



TRUCKEE TAHOE AIRPORT DISTRICT STAFF REPORT

AGENDA TITLE: Noise & Annoyance Discussion – How are we doing?
MEETING DATE: 07/08/19 Board Workshop
PREPARED BY: Hardy Bullock, Director of Aviation & Community Services

RECOMMENDED ACTION: Engage Staff in an iterative discussion on the District efforts to reduce and mitigate impact from aircraft arrival, departure, and overflight.

DISCUSSION: The District uses every facet of the airports authority to reduce annoyance. Many of these methods are outlined in detail in the *Noise & Annoyance Handbook*, published in 2016 currently being updated for ADS-B and some of the other modifications we have instituted. The guiding philosophy, for all airports nationwide, is to align flight paths with areas of low residential density and high ambient noise. How is this accomplished?

1. Aircraft Flight Path Control: Surveillance, Flight Procedures, Control Tower.
2. Pilot Behavior: Incentives, outreach, integration, peer support, education, and social media.
3. National Airspace Integration: FAA partnership and design review.
4. Master Plan Airfield Design Alternatives: Runway lengthening, widening, runway category.
5. Business: Lease and operating agreements, minimum standards, proprietary control.
6. Operating Standards: Hours of operation, fueling, hangar access, level of service and staffing.
7. Stakeholder Engagement: Full time annoyance coordinator, listening, response, and meetings.
8. Innovation & Technology: Flight Tracking, automated noise response, hotline, reports, and data.

In late 2018 the Metropolitan Airport Commission which governs one of the largest public airport systems in the world undertook a landmark Noise and Annoyance Benchmarking Study (see attached) aimed at measuring the effective success of its overall annoyance reduction

programs. The study focuses on 28 key initiatives which are essential for success and considered the industry's highest benchmark when responding to community noise and annoyance, (Metropolitan Airport Commission, HMMH Author, Project #309750 2018). Of the 28 initiatives, Truckee Tahoe Airport District is currently actively engaged on 23 and have discussed at some point in great detail the remaining 5 which include:

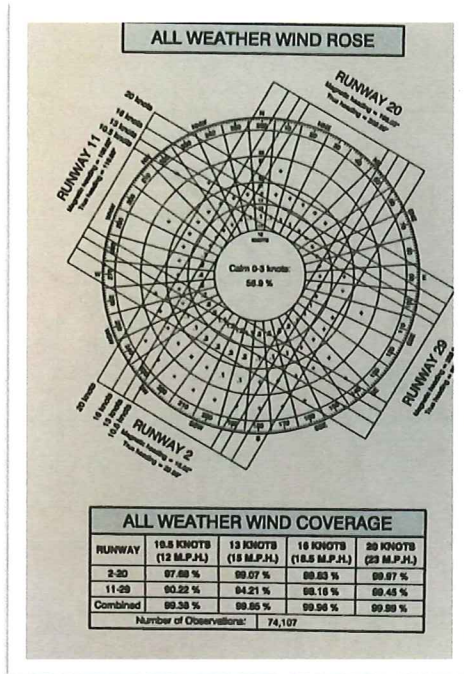
1. Noise Monitoring
2. Mobile Noise Monitoring
3. Ground Run Up Enclosure Systems
4. Residential Sound Insulation
5. Part 150 Noise Study

If the airport chooses to add additional initiatives to combat annoyance it is my recommendation we look closely at the 23 existing benchmark areas as well as the 5 currently deferred to better understand additional opportunities for improvement or enhancement to our annoyance reduction efforts.

We have also attached "*Determinant Factors for Aircraft Runway Utilization*" which we hope will assist in the conversation related to Runway assignment and utilization. This topic could come up during the Procedure and ATC conversation or under Noise and Annoyance.

Determinant Factors for Aircraft Runway Utilization

WIND



Wind Direction & Velocity are the primary determinant factors for runway selection and utilization at airports.

- Relative wind (headwind) reduces takeoff distance and improves climb performance.
- Calm winds usually occur at night, after sunset until mid-morning.
- Wind favoring runway 29 and 20 occur during the peak hours of the day and peak during the summer periods (*airport design*).
- Aircraft arriving or departing with a tail wind pose a significant hazard.
- Aircraft are limited to crosswind of less than 17-20 knots.
- Tower controllers only have access to calm wind runways when wind on the ground and at the approach altitude are calm.

LENGTH & LOAD BEARING

- Large aircraft need runway 29 or runway 11 based on speed, wingspan, and weight.
- Fast aircraft need runway 29 or runway 11 based on speed.
- In the summer, smaller faster aircraft like Cirrus require runway 29.

IFR vs. VFR

- Most jets arrive and depart IFR. Only runway 29 and runway 20 support this.
- A very small number of jets depart VFR. The tower instructs them to "Fly runway heading until 180 then 180 on course"

Peak Period Traffic Flow

- The tower is required to create a general flow of traffic for safety and separation standards which integrates with Oakland Center. When the fleet mix of traffic is comprised primarily of aircraft requiring runway 11 or 29 most traffic will be assigned in-trail.

Average peak period scenario for summer afternoon [Wind 240 degrees @18 Gusting 24, 30% jets, 30% turbo-prop, 20% piston single, 10% glider, 10% piston twin/other]**

