TRUCKEE TAHOE AIRPORT DISTRICT
BOARD OF DIRECTORS AGENDA ITEM SUMMARY

Topic	FLIGHT TRACKING SYSTEM AND FAA INTERROGATOR LICENSE
Purpose	Information: XX Guidance: Decision:
Objective	Review the attached information regarding the status of the flight tracking system and FAA interrogator license.
Last Action	Staff report October 25, 2012, "TAB 15 – Project Completion Flight Tracking". This report outlined system performance and final acceptance, warranty related issues, maintenance contracts, and rough budgetary figures for annual maintenance. This report also outlined the frequency transmit authorization (FTA) process and the work staff has done to integrate the flight tracking system data into the national air space surveillance system.
Discussion	The flight tracking system continues to be an integral part of our Airport's situational awareness. This system, along with our WASP camera system, our Volans modeling system, and our geographic information systems provides valuable data throughout the organization. Much of the flight tracking systems value comes from attributes unassociated with its primary use. The system provides analytical data for much of the planning processes the Airport undertakes. Local land-use, master planning, comprehensive land-use planning, community annoyance and emergency response are a few of the uses from the system as it is currently configured. On March 3rd, 2014 at 11:30 AM a single engine high-performance aircraft crashed 6 miles to the east, northeast of the Airport. Archived data was used by staff to pinpoint the exact location of the crash site. Those coordinates were relayed to rescue personnel and active guidance was used to direct rescuers to the crash site. The surviving victim of the plane crash was transported for treatment and survived. The flight tracking system was the integral data needed to find the aircraft in a timely manner and provide life-saving medical support to the victim. Staff has begun working on certification of the system for air traffic control with Oakland Center. While still in the preliminary stages, the discussions have been positive and prospective outcomes look favorable. The relevant examples of this process are a system in Juneau, Alaska and another in Colorado serving the areas around Steam Boat Springs and Rifle. The District would like to achieve the following in the certification process: 1. Stage 4 FTA for active interrogation of aircraft.

2. Certification of the multilateration system for ATC purposes. Data would be directly linked to Oakland Center.
3. Cost sharing for the maintenance and operation of the system with the FAA.

While the outcome is still uncertain, the initial review of the Wide Area Multilateration Handbook, provided by the FAA, shows the District's system has a high potential to be compliant. Staff will update the Board as more information becomes known in this process. If the option to integrate our data with Oakland Center is approved, the final decision to enter into an agreement with ATC lies with the Board. The official airspace review by Oakland Center has been verified by staff and is pending approval for publication. Staff has met with Senator Ted Gaines; the Senator has pledged his support and written requests to extend the FTA in process to Senators Feinstein and Boxer. Staff has located the relevant individuals within the FAA and is currently working to secure a face to face meeting regarding the importance of continued operational capability of the system. Staff has also met with the Executive Director for the Oakland Air Route Traffic Control Center Mr. John Fischer; he has pledged support in any and all forms at his disposal.

Staff is currently conducting a comprehensive site survey within the District boundaries to the south of the Airport. This process will identify suitable locations for sensor installations. This process will determine a rough order of magnitude for the cost of potential expansion to cover areas to the south of the Airport within the boundary of the Truckee Tahoe Airport District. This would enable the system to see over the horizon to the south and east. The potential benefit from this expansion includes a better understanding of the Airport's impact on communities surrounding Lake Tahoe and the North and West Shore. Other benefits include access to data for search and rescue purposes and a wider coverage volume for air traffic control integration. Areas to the south of the Airport all the way down to the ground at South Lake Tahoe airport would have potential coverage. This ability to provide surveillance and coverage for areas to the south of the airport has a positive impact on aviators, communities, air traffic controllers, and local planning authorities. Potential cost sharing agreements exist from users who may benefit from the use of our data.

| Fiscal Impact | Existing budget to cover site survey. Potential fiscal impacts include minor cost associated with meetings to facilitate the FTA. Additional future cost associated with expansion will be known following the site |

survey with an anticipated completion in June of 2014.

Communication Strategy	• Continue to analyze and understand flight path utilization and related community response and impacts.
	• Utilize data and visualizations in the Master Plan process to help with community understanding of airport operations.
	• Develop website link for Web Scene (flight track viewer) on the new website.
	• Understand and share benefits of potential ATC integration with FAA, Oakland Center, airports, airport users and the community.

| Attachments | FTA Status 2014 Report PPTX |

Facility Transmitting Authorization (FTA) Status

Prepared by: Joseph A. LaMacchia

Agenda

- FAA Summary "Last Meeting in DC"
- Current Status and Next Steps
  - FTA
  - ZOA
  - Timeline
- Risks and Mitigations
- WAM Upgrade Options

FAA Meeting in Washington Feb 7-8, 2013 Summary

- FAA Meeting
  - FAA indicated that they would support an extension to the Facility Transmitting Authorization (FTA) through Dec 2020,
    - **Commitment made by Robert Nichols HQ FAA and Original Participant in the MOA**
  - FAA will Review the MOA language and modify as required for the intended use of the 1030 Interrogator
    - **FAA HQ No changes were made to the language of the MOA, FAA HQ recognized that TTAD now owns the MOA**
  - In accordance with MOA, FAA requested TRK to generate and deliver the Monthly Reports starting July 2012 to present
    - **All back reports completed and monthly reports on-going**
  - Can the FAA GFE Interrogator (Hardware) be Transfer to TRK
    - **Robert Nichols was to make final decisions**
    - **Option B, TRK to Procure Certified 1030 Interrogator ~100K**
    - **Option C, Based upon the outcome of Oakland Centers Aeronautical Review (ZOA) at FAA HQ, the WAM system configuration could change**

FTA Current Status and Next Steps

- FTA
  - Expires on Dec. 31, 2014

- Next Steps
  - FTA Extension will be submitted after trip to DC FAA HQ ~ Mar - April 2014 Extension Request to Dec. 31, 2020
  - Extension Request will be made to Regional Frequency Management Office (FMO) AWP-45 James Motley (310) 725-3474
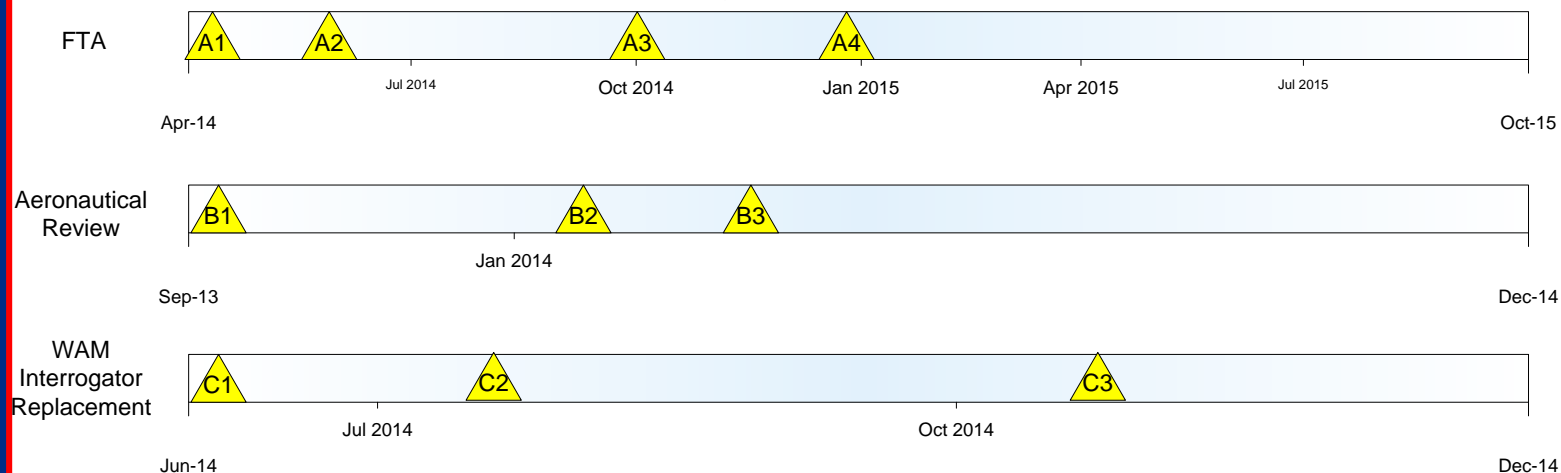
Oakland Center Aeronautical Review Current Status and Next Steps

- Oakland's Center (ZOA) Aeronautical Review (AR)
  - Confirmed Commitment from ZOA to Press Forward with Aeronautical Review (Email from John Fisher 02/04/2014)
  - AR in Final Review and update; David Paxton Western Service Center

- Next Steps
  - AR will be Forwarded to FAA Headquarters ~ 2Q14

Timelines

TTAD Projected Timelines

FTA

A1 A2 A3 A4

Jul 2014   Oct 2014   Jan 2015   Apr 2015   Jul 2015

Apr-14   Oct-15

Aeronautical Review

B1 B2 B3

Jan 2014

Sep-13   Dec-14

WAM Interrogator Replacement

C1 C2 C3

Jul 2014   Oct 2014

Jun-14   Dec-14

FTA:

A1. Submit FTA Extension Request

A2. Coordination between Headquarters and FMO

A3. Received Updated FTA through Mandate Period Dec. 2020

A4. Current FTA Expiration Date Dec. 31, 2014

Aeronautical Review:

B1. First Draft Release by Oakland Center

B2. TTAD provides their comments to ZOA, awaiting final document

B3. FAA Western Service Center Release AR to FAA Headquarters ~ Apr - May

WAM Interrogation Replacement: If Required

C1: Generate and Release GFE Interrogator Replacement RFQ

C2. Review and down-select vendor

C3. New Interrogator installed and integrated into Flight Tracking System

Risks and Mitigations

Risks	Pro's	Con's	Mitigations
FAA Request Current GFE Interrogator to be Returned by TTAD	New Interrogator would be owned by TTAD	System Performance would be Diminished (MODE 3A/C) Until New Interrogator is Purchased	Generate and Release RFQ to Replace current GFE ~ $100K
Final Decision of ZOA AR requires WAM System Replacement	Support and Maintenance Costs Shifted to FAA	Control of System in FAA Hands not TTAD, expansion of system out of TTAD hands Unintended Consequences	Coordination with FAA HQ and ZOA, on use of system, may require ATC seasonal tower
Expansion of Existing WAM to covers areas south of the airport within the District boundaries	Safety, Safety, Safety,	Timing and Costs	Perform Site Survey for Expansion to determine Real Costs and Feasibility

Optional Slides

- Primary WAM Options
  - 3 different upgrade options

Truckee Tahoe Airport (TRK) Wide Area Multilateration (WAM) Options

Potential Three options moving forward:

1. *Maintain Existing System and Continue on Certification Process to Include Era Receiver Type Certification, FTA Extension and Integration with ZOA*
2. *Replace Current System with a FAA Certified System (i.e. Sensis)*
3. *Replace Current System with a FAA ADSB / WAM Selex System*

The following Slides Represent an initial Assessment based upon current data and information and are subject to change

Option 1: Existing TRK WAM System

Pro's

- Provides Advisory, Situational Awareness, and Increase Safety of Flight
- System is Installed and Operational
- Provides Benefits to Community
- TTAD controls system and potential expansion

Con's

- FTA Expires on GFE Interrogator Dec 2014
- Current WAM Hardware not FAA Type Certified for use in NAS
- Certification Process Who Pays' and how Long
- More Involvement by FAA at TTAD

Option 2: Retrofit System Receivers with Sensis

Pro's

- Radios / Sensors are Type Certified Compliant with FAA Specifications

- FAA Logistic Tail Already in Place

Con's

- Cost and Time

- Assurance of Certification

- FAA Ownership and Maintenance

- FTA Process Still Remains for an Active Interrogator

- ~ 100K+ per site

Option 3: Retrofit System with Selex ADSB Radios

Pro's

- FAA Could Potentially Use Data

- TRK has No Ownership or Costs

- TRK prepared for ADSB Mandate

Con's

- Not in Current FAA Plan $$$

- Detection of Mode 3A/C Aircraft?

- TTAD Has No Control of System

- Business Case

- FTA Process Still Remains for an Active Interrogator

- Conference Call Information and Selex Data Sheets not in Sync (i.e. ADSB / WAM)