

# Airport creates environmental dogfight at 6,200 feet

**Publisher's note:** *This is the second of three stories looking at the past, present and future of Lake Tahoe Airport.*

**By Joann Eisenbrandt**

In the mid-1800s, white trappers and settlers spilled over from the gold mining encampments of the California Mother Lode and changed Lake Tahoe forever. Attempts to designate the lake as a national park failed in 1905 and again in 1935 because private enterprise and development already dotted the lake's entire perimeter. The focus then turned to how its human inhabitants could interact with the Tahoe environment without destroying it. In many ways, the Lake Tahoe Airport has become a poster child for this struggle.



The 1992 Lake Tahoe Airport Master Plan Settlement Agreement, which has regulated commercial air service at Tahoe for the last two decades, expires this October. There has been no scheduled commercial service to Tahoe since 2000, but the city is actively laying the groundwork for its return, rekindling the debate over its positive and negative impacts.

In 1985, while the pre-Settlement Agreement distrust and fighting was still raging, California Deputy Attorney General Ken Williams explained to this reporter, "The problem is that things at Tahoe tend to polarize so fast. Once you get into a tug-of-war like that, it's very hard to let go of the rope."

Tahoe's major stakeholders – South Lake Tahoe, Tahoe Regional Planning Agency, California Attorney General's Office, League to Save Lake Tahoe and with regard to the airport, the FAA – all clearly recognize the basin's two inseparable yet polarizing issues, environmental preservation and economic survival. As Julie Regan, TRPA's external affairs chief, told *Lake Tahoe News*, "Our entire Regional Plan is based on restoring the lake and revitalizing our community. We're supportive of progress to help the economy, but we live in a fragile environment. We need an economic boost that is also compatible with sustaining the special environment we live in and the serenity of Lake Tahoe."

Darcie Goodman-Collins, executive director of the League to Save Lake Tahoe, says something similar, "This is really a false dichotomy. Without a clear blue lake, there can't be a healthy economy at Tahoe, so the two must go hand-in-hand. Economic vitality is important in any community because it enables investments in environmental restoration and protection. ... The challenge is building an economy that will both thrive over the long term and benefit the lake."

South Lake Tahoe City Manager Nancy Kerry agrees, "We look at what law governs airport operations and how do environmental concerns fit in with airplane regulations. We have things we want to do to help our community find a better life. We all live in Tahoe and work here. We all love Lake Tahoe."



For some, it's hard to see the benefit of Lake Tahoe Airport through the trees -- literally and figuratively.

But loving the lake and letting go of the rope can be two different things, especially when the future of Tahoe is seen as hanging in the balance. Even now, the line between cooperation and lawsuits remains a thin one. In April 2011, the League expressed its concerns over the future of the airport in a letter to the city Planning Commission regarding the city's General Plan update, "The city of South Lake Tahoe General Plan EIR must provide more information about plans for the South Lake Tahoe Airport and the impacts it would create. The city is pursuing airport development, but the EIR does not provide enough information about potential air quality and noise impacts that would result from the planned development."

The League's lawsuit was subsequently dismissed in February 2012, when the two parties reached a settlement agreement. The issues surrounding the Lake Tahoe Airport remain unsettled.

### **First of all, noise**

Noise isn't just sound. It's unwanted sound. Just mention "SnowGlobe" and you realize how noise can send otherwise calm people into a frenzy. Understanding the emotional underpinnings of noise is as important as understanding the statistical measurement of noise itself. As the FAA recognizes in its Aviation Noise Effects Advisory Circular, "It is not possible to state simply that a given noise level from a given noise source will elicit a particular community reaction ... an individual's attitudes, beliefs and values may greatly influence the degree to which a person considers a given sound annoying."



FAA mandates the runway be kept in good working order.

Technically, noise events, quantified in decibels (dB), are measured as “intrusions” over the existing background or “ambient” noise levels, which have been estimated to be much as 20 decibels lower in a rural setting, such as Tahoe. Acoustics, the science of noise measurement, is complex, and depends on a number of precise factors, and different agencies such as the FAA, California Division of Aeronautics and TRPA have all developed descriptors for time-measured noise events.

The 1992 Settlement Agreement contains specific aircraft arrival and departure decibel limits, and a monitoring and complaint system to track them. There has been significant disagreement over the decibel levels, but the reason why discussions have turned so quickly into emotionally charged ones is the fact that such noise itself is seen by many as totally inappropriate in Tahoe’s unique environment. As one respondent to a phone survey done by this reporter in 1988 put it succinctly, “It’s sick to have an airport in beautiful country like this.”

TRPA’s Regional Plan update pinpoints noise as a significant impact that needs to be tracked and mitigated. “High noise levels can reduce the public’s enjoyment of the natural environment, impact quality of life for residents, and disturb native wildlife.” The TRPA Compact requires the adoption of “environmental threshold carrying capacities” for the Lake Tahoe region. These are the minimum standards TRPA believes

are needed to maintain the lake's scenic and natural values. One of those carrying capacity standards is for noise.

Noise can be measured as a maximum single-event level or as a cumulative noise level over time. TRPA has established Environmental Threshold Carrying Capacity Noise Standards for both – a Single Event Noise Level (SEL) for single, non-repetitive events and a Community Noise Equivalent Level (CNEL), which averages cumulative noise levels in a specific “noise contour” over a 24-hour period with extra penalties assigned to nighttime aircraft noise events. These noise standards are measured in decibels as A-weighted (dBA), de-emphasizing very high and very low frequency sounds in the same way they are perceived by the human ear.

TRPA's noise standards for commercial aircraft have been disputed by the city since it first took over the airport from El Dorado County in 1983. At that time, the city contended that TRPA's dBA limits for commercial aircraft takeoffs and arrivals were taken arbitrarily from FAA Advisory Circular 36-3B, – which establishes noise standards by aircraft type – with the express intention of banning specific aircraft from Tahoe whose test ratings showed they couldn't meet TRPA's then single-event daytime standard of 84dBA, while allowing others. TRPA planners disagreed, stating they “drew the line” based on the best-available technology of the time, the DC-9-80, which could meet that standard.

In the 2012 Regional Plan Update Goals and Policies, TRPA's single-event noise thresholds for commercial aircraft are 86 dBA arrival and 80 dBA departure daytime, and 77.1 dBA nighttime (8pm to 8am) with a CNEL level in areas impacted by the airport of 60dBA.

Noise was clearly a defining issue leading up to the 1992 Settlement Agreement. The city believes it should be less of a problem today. Airport Director Sherry Miller says comparing commercial aircraft from 1992 with today's new generation

like, “comparing apples and oranges. Technology has changed. Airplanes are quieter and less polluting.”

Mayor Pro Tem and Airport Commission Chairman Tom Davis agrees. “Aircraft have changed to Stage 3. I really don’t see noise as an issue now. We’re looking for regional service, not big jets. Like the Quad400 at 68 decibels and there are even quieter ones. The technology is there.”

Michael Golden, president of Mountain West Aviation, the fixed-base operator at the airport, explains, “The environmental impacts of flight in general are far less than those of motorized transportation. It uses the least energy and is the most environmentally friendly. Because of the rising costs of fuel, aircraft had to become more efficient to meet the market demand, and making them more efficient made them quieter. As speed increases, you need more power to battle the wind resistance, so there were changes to engines and airframes, using air foils at the wing tips. Aircraft noise is not just the sound of the engines, but the sound of the aircraft moving through the air. The more efficient it is, the quieter it is.”

FAR (Federal Air Regulations) Part 150 establishes the FAA’s system for measuring airport and background noise, determining the exposure of individuals to noise and creating a standardized airport noise control and compatibility planning program. It works in conjunction with FAR Part 36 that “contains noise certification standards for most airplane types, generally requiring newly designed and manufactured aircraft to be significantly quieter than older aircraft.” Part 150 requires the airport to develop noise exposure maps – “noise contours” – that spread out in rings from the actual airport itself and show different acceptable CNEL noise levels for different land uses.

That requirement is met by the Lake Tahoe Airport Comprehensive Land Use Plan that establishes the airport’s

planning boundaries and creates a land use plan defining compatible land uses for future development around the airport. It includes noise restrictions and regulations from the 1992 Settlement Agreement and recognizes, "The Lake Tahoe Airport is an extremely noise sensitive airport. ... The impact of aircraft noise on the basin can and should play a role in decisions made regarding the development of the airport and its surrounding area."

The League to Save Lake Tahoe questioned how well aircraft noise impacts could actually be mitigated. Its November 2006 Lake Tahoe Airport Impacts Report says, "Larger commercial and corporate aircraft are generally louder than smaller aircraft, which directly and negatively impact all who live, work or visit near the airport or flight path."



Lake Tahoe Airport is next to the Upper Truckee River.

In its April 2011 letter challenging parts of the city's General Plan update, the League continued to remain skeptical that "airport noise will not create a significant impact. What data is available to assert that current air traffic noise does not already impact the TRPA noise threshold and that the any future increase in air travel to and from the Lake Tahoe Airport will not further impact the TRPA noise threshold?"

Every five years since 1987, TRPA has produced a "Threshold Evaluation Report" assessing the effectiveness of its Regional Plan. The latest 2011 Report was peer reviewed by an

independent panel of scientists coordinated by the Tahoe Science Consortium. Regarding noise, it found, “the approach used to assess and report Single Event and Cumulative Noise Event conditions to be overly complex and recommend that it be comprehensively reviewed and simplified ... as applied and interpreted, achieving adopted standards is infeasible. Enforcement too is challenging due to the transient nature of sources of noise and limited enforcement mechanisms to achieve adopted standards. Noise standards and assessment methodology should be reviewed and considered for adjustments.”

The TRPA’s Regan explains the airport was “essentially carved out of the RPU because it’s a specific set of concerns,” including noise, which will be addressed more fully and updated on a separate track. She estimated this process might take several years. Such a re-evaluation of TRPA’s noise thresholds and assessment methods could be a potentially significant change in the approach to noise measurement and enforcement. It is unknown exactly how events will play out if the city begins the process to reinitiate commercial service before a fresh look at TRPA’s noise thresholds has been completed.

Even with improved measurement methods, removing the emotional component of the noise issue will be difficult as it cuts to the heart of the “who speaks for Tahoe” question. Noise is not just sound. It’s unwanted sound. And unwanted all the more by many because it’s happening at the lake.

### **Air quality, water quality and VMT**

Just as there is a TRPA threshold for noise, there are also thresholds for air and water quality and the requirement for mitigation measures for projects that might impact them. TRPA and the League to Save Lake Tahoe view automobiles as a major source of the emissions which create those pollutants in the air which eventually affect the lake’s clarity – imagine that endless chain of cars creeping slowly from Stateline to Echo



Summit at the end this holiday weekend. How many miles cars travel in the basin or VMT (vehicle miles traveled) is seen as having a direct impact on air and water quality. The TRPA Compact has the goal of reducing yearly VMT 10 percent from its 1981 base-year levels.

But what if more of those visitors came by airplane? And what if air travel was part of an integrated regional transportation system? Would the drop in VMT from cars offset any pollutants, specifically nitrous oxides (NOx), created by the aircraft themselves?

The League says, "No." Its Lake Tahoe Airport Impacts Report contends the "re-introduction of commercial air service to the South Lake Tahoe airport would likely emit far more air pollution into the basin than if the expected passengers instead drove automobiles to the basin," and goes on, "Contamination from lead additives still widely used in aviation fuel near the airport can result from leaks or spills and from the lead-based aviation fuel particulates being blown into the surrounding meadow, forest and waterway."

In the League's April 2011 letter challenging the city's General Plan update, it added, "State, federal and TRPA standards for ozone are currently out of compliance in the Tahoe basin. Ozone is detrimental to human and environmental health. Ozone precursors resulting from airport operations are overlooked in these findings and must be considered. Additionally, CO and particulate are produced by airport operations."

Airport Director Miller believes advancements in aircraft technology have greatly mitigated such impacts. "All I can tell you is that the aircraft we will be attracting are a new generation and produce significantly less pollution. Research of a 1980's B-727 versus a 2012 Q-400 will show you the difference. With older 727s there was some environmental destruction. They were huge pollution producers. You could

follow their grey exhaust trail as they took off. That's rare now. I can see why there was so much upheaval over air service in the past."

Air pollution also affects water quality. TRPA's goal is to "reduce nutrient and sediment loads for surface runoff, groundwater and atmospheric sources to meet 1967 to 1971 levels of algae and water transparency measured in Lake Tahoe." The Lake Tahoe Total Daily Maximum Load (TMDL) identifies fine sediment particles, nitrogen, and phosphorus that are discharged into the lake from land-based and atmospheric sources that add nutrients to the lake and impact water clarity. Because most of these come from automobiles, reducing VMT is seen as a key to reducing water pollution as well.

Kristi Boosman, TRPA public information officer, adds, "We are looking at what science says about major pollutants. We are dealing with a holistic system, not silos. Our RPU takes that into consideration. The health of each part of the system is critical to the health of the lake. That's the definition of sustainability."

The city believes commercial air service will mean less automobile travel, less VMT and consequently, less pollution. For TRPA, Regan explains, "Commercial service as a VMT reducer is an open question. We need to do a more detailed analysis of where the airport fits into the VMT question. General aviation is not reducing VMT at this point, but there's a variable because we don't know about commercial service."

But how is the airport's VMT scorecard produced? Whether commercial service has a positive VMT "savings," depends on the ratio of "diverted" passengers – those who would have driven to Tahoe if there'd been no air service to "induced" passengers – those who came because there was air service. Also factored in is the transportation mode that visitors arriving by air use once they are here – rental car, bus,

shuttle – and how much VMT they accrue in the mode they've chosen while in the basin.

A July 1984 study by Kyung-Il Ghymn from UNR showed 69 percent of airline passengers were “diverted,” producing a significant savings of 89.9 VMT from each air carrier operation. These figures were based on flights by AirCal's 737-300s, with much larger passenger loads than are being anticipated under any current return to commercial service. The League and the California Attorney General's Office questioned these figures, pointing to when and where the survey was done – on a holiday weekend at the airport– saying this produced a pre-selected, non-scientific sample.

The city views the airport's VMT-reducing role as important within a larger coordinated basinwide transportation system context. Still, the question remains how many flights using smaller regional aircraft would be required to create a significant VMT reduction and would any “savings” be overshadowed by the airport's negative environmental impacts.

### **Financial impacts**

Setting the environmental question aside for now, will commercial service provide an economic benefit to the larger Tahoe economy? The 1984 Ghymn study also included a Passenger Profile Study that tracked visitors' length of stay and daily expenditure patterns. It concluded that with average stays of 5.4 days and daily expenditures of \$67 the gross annual expenditure by commercial airline visitors was just more than \$31 million. Factoring in expenditures by general aviation visitors and payroll figures from airport tenants, the report put the total impact at \$57 million in 1984 dollars.



A voting precinct is one of the airport's main uses.

A survey, not restricted to airline passengers, was done by the Marketing Council, predecessor to the Lake Tahoe Visitors Authority, in 1985, and many other South Shore visitor surveys have been done by various agencies since. These surveys not only make predictions on direct impacts – actual dollars spent – but also use a multiplier to gauge the “rollover” or “trickle down” effects as those dollars are re-spent throughout the larger Tahoe community. Not everyone agrees on whether the money actually trickles down throughout the local economy or just goes directly to the casinos, ski resorts and other large California or Nevada properties.

In 1989, Laurel Ames, then consultant to the League, told this reporter, “My guess is that the amount of dollars spent on the airport could be circulated, or even thrown out of cars going down Highway 50 and have a better effect and be spread more evenly throughout the economy.”

City Manager Kerry sees it differently. “The airport is in South Lake Tahoe. You could make the argument there’s no trickle down benefit if the airport was in Zephyr Cove. We are the direct beneficiaries of this airport. People get off the plane, take a taxi, car or bus and go through our town ... statistics back up the fact that people are no longer coming here just for the casinos, they come here for vacations.”

In 2007, the city commissioned RCC Associates, a Boulder, Colo.-based firm, to do an off-airport economic impact study. It used five scenarios with varying start dates for the return of commercial service, varying levels of enplanements and varying speeds at which yearly enplanement levels would rise at the airport through December 2012, using newer Boeing 737 138-seat and Bombardier Q400 70-seat aircraft, as well as one scenario with general aviation service only.

All of the scenarios with commercial service projected enplanements ranging from 300,000 to 430,000 passengers annually, with cumulative direct and multiplier impacts over the years of service ranging from about \$111 million to just more than \$1 billion, with the city "capturing" 40 percent to 60 percent of visitor spending. The report included the disclaimer that it was, "not intended to provide a definitive estimate of the likely economic impacts of TVL" because of "the lack of recent operating history at TVL, and the inherent margin of error in the many modeling assumptions which are required to project economic impact," but was meant as a "jumping off point" to facilitate discussion of the airport's potential economic impacts. (TVL is the FFA's designation for Lake Tahoe Airport.)

Some of the report's 2007 assumptions are no longer valid, such as the low awareness by visitors of the proximity of the Reno airport, whose aggressive Tahoe-linked marketing has greatly increased that awareness; the willingness of travelers to spend more for the convenience of flying directly into Tahoe, which didn't anticipate the economic downturn; and the attractiveness of redevelopment and the convention center, which many never be completed.

The city points to Mammoth as a contemporary example of commercial service-generated economic impacts. It is also a mountain airport, with regional service provided by Bombardier Q-400 turbo-prop aircraft – the city's preferred choice. Kerry states that, "Mammoth estimates that (commercial) air service

brings in \$220 million a year.”

While Mammoth Airport Manager Bill Manning did not confirm an exact figure, he told *Lake Tahoe News*, “We’ve done a lot of analysis on it. Last year we did a study. If you take enplanements, what’s spent per day, say \$500, for five days and use an economic multiplier, it’s simple to come up with the economic impact.”

Mammoth Airport’s annual enplanements are about 35,000. He added, “It’s huge for the local population to be able to get out of here and get back; to start a business and be able to get to L.A.”

The study was privately financed, so more specific details were not available.

With all such studies, how one looks at the results depends on how accurate one thinks the raw data is, how valid the sample of respondents is and how appropriately the survey questions themselves were framed. Even if one accepts the results, are they offset by the costs of running and maintaining the airport itself?

The city currently spends close to \$500,000 annually keeping the Lake Tahoe Airport open. This figure will decrease to about \$300,000, Kerry says, once the hangars that were built are paid off and start bringing in revenue. She adds, “Most airports are not moneymakers,” nor are they expected to be. The addition of commercial service, she believes, will eventually help the airport reach break-even.

The League, in its 2006 analysis of the airport, brings it back to the question of tradeoffs, “Do the economic and transportation benefits from the Lake Tahoe Airport outweigh the costs to the environment, such as air and water pollution, and community, such as noise and tax subsidies?”

Noise. VMT. Air quality. Water quality. Economic vs.

environmental impacts. All of these issues will play a part in the process as the city moves toward returning commercial service to Tahoe. How much each of will impact that process, and how closely the process itself it will resemble the conflicts over commercial service of the past, will remain unknown until the city has presented a more fully defined plan.

*Part three on July 7: What's the same as 20 years ago and what's different and how that will affect the city's search for commercial service.*