

# **Airport Access Restrictions Discussion Paper**

**December 2003**

## **1.0 Introduction**

The Airport Noise Advisory Panel (ANAP) is a voluntary committee formed by the Airport Authority of Washoe County (AAWC) Board of Trustees. The ANAP has been in existence for over twenty years and its function has been and continues to be to gather data pertaining to aircraft noise, consider how these noise levels may impact surrounding development, and evaluate and recommend possible solutions for impacts to incompatible development. The committee composition is made up of citizen representatives from each of the three local jurisdictions (Cities of Reno and Sparks and Washoe County) as well as planning representatives from each of the jurisdictions and industry representatives (airlines, Air National Guard, air cargo, and general aviation).

At the 3rd quarter Airport Noise Advisory Panel (ANAP) meeting held on September 24, 2003 there was a discussion regarding the possibility of revisiting and implementing some form of access restrictions at the Reno/Tahoe International Airport (RTIA). The primary purpose of these restrictions would be to limit aircraft noise impacts on the surrounding community, especially during the nighttime hours. Although access restriction alternatives were considered but rejected in the recently completed (2002) Federal Aviation Regulations (FAR) Part 150 Noise Compatibility Update study, it was felt by some members that the subject warranted revisiting.

As a result, the remainder of this discussion paper is an effort to summarize the current regulations that control the implementation of access restrictions and provide a description of some activities other airports are undertaking in order to facilitate discussion on this subject relevant to RTIA.

## **2.0 Regulation of Access Restriction Implementation**

At the September 24, 2003 ANAP meeting it was requested that the Airport Authority staff, in their review of access restrictions, consider measures being implemented at airports abroad, and in particular, Europe. As a result, this paper has also investigated what a number of European airports have done. However, it must be recognized that RTIA operates under the regulations set by the Federal Aviation Administration (FAA) while airports outside the United States are regulated by their respective governments.

The Aviation Safety and Noise Abatement (ASNA) Act of 1979 is the legislation that directed the FAA to formalize a process for quantifying airport noise impacts on surrounding communities and evaluating mitigation alternatives for alleviating those impacts. FAR Part 150 – Airport Noise Compatibility Planning, first published in 1982, was the FAA’s response to complying with the ASNA Act requirement.

Airport participation in the FAR Part 150 process is voluntary and only about 300 of the approximate 3,300 airports eligible to participate have done so. Aside from the good working relationship that can be developed between an airport and its surrounding community by performing an FAR Part 150 study, the airport/community also becomes eligible to receive special grant funds set aside for implementation of noise mitigation measures. Approximately 10% of \$3.4 billion is issued annually in grants for noise projects and the AAWC has received in excess of \$30 million over the last 10 years.

The Airport Authority of Washoe County (AAWC) initiated its first FAR Part 150 study in 1989 and received FAA approval in 1993. The AAWC initiated an FAR Part 150 study update in 2000 and submitted the final Noise Compatibility Plan document to the FAA in March of 2002. Final FAA approval of this document is still pending.

As part of an airport's FAR Part 150 study, the regulations require that, at a minimum, a specific list of alternatives be evaluated, including a variety of different access restrictions (partial/complete curfews based on time of day or restrictions based on noise level, capacity limits, or landing fees). Both the original and update studies completed for RTIA evaluated these types of alternatives. However, in neither case were they recommended for implementation. A thorough discussion from the FAR Part 150 Update study pertaining to access restriction measures considered and the reasons why they were not pursued further is included in Appendix A.

With the passage of the Airport Noise and Capacity (ANCA) Act of 1990, implementing access restrictions at airports became significantly more difficult. ANCA is legislation that was passed by congress to institute the gradual phase out of older "Stage 2" aircraft over 75,000 pounds in gross weight to more quieter "Stage 3" aircraft by the end of the year 2000. The intent was to reduce off-airport noise impacts by reducing noise generated at the source.

In agreeing to absorb the expense of modernizing the aircraft fleet, aircraft operators were successful in lobbying congress to also include language in ANCA that would establish a consistent and more restrictive process for consideration of access restrictions at airports. At the time, aircraft operators were beginning to see a patchwork of different restrictions to materialize. Complying with all the individual requirements would make their scheduling impossible.

In response to the ANCA requirements the FAA created FAR Part 161 – Notice and Approval of Airport Noise and Access Restrictions. Today, the process for implementing an access restriction requires an airport operator to include the recommended measure in an FAR Part 150 Noise Compatibility Plan. The FAA will review the measure and disapprove it subject to preparation of an FAR Part 161 study. The airport then prepares the FAR Part 161 study and submits it to the FAA for approval/disapproval.

Prior to ANCA (1990), FAR Part 150 required the airport to demonstrate that the proposed access restriction would first not unjustly discriminate (restrict a single operator or type of aircraft) and secondly not create an undue burden on interstate commerce (restrict businesses

from making money or communities from receiving a service). These criteria alone made it very difficult for airports to implement access restrictions. However, after ANCA was passed, FAR Part 161 added even more restrictive criteria that has to be met. In addition to unjust discrimination and burdens on interstate commerce, an airport must now demonstrate the restriction complies with the following:

- Provides an adequate analysis of the costs and benefits of the proposed restriction and alternative measures
- The restriction is reasonable, non arbitrary and non-discriminatory.
- The restriction maintains safe and efficient use of navigable airspace.
- The restriction does not conflict with any existing federal statute or regulation.
- The applicant has provided adequate opportunity for public comment on the proposed restriction.
- The restriction does not create an undue burden on the National Aviation System.

As just one example of the level of detail required in an FAR Part 161 analysis, the airport must determine the economic impact (lost revenue, taxes, payroll, etc.) for every flight denied access at both the airport proposing the restriction and the community where the flight originated from and/or was destined for. If it is assumed these flights would divert to other airports, the analysis must then determine the noise impacts of the increased flights at the other airports.

### **3.0 Access Restrictions at Other Airports**

In the course of preparing this discussion paper a website created and maintained by the Boeing Company (<http://www.boeing.com/commercial/noise/flash.html>) was extensively utilized to gather information on various airports. This website provides information on the activities of 590 airports around the world and the data comes directly from the airports themselves.

Of the 590 airports in Boeing's database, 404 airports have indicated that they (including RTIA) have some form of published noise abatement procedures in use to reduce impacts on the surrounding communities. The website was searched more specifically to identify airports with some form of access restrictions, and the following information was discovered. Please keep in mind however, the following groupings are not additive, because in many cases an airport has been listed in multiple groupings, and in fact, some airports are identified in every grouping. Although some airports may have multiple forms of access restrictions, it was determined, that in a majority of the cases, the airport used a category to reference a different category which resulted in the search identifying that airport as having that particular type of restriction when it does not. With this issue aside, the following still provides some useful information.

- 228 airports have indicated they have some form of curfew in place. Seventy-five or 33% of the airports listed are located in the United States. Based on a review of the U.S. airports on this list, it was determined a vast majority of these restrictions do not necessarily close the airport. For example, most of the restrictions include voluntary

curfews, noise level limits, restricted use of one runway, restriction of Stage 2 aircraft (which are already prohibited from flying in the U.S. as of December 2000), and restrictions to particular procedures (ban on touch and goes, practice approaches and/or engine runups).

- 89 airports have indicated they have noise level limits established. Thirty-three or 37% of the airports listed are located in the United States. It should be noted that the noise level limits set by these airports vary significantly with lower levels for general aviation airports and substantially higher levels set by airports with commercial service.
- 44 airports have indicated they have operating quotas established. Twelve or 27% of the airports listed are located in the United States. In this case, most of the U.S. airports are listed because they have some form of capacity limitations (high density slot allocations such as Boston Logan, J.F.K, LaGuardia, Newark or they are restricted by federal law such as Ronald Reagan National and Dallas Love Field).
- 13 airports have indicated they have noise budget restrictions established. Five or 39% of the airports listed are located in the United States. However, only two of these airports actually allocate noise budgets to individual airlines while the other three airports referred to their noise level limits as budgets.
- 45 airports have indicated they have Stage 3 restrictions established. Seven or 16% of the airports listed are located in the United States. In all seven cases, the restriction is based on the noise level limits established. It is actually believed more airports such as San Jose International and Burbank have noise level limits that restrict Stage 3 aircraft operations but were not listed. The seven airports include John Wayne-Orange County, Lake Tahoe Airport, San Diego International, Aspen-Pitkin County, Teterboro Airport, Ronald Reagan National and Jackson Hole.

As can be seen from the above, a large number of airports have made efforts to mitigate noise impacts through various means. At face value, it appears that curfews are the most popular access restriction approach. However, this is misleading because, in most cases, what is being reported as a curfew does not result in a complete closure of the airport. In reality, most airports limit activity by having a noise level limit or restriction on a particular runway during nighttime hours. It is also important to note that all of these restrictions allow for exceptions to the policy in cases of weather delays, maintenance flights, flights in the public interest and emergencies.

From reviewing the above information, operating quotas and noise budgets do not appear to be popular mitigation measures. The reason for this is that it is difficult to fairly distribute available slots amongst the competing interests.

As a result, access restrictions that are based on noise level limits appear to be the most commonly used method. This situation occurs because it allows an airport/community to eliminate the most noise obtrusive aircraft operations without closing the airport. This, in

turn, helps the airport to comply with their grant assurances that the facilities be available for public use. The two difficulties with implementing a noise level limit type restriction is putting the enforcement mechanism in place and establishing a penalty system. Normally the enforcement mechanism requires the installation of a permanent noise monitoring system, and the penalty system is the assessment of monetary fines.

When looking at airports within the United States, it is imperative that all readers understand that no airport has been successful in getting an access restriction implemented since the creation of the FAR Part 161 process. Any access restriction that exists at a U.S. airport today was grandfathered in place prior to the passage of ANCA in 1990. This is not to say a number of airports have not pursued an FAR Part 161 study however, to date, none have been successful. In the process, these airports have spent millions of dollars in consultant and legal fees to no avail.

Table 5B from the RTIA FAR Part 150 Update study, included in Appendix A of this paper, summarizes the efforts of eight airports. The Naples Municipal Airport is the only airport from this list that is still pursuing a restriction and is recognized for having pushed this issue the farthest of any U.S. airport yet has still not been successful. In the Naples case, an Administrative Law Judge recently ruled in favor of the FAA which means Naples must now appeal to the Federal District Court level, if it wishes to continue. Keep in mind, Naples is applying for a restriction to Stage 2 aircraft under 75,000 pounds (business jets) which were not required to be phased out before 2000 and no airport has even submitted an FAR Part 161 study to the FAA for a restriction on Stage 3 aircraft operations.

One of the things that must also be recognized from the data contained in Table 5B is that most of the airports that initiated FAR Part 161 studies did them in the early to mid-1990s in an effort to restrict Stage 2 aircraft ahead of the year 2000 phase out. Today, Stage 2 aircraft are no longer allowed to operate. However, some Stage 2 aircraft were fitted with hush-kits to make them compliant with Stage 3 standards. It is these hush-kitted aircraft that are now the focus of most people's attention. After September 11<sup>th</sup> the airlines retired hundreds of these noisier aircraft because the newer technology aircraft are not only quieter but substantially more efficient. As in the past, the older technology aircraft will continue to be phased out over time.

In fact, the FAA and Airports Council International are currently working with the International Civil Aviation Organization to establish new standards for Stage 4 requirements. Unfortunately the Stage 4 standard being considered is only 10 dba below that of today's Stage 3 level, and all aircraft manufactured today already exceed the new standard. However, the Stage 4 standard will require the eventual phase out of older hush-kitted and marginal Stage 3 aircraft.

In recent years a number of airports outside the United States have implemented noise level limit restrictions including Frankfurt, London-Heathrow and Amsterdam-Schiphol. Again however, it must be recognized these airports operate under the regulations of their respective governments and are not subject to FAR Part 161 standards. These airports have developed complex programs with multiple steps that become more restrictive the later it gets at night

and/or the more noisy an aircraft is. The following is a summary of the restrictions put in place by these airports:

- Frankfurt/Main Airport – There are no flights (arrivals or departures) allowed between 10:00 pm and 6:00 am without 24 hour prior approval. If a flight is given permission to operate during the restricted hours a nighttime noise surcharge is assessed which escalates based on the noisiness of the aircraft.
- London Heathrow, Gatwick and Stansted Airports – All three airports have established noise level limits that are in effect between the hours of 11:30 pm and 6:00 am. At Heathrow, the airport also has operational quotas in place that are allocated amongst the airlines to limit the total number of night operations.
- Amsterdam Schiphol Airport – Aircraft that have a combined noise level certification less than 5 dba below Stage 3 limits are not allowed to depart between the hours of 11:00 pm and 6:00 am. There is no restriction on aircraft arrivals.

#### **4.0 Conclusions**

It is acknowledged that there is a process for the evaluation and implementation of access restrictions at airports through FAR Part 150 and FAR Part 161. However, it must be equally recognized that this process is extremely difficult and requires extensive analysis to demonstrate that the quantifiable benefits (reduced noise contours) to the community offset the costs to other communities, aircraft operators and the national aviation system. Without bias, it is important to be cognizant that several airports have attempted to implement an access restriction through the FAR Part 161 process, and to date, no airport has been successful even after having spent millions of dollars and years of time.

If an access restriction measure is to be pursued, it cannot be discriminatory towards one particular operator or aircraft type. Therefore, one annoying flight at night should not be the basis for the restriction.

\*NOTE: The above is a copy of the “Airport Access Restrictions” discussion paper, submitted to the Airport Noise Advisory Panel. The Airport Authority of Washoe County expresses no opinion with respect to these documents and merely provides them as a service to the public.

## **APPENDIX A**

# **EXCERPTS FROM THE 2002 FAR PART 150 UPDATE STUDY**