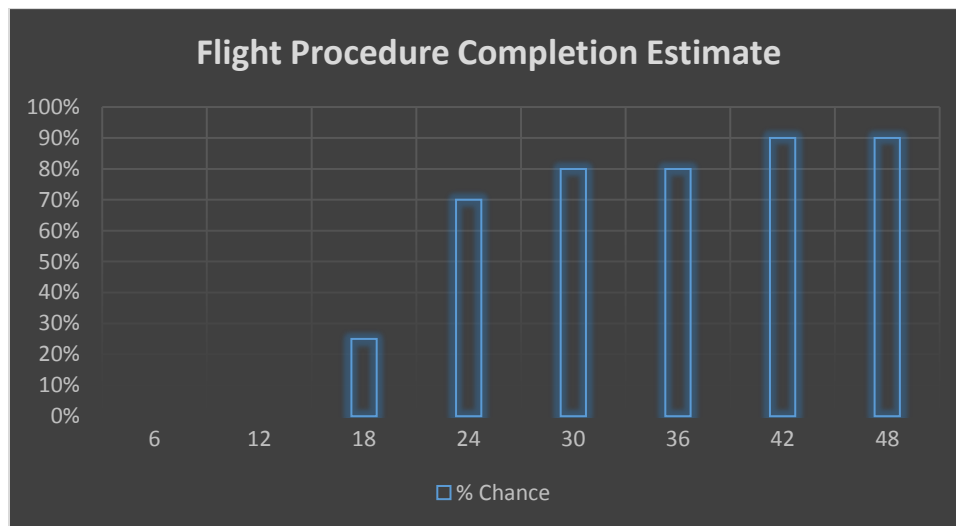
**Answer:** With existing flight procedures and the towers scope of service the total extent of aircraft control is currently being leveraged. This includes advisory messages related to noise abatement, advisory traffic services, landing and departure clearances, and ground movement clearance. With ADS-B surveillance, proper training and certification, the tower may be able to assign mandatory vectors of travel, altitude, and procedures for inbound and outbound aircraft.

**Question:** When will flight procedures be implemented if we choose to install ADS-B?

**Answer:** The District has been working on notional (draft) flight procedures designed to reduce community annoyance and enhance safety for the past four years. Based on our interactions with the FAA Western Flight Procedures Team, our airspace consultant, and other industry experts, the District can reasonably assume our notional procedures will be accepted, approved and charted by the FAA for widespread use. These procedures include variations of the procedures provided to the community and referenced here:

<http://truckee.airportnetwork.com/Home/Documents>. The FAA uses an 18 month timeline when describing flight procedure work of the routine variety. Our experience supports this timeline, significant work has already taken place on flight procedures, and current FAA criteria allows our notional procedures to be certified.

Considering all available data staff has made an estimation regarding the point in time, should ADS-B be deployed, that Flight Procedures may be certified for use in conjunction with the tower and the surveillance volume. This is an estimate. Months are represented on the horizontal axis while the estimated % of likelihood is represented by the vertical bar graph.

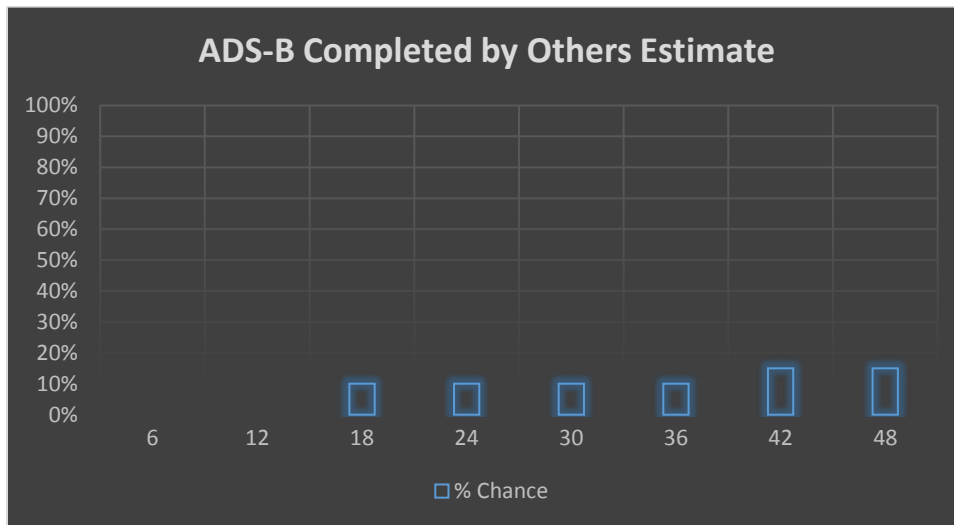


**Question:** Why do we act now instead of waiting for the FAA to install ADS-B coverage for us?

**Answer:** Detailed discussions with Harris, the ADS-B program vendor and the FAA's ADS-B Program Director David Gray, indicate there is no plan for KTRK to receive funding for an ADS-B deployment. The FAA is engaged on two long-term ADS-B initiatives. One to expand surveillance in Alaska and another to augment radar surveillance volumes currently covering areas near busy airports that may have coverage voids. Additionally staff has investigated the possibility that the FAA has a future, outlook work plan to cover KTRK or the surrounding airspace, at this time no concrete action is planned. The first possible opportunity, as described by the FAA would be occurring 2023 or beyond. Other forces may act in the future to develop ADS-B coverage at KTRK. These forces may include industry groups such as the National

Business Aircraft Association (NBAA), or other branches of the FAA such as Oakland Center or NorCal Approach. Again, staff is unaware of any plans but there is a potential, in the future that KTRK may gain coverage.

Considering all available data staff has made an estimation regarding the point in time, should the Board decide against any District deployment of ADS-B, that another entity may deploy ADS-B within the airspace to deliver a service volume that substantially benefits KTRK. This is an estimate. Months are represented on the horizontal axis while the estimated % of likelihood is represented by the vertical bar graph. It is staff opinion this outcome is highly unlikely.



**Question:** How much money will we save/spend by adopting ADS-B considering we spend money on our current flight tracking system?

**Answer:** Until we receive the final cost proposal this question cannot be accurately answered. The District currently spends approximately \$262,000 per year operating our multi-lateration flight tracking system. We anticipate this system being removed from service approximately 12 months after the final ADS-B service volume enters service.

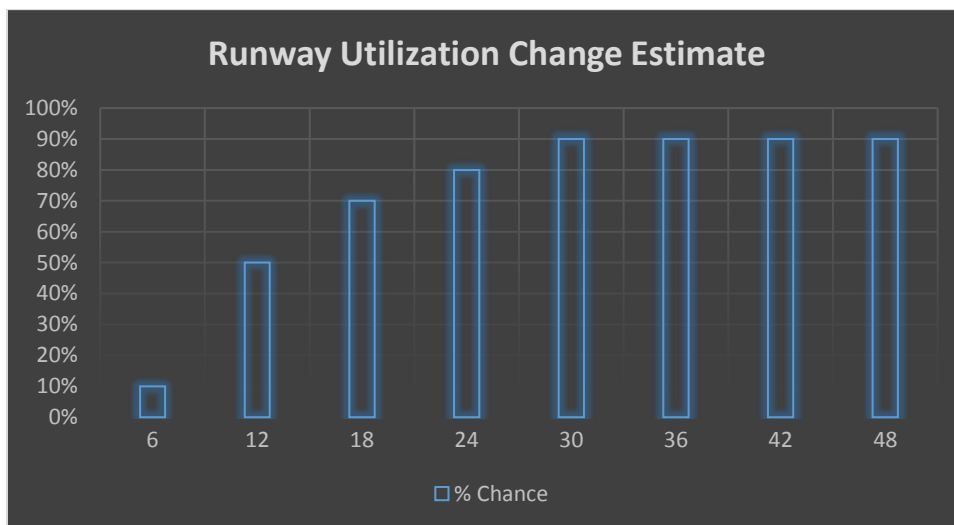
**Question:** How will fractional and charter operator capability be expanded, if at all, through the use of ADS-B?

**Answer:** Having conferred with fractional, local and itinerant aircraft operators, staff does not anticipate any additional operations resulting from an ADS-B installation. Pilots will however have access to a safer flight environment which could result in higher confidence when operating into and out of KTRK. The weather criteria for legal approaches will not change with the addition of ADS-B. The terrain constraints that limit nighttime activity from certain operators will not be affected by the addition of ADS-B. Staff sees no change in aircraft operator capability except enhancements to safety of flight.

**Question:** How is runway utilization affected by ADS-B, tower and flight procedures?

**Answer:** ADS-B will significantly change runway utilization and offer the District considerable flexibility in using alternative runways other than the typical runway 29 for jet arrival and departures. The triad solution (tower, procedures and surveillance) will allow the airport to assign runways, during acceptable weather, to aircraft arriving and departing while utilizing the entire airspace volume thus reducing delay and mitigating emissions. ADS-B surveillance may be used in conjunction with Letters of Agreement and Memorandums of Understanding with the FAA to affect changes in runway utilization. For this reason staff has assigned a higher level of probability that ADS-B will affect runway utilization and offer flexibility for controller assignment of runways.

Considering all available data staff has made an estimation regarding the ability to change runway utilization should the Board decide to deploy ADS-B. This is an estimate. Months are represented on the horizontal axis while the estimated % of likelihood is represented by the vertical bar graph.



**WHAT'S NEXT:** Assign staff additional questions for investigation or articulate needs associated with an informed decision in the July 2019 timeframe.

**FISCAL IMPACT:** Pending consultant review. Estimated time of delivery for an estimated program cost is June 2019.

**PUBLIC COMMUNICATIONS:** Covered through the public meeting notification system, e-blast, social media, news print, workshops, mailers, and the District website.

**ATTACHMENTS:**

ADS-B Presentation