



TRUCKEE TAHOE AIRPORT DISTRICT BOARD OF DIRECTORS STAFF REPORT

AGENDA TITLE: Trip Report – UC Davis Aircraft Noise Emissions Symposium
MEETING DATE: Wednesday, May 24, 2023
PREPARED BY: Director Hetherington, Jeff Menasco Director of Aviation
PRESENTED BY: Jeff Menasco

RECOMMENDED ACTION: Informational only, recommendations in this report can be undertaken by the staff without further guidance from the Board.

DISCUSSION: The UC Davis Aircraft Noise Emissions (ANE) Symposium was attended by Director Mary Hetherington and Jeff Menasco, Director of Aviation, from 1-3 May 2023. ANE is one of the premier noise symposiums in the US that brings together airport management staff, noise emissions experts, industry, academia, FAA, and citizen leaders concerned about noise emissions in their communities. The attendees ranged from Don Scata, FAA Office of Environment and Energy - Noise Division to Darlene Yaplee, Airport-Impacted Communities Alliance, which includes 77 groups addressing the impacts of noise and emissions in their communities (<https://aviationimpactedcommunities.org/>). Below are key observations pertinent to KTRK, followed by recommendations.

Noise & Annoyance. Noise is a manifestation in the physical environment, and it impacts each individual and community differently. There are many ways of classifying its effects and decibels. Annoyance is the perception and emotional reaction of noise and air emissions by the individual.

Options to decrease noise/annoyance boil down to: relocating runways, relocating noise sensitive users, preferred runway usage, displaced takeoff or landing thresholds and adjusting flight pathways. There is no single easy option to influence, and there are numerous constraints to the options available. Transparent communications with local communities are the best method to establish trust.

Centennial Airport in CO has flight schools with many overflights in nearby neighborhoods. They have taken some unique approaches: using ATC personnel for flow control and to focus on noise abatement, extending the pattern or limiting the number of overflights, and evaluating the requirement that multiple touch-and-goes come to a complete stop.

Several airports are now publishing data on the operators at their airports. One suggestion was to publish tail numbers or companies of flights that follow the noise abatement procedures; provide gold stars, public notifications or other incentives acknowledging their efforts.

Noise Operations Monitoring Systems (NOMS). NOMS are noise sensors put in communities to capture actual noise emissions from airports. NOMS have traditionally been used only at larger airports such as LAX but are becoming more common at GA airports. Costs, technology, and correlation of noise emissions to flight tracks have advanced markedly over the past decade. This allows airports to correlate actual aircraft to specific noise emissions while distinguishing between other noise generators. NOMS sensors capture actual data rather than just using models.

Next Generation Navigation (Next Gen). Next Gen was released in 2015 and enables aircraft to use precise navigation for departures and arrivals. Prior to 2015 a larger percentage of traffic was vectored by ATC and, by nature, resulted in a wider dispersion of traffic over airport communities. Next Gen concentrates all traffic over the same exact points and has created new noise & annoyance problems.

FAA Policy. The FAA has opened a *Public Comment Period on Noise Policy Review*. Most FAA noise policy has been in place for well over 30 years, and has roots starting at the beginning of the jet age; issues being examined include:

- Relooking at the use of Day Night Level (DNL) as the FAA standard for measuring “annoyance”.
- Examining if the current DNL 65 db should be lower (50-55); medical and public health data supports a lower threshold and most European countries have adopted 50 db as the standard.
- The FAA released a survey on 1 May to gather nationwide input on these issues and is taking comments until July 31, 2023.
- If the FAA adopted new noise standards, it’s unknown if they would update enforcement policy.

Sustainable Aviation Fuel (SAF). Industry is moving towards SAF not only for the greenhouse gas benefits, but also for reductions in particulate matter. SAF eliminates the release of sulfur particulates when burned which is a great benefit to public health. This is a growing industry and will be a mainstay in aviation fuel until the future of electric (for GA) or hydrogen (for commercial) becomes viable at scale in the coming decades.

Unleaded Aviation Fuel. This is becoming more common and 15 airports in CA are selling Unleaded 94 (UL94). Currently UL94 is usable by 75% of the general aviation fleet and significantly reduces maintenance on aircraft engines if the user only uses UL94. Aircraft can mix these fuels within their tanks, however the FBO needs a separate tank for storage and sale. In addition, 100R fuel is also being developed. These fuels are price competitive to 100LL.

Climate. The US has a goal to be carbon net-zero with aviation by the year 2050. Contrails have also been identified to be contributing to climate change, and numerous initiatives are underway to curb this. There is also a growing body of research to determine if particulate matter from aircraft is damaging to human health. Ultra fine particles (UFP) are small enough to directly enter the bloodstream.

Electric Aircraft. New Vision Aviation from Fresno developed an electric light sport training aircraft to facilitate youth learning to fly. Costs are 1/3 of regular AvGas aircraft. Archer is developing an electric aircraft for urban air mobility; their focus is on the Bay Area and New York areas.

Recommendations.

- 1) SAF: Continue KTRK's journey towards 100% SAF use and highlight the health benefits.
- 2) UL94 and 100R: Prepare for accommodation of unleaded fuels in the next few years; consider evaluating the logistics and timing of the development and accessibility of these fuels; report if there is value in providing UL94 now or waiting for 100R fuel. Education of AvGas users about this option.
- 3) NOMS: Lease NOMS to capture a peak month or months in targeted neighborhoods to capture actual noise emissions, both loudness and number of events. KTRK has good data on 'noise complaints' but we have limited capture of actual noise emissions. This data could enable the Airport Board to make decisions on future mitigation and could also be shared with the aviation and neighborhood communities to improve transparency and build trust. Actual data rather than models is useful.
- 4) FAA Policy: Leverage airport district community to comment on FAA survey on noise/annoyance policy. Comments due by July 31, 2023. Consider TTAD making a comment to address the unique challenges of resort community GA airports. Inform local commenters about this opportunity. FAA link: <https://www.faa.gov/newsroom/faq-opens-public-comment-period-noise-policy-review>

FISCAL IMPACT: TBD if NOMS are leased for noise capture.

PUBLIC COMMUNICATIONS: With the goal of developing trust with people who have made comments about increasing overflights, perform outreach via ACT and the existing list of commenters about the FAA taking comments about noise. Outreach to Pilot's group regarding the new fuel options.

SAMPLE MOTION(S): None.