

AIRPORT ENVIRONS PLAN

Adopted by the Mayor and Council

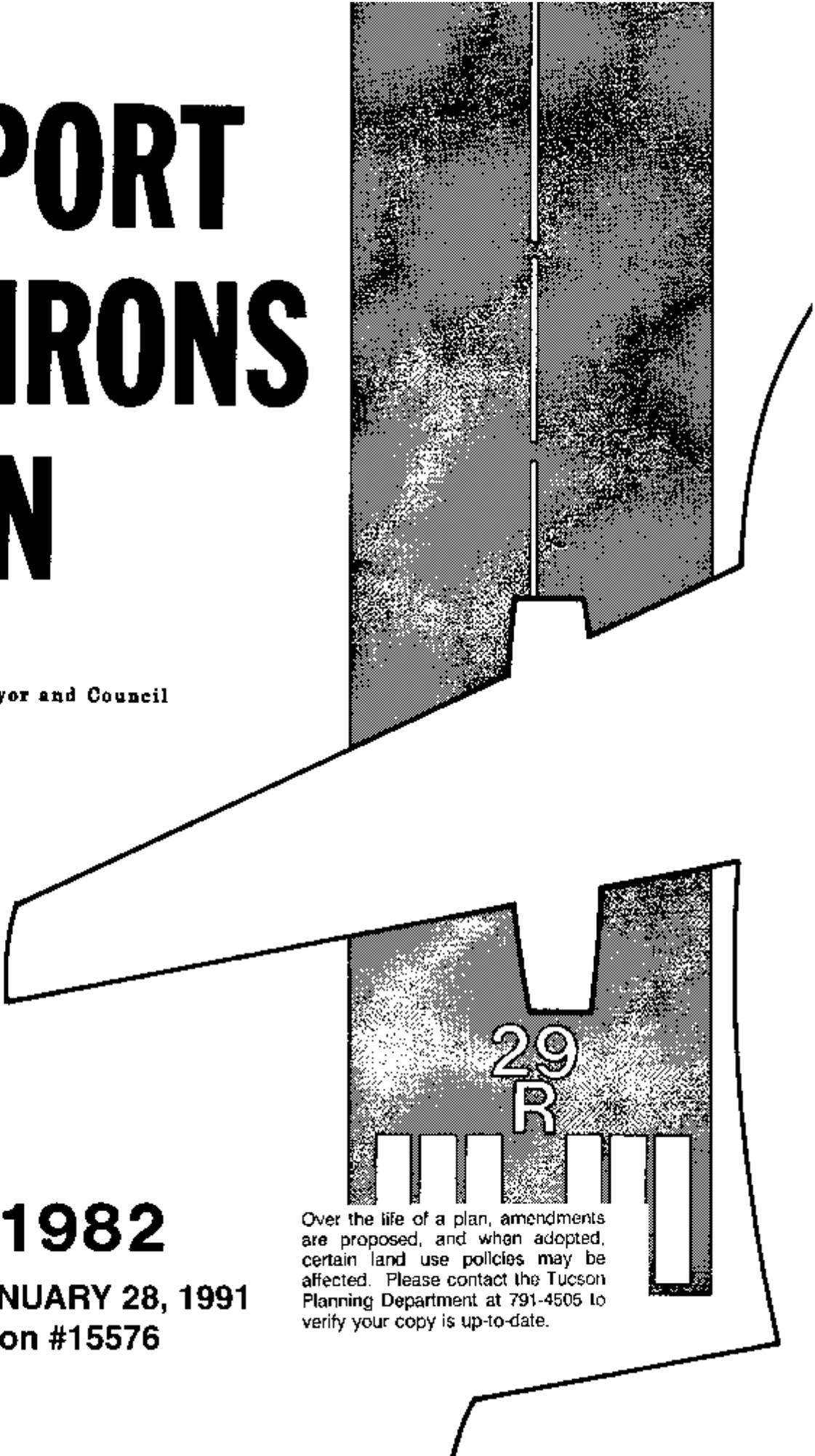
June 21, 1982

Resolution #11915

JUNE 1982

AMENDED JANUARY 28, 1991

Resolution #15576



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AIRPORT ENVIRONS PLAN

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ACKNOWLEDGEMENT

On June 21, 1982, the Mayor and Council adopted the Airport Environs Plan Policies. The Board of Supervisors adopted a similar set of policies the next day. This degree of coordination on a multi-jurisdictional planning effort could not have been accomplished without the persistent, energetic efforts of the following individuals: Councilman Brent Davis, Council representative on the ANCLUC Project Policy Committee; Supervisor Katie Dusenberry, Supervisor representative on the ANCLUC Project Policy Committee; Council Aide Tom Binder; Roger Howlett, Airport Environs Project Coordinator for the City Planning Department; Suzanne Mclean, Airport Environs Project Coordinator for the Pima County Planning and Zoning Department; Walter A. Burg, General Manager, Tucson Airport Authority; Bonnie Allin, ANCLUC Project Administrator for the Tucson Airport Authority; and Ron Tulis, Senior Consultant, Peat, Marwick, Mitchell & Co. In addition, the representatives serving on the ANCLUC Project Policy Committee, Project Steering Committee, and Project Advisory Forum provided valuable contributions to the formulation of this plan.

AIRPORT ENVIRONS PLAN

**CITY OF TUCSON
PLANNING DEPARTMENT**

June 21, 1982

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**Adopted by Mayor and Council – June 21, 1982 - Resolution #11915
Amended by Mayor and Council – January 28, 1991 – Resolution #15576**

HEARINGS

Mayor and Council – June 21, 1982
January 28, 1991

Planning Commission – April 27 & 28, 1982
December 5, 1990

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INTRODUCTION

Aircraft noise with its effect on land uses in the vicinity of airports has become a serious problem for communities throughout the United States. In many communities, the land in the airport vicinity is already developed, and the airport sponsor is then confronted with noise litigation or, in some cases, the prospect of developing costly programs to resolve existing noise problems.

In Tucson, however, most of the land surrounding Tucson International Airport is vacant. This situation represents an opportunity to prevent severe noise problems from occurring in the future.

A master plan for Tucson International Airport was completed in 1974 for the period through 1994. In 1978, before implementing some of the major recommendations, Tucson Airport Authority decided that a review of the recommendation was needed. The supplemental master plan studies resulted in a new master plan for the period through 1999, which was called the 1999 Master Plan. One of the main focuses of this new planning effort was on airport noise abatement measures. Even with the new extensive measures included in the 1999 Master Plan to reduce noise impacts on the surrounding community, noise impacts in the Ldn 65-75 range would still occur outside the boundaries of the airport.

In September, 1980, the Tucson Airport Authority, together with the City of Tucson and Pima County, undertook the development of an Airport Noise Control and Land Use Compatibility (ANCLUC) study. The purpose of the study was to provide guidance to local jurisdictions in establishing policies to achieve land use compatibility in areas exposed to high levels of aircraft noise and to develop programs to mitigate high levels of aircraft noise on existing noise-sensitive uses. The result of this effort was a detailed discussion of planning background and land use considerations contained in the ANCLUC task 3-08 Draft Final Report. The information in this report was summarized by both City and County planning staffs in the Airport Environs Plan policies. These policies were adopted by Mayor and Council on June 21, 1982, and became effective on June 28, 1982. A similar set of policies was adopted by the Board of Supervisors on June 22, 1982.

AIRPORT ENVIRONS AREA

The location of the Airport and the vicinity area, referred to as the Airport Environs, is shown in Exhibit 1. The Airport Environs boundary was determined after considering: (1) the areas of aircraft noise exposure that existed in 1978 and those predicted for 1999; (2) neighborhood boundaries, jurisdictional boundaries, or special planning areas; (3) census tract boundaries; (4) section boundaries; and (5) manmade features, such as major roadways. The Airport Environs consist of about 141.2 square miles (90,340 acres) of land and includes the major urban areas north of Tucson International Airport in the City of Tucson, and the unincorporated, undeveloped areas to the south in Pima County.

GOALS

The goals of the *Airport Environs Plan* are:

1. To ensure the compatibility of land uses in the Environs with the Airport and aircraft operations by the year 2000.
2. To achieve a balance between the needs associated with the continued development of Tucson International Airport and growth trends in the Environs.
3. To pursue techniques which will mitigate the extreme impacts of aircraft operations on existing noise-sensitive uses by the year 2000.

HIGH NOISE EXPOSURE AREA

The day-night average sound level (Ldn) is a method used to describe the existing and predicted cumulative noise exposure that affects communities in airport environs. Ldn values are expressed in decibels and represent the noise level over a 24-hour period. The Ldn values are then used to estimate the effects of specific noise levels on existing and planned land use.

A computer model, the Airport Noise Exposure Model MOD-7, was used for the noise analysis. This model was developed at the Transportation System Center of the U.S. Department of Transportation in Cambridge, Massachusetts, and has been used for many similar analyses. The MOD-7 model uses average aircraft noise emission characteristics and average operational procedures for airports throughout the United States.

Noise exposure values of Ldn 75, 70, and 65 were selected as the criterion levels for this analysis. Three specific ranges of noise exposure were used: (1) Ldn 75-or-higher; (2) Ldn 70 to 75; and (3) Ldn 65 to 70. These ranges were selected on the basis of prevailing federal law and federal guidelines, as well as the degree of average human response and annoyance to different levels of noise exposure. The areas within the Ldn 75+, Ldn 70 to 75, and Ldn 65 to 70 aircraft noise exposure in 1999 are depicted in Exhibit 1. Based on the proposed future boundaries of Tucson International Airport, 10,125 acres of non-airport property falls within the High Noise Exposure Area (Ldn 65 plus) in the year 2000.

AIRPORT ENVIRONS PLAN

The *Airport Environs Plan* consists of two major parts: (1) special policies and implementation techniques for the high noise exposure area created by airport operations; and, (2) overall policies and implementation techniques for the airport environs area. Each policy is briefly discussed in a background section followed by proposed implementation techniques. A more detailed discussion of the background leading to the development of these policies may be found in the ANCLUC report (Task 3-08 Draft Final Report).

SPECIAL HIGH NOISE EXPOSURE AREA POLICIES

In the Ldn 65 to 75 area, the usual effect of noise is annoyance, speech interference (such as disruption of conversation or loss of information the teaching process in schools), and sleep interference. The Special High Noise Exposure Area Policies provide specific guidelines to help achieve a land use pattern compatible to aircraft noise levels of Ldn 65+. Compatible land uses would be most types of industrial, warehousing, commercial, open space, or similar uses. The following policies focus on the compatibility issue through four different approaches; land use regulations, acoustical treatment, informing potential residents and property owners of the noise problem, and providing mitigation programs for existing property owners.

HIGH NOISE AREA POLICY 1. “Ldn 70 to 75 Area: Prohibit any new or redeveloped noise-sensitive land uses.”

Background

Existing zoning and, in some cases, current plans, may allow noise-sensitive land uses, such as single family residential, to be located in the Ldn 70 to 75 area.

Implementation

- A. Residences, schools, religious facilities, libraries, hospitals, nursing homes, outdoor entertainment facilities, nature exhibits and zoos will be considered noise-sensitive uses for implementation of this policy.
- B. To reduce the intrusion of non-residential uses into areas already developed residentially, single vacant lots should be allowed to develop residentially only if the development complies with High Noise Area Policies 3, 4, 5, and 7.

HIGH NOISE AREA POLICY 2. “Ldn 65 to 70 Area: Discourage any new or redeveloped noise-sensitive land uses.”

Background

It is recognized that in areas of Ldn 65+, any type of residential development is not usually desirable. This is a conclusion reached in separate guidelines or standards published by the Federal Aviation Administration (FAA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Environmental Protection Agency (EPA). Nevertheless, it is acknowledged by these agencies (primarily FAA and HUD) that there are instances where residential development could be permitted, provided the structures are soundproofed to achieve a maximum noise level in habitable rooms.

Multi-family, in contrast to single-family or mobile homes, is considered to be the most acceptable type of residential development in the Ldn 65 to 70 area. Exterior noise is usually transmitted into interior spaces through walls, roofs, skylights, windows, doors, and other exterior surfaces and openings. Multi-family housing, particularly attached or multi-story buildings, has less square footage of noise transmission surfaces than other types of comparably sized dwelling units.

If acoustical treatment is necessary to achieve the maximum acceptable interior noise level of Ldn 45 from exterior sources, it would be less expensive to provide it in multi-family dwellings than in other types of housing. As mentioned, there would be less square footage of exterior surfaces per dwelling unit, resulting in less area requiring special insulation or doubleglazing.

Implementation

- A. Single family residences, schools, religious facilities, libraries, hospitals, nursing homes, outdoor entertainment facilities, nature exhibits and zoos will be considered noise-sensitive uses for implementation of this policy.
- B. Multi-family residential development should be permitted if the construction complies with High Noise Area Policies 3, 4, 5 and 7.
- C. To reduce the intrusion of non-compatible uses into existing single family residential areas, vacant lots should be allowed to develop at similar densities as long as the development complies with High Noise Area Policies 3, 4, 5, and 7.

HIGH NOISE AREA POLICY 3. “Ldn 65+ Area: Require acoustical treatment for all new or redeveloped structures of noise-sensitive land uses.”

Background

It is intended in the *Airport Environs Plan* that future noise-sensitive land uses be permitted in the Ldn 65 to 70 area should be restricted to multi-family residential structures that have adequate sound attenuation (soundproofing) properties. However, it is recognized that some isolated noise-sensitive land uses might be permitted in built-up areas where infill or small redevelopment projects are desirable.

The purpose of the acoustical treatment would be to maintain an exterior-to-interior noise level of Ldn 45 or less in all habitable rooms. For example, in an area exposed to aircraft noise of Ldn 65, there would have to be a noise level reduction (NLR) of 20 decibels to achieve the interior level of Ldn 45.

Implementation

- A. The local building codes should be modified to include specifications for reducing levels of noise, and inspection techniques for ensuring compliance. (Appendix B in the ANCLUC Draft Final Report contains possible Building Code modifications and data on the sound transmission characteristics of building materials.)
- B. Acoustical treatment should be required during redevelopment of noise-sensitive uses when the renovation will cost 50 percent or more of the value of the original structure at the time the renovation is to begin. To effectively implement this policy the *Land Use Code* should be amended to include this requirement.

HIGH NOISE AREA POLICY 4. “Ldn 65+ Area: Require acoustical treatment, if necessary, for all new or redeveloped structures that would contain noise-sensitive activities.”

Background

It is generally recognized that certain land uses--offices, retail establishments, and some transient lodgings (hotels and motels)--are compatible with aircraft noise exposure levels of Ldn 65 to 75. However, within these structures, activities may take place that are sensitive to the high levels of noise. In such cases, acoustical treatment may be required.

Implementation

- A. The local building codes will be modified to include specifications for reducing levels of noise and inspection techniques for ensuring compliance. (Appendix B in the ANCLUC Draft Final Report contains possible Building Code modifications.)
- B. Acoustical treatment will be required during the redevelopment of structures that would contain noise-sensitive activities when the renovation will cost 50 percent or more of the value of the original structure at the time the renovation is to begin. To effectively implement this policy the *Land Use Code* should be amended to include this requirement.

HIGH NOISE AREA POLICY 5. **“Ldn 65+ Area: Investigate methods by which the City may assist Tucson Airport Authority to acquire aviation easements for all new or redeveloped noise sensitive land uses.”**

Background

An aviation easement in the form of a deed restriction may include: (1) the right to allow aircraft to fly over the property, and (2) public acquisition of a landowner’s rights to develop the property for any use more intensive than that existing at the time of the transaction, or for any use that would be incompatible with the Airport and aircraft operations. Maximum heights may also be specified.

With acquisition of such easement, the Airport Authority is protected against damage claims arising from noise and aircraft operations, and more compatible land uses in the Airport Environs are encouraged. Although easements do not mitigate noise or other effects of Airport operations, the existing land uses are considered to be compatible because the property owner has granted the Tucson Airport Authority the right to permit flights over the property, even if the flights do result in noise effects. When the easement is coupled with a fair disclosure statement (see High Noise Area Policy 7), any new property owner is made fully aware of existing and potential aircraft noise effects and of the aviation easement attached to the deed.

HIGH NOISE AREA POLICY 6. “Ldn 65+ Area: Revise the existing Airport Approach Zones to include noise and land use considerations.”

Background

Both the City and County have adopted Airport Approach (A-A) zoning which regulates land use and structural heights under approaches to the runways of principal public airports. The A-A district serves as an overlay district; it does not replace the underlying zoning classification, but merely places restrictions on the uses allowed in such an underlying district.

Although A-A district regulations provide limited protection to aircraft using Tucson International Airport, they do not address the basic question of Airport land use compatibility. For example, the A-A district does not prevent uses that are highly sensitive to noise (such as residential development), and it provides only limited control over uses that attract large concentrations of people.

Implementation

The existing Airport Approach Zone should be revised to include:

- (1) Restrictions to prohibit specific land uses or requirements for acoustical treatment of new or redeveloped structures of noise-sensitive land uses in areas exposed to high levels of aircraft noise; and,
- (2) regulation of land uses that would promote the congregation of large numbers of people. (An example of a revised A-A ordinance is included in Appendix E of the ANCLUC Final Draft Report.)

HIGH NOISE AREA POLICY 7. “Ldn 65+ Area: Enact a truth-in-sales ordinance.”

Background

Consideration for future residents would require they be informed of any aircraft noise condition that would affect their living conditions. One way of providing this information is a fair disclosure statement. If an ordinance were adopted requiring a fair disclosure statement, all persons moving into an area exposed to noise levels of Ldn 65 or greater would be notified, in writing, of anticipated noise conditions and any aviation easement on the property. The long-term benefit of the fair disclosure statement would be that residents who have been informed and acknowledged the existing noise conditions would be less likely to enter into litigation against the City or Tucson Airport Authority because of aircraft noise.

Implementation

The City should adopt a truth-in-sales ordinance requiring a fair disclosure statement detailing anticipated noise conditions within the Ldn 65+ area. This fair disclosure statement would be used for all potential buyers and long-term renters (six months or longer). Implementation of a truth-in-sales ordinance will first require a change in the Arizona State Statutes. (A copy of a draft fair disclosure statement is included in Appendix F of the ANCLUC Draft Final Report.)

HIGH NOISE AREA POLICY 8. “The Tucson Airport Authority should continue to implement the noise reduction measures recommended in the 1999 Master Plan for Tucson International Airport.”

Background

In 1978, the Tucson Airport Authority initiated supplemental master plan studies covering the planning period through 1999. One purpose of the supplement study was to investigate ways of mitigating the environmental effects of aircraft noise exposure. A specific objective was to confine Ldn 75+ noise level within the Airport boundaries. The result of this supplemental master plan study was a new 1999 Master Plan for Tucson International Airport. The implementation of the recommendations in this plan would contain noise levels of Ldn 75+ within Airport boundaries and reduce noise impacts on the surrounding area.

Implementation

1. Runway IIL-29R should be relocated 2,250 feet to the southeast.
2. A new general aviation runway parallel to Runway IIL-29R should be constructed.
3. Acquire additional land to accommodate Airport needs.

HIGH NOISE AREA POLICY 9. **“Ldn 70+ Area: The Tucson Airport Authority should establish a purchase assurance program for all existing single-family dwellings, subject to the availability of funds.”**

Background and Implementation

City and Airport Authority staff shall undertake negotiations to determine the most appropriate administration for this mitigation program to ensure fair and equitable treatment for affected property owners and residents.

It is estimated that in 1980, there were 1,170 single-family dwellings in area exposed to aircraft noise levels of Ldn 70+. By the year 2000, as many as 1000 of these dwellings may still be in the Ldn 70+ area.

Under a purchase assurance program, the Tucson Airport Authority would agree to purchase any home in the specified area if the owner has difficulty in selling the home at fair market value after it is listed for a period of 90 days (or some other agreed-upon time period) with a real estate multiple listing service. After the purchase would be made, the Authority could provide acoustical insulation to the home if such treatment is warranted. The home could then be resold at fair market value with an avigation easement.

Although the purchase assurance program would not provide noise mitigation to the present owners of a house, it would provide “peace of mind” because they would know that the house could be sold for fair market value to the Tucson Airport Authority if it is found that the aircraft noise has depreciated the value of the house.

HIGH NOISE AREA POLICY 10. **“Ldn 65 to 70 area: The Tucson Airport Authority should establish a cost-sharing acoustical treatment program, subject to the availability of funds.”**

Background and Implementation

City and Airport Authority staff shall undertake negotiations to determine the most appropriate administration for this mitigation program to ensure fair and equitable treatment for affected property owners and residents.

It is estimated that about 2,750 single-family homes are now located in the Ldn 65 to 70 noise exposure area, but this number should be reduced to about 1,950 by the year 2000 with the implementation of the recommendations in the 1999 Master Plan.

Under a cost-sharing acoustical treatment program, a homeowner could agree to have his home insulated and be eligible to receive 50 percent (or some other agreed-upon percentage) of the cost from the Tucson Airport Authority. The Authority would obtain an avigation easement on the property in return for its portion of the funds. The Authority could also offer a loan program (at low interest rates) to the homeowner for all or a portion of his share of actual insulation costs.

OVERALL ENVIRONS POLICIES

The Overall Environs Policies provide general directions for growth and development in the Airport Environs Area (see Exhibit 1). These policies focus on two areas; new capital improvement projects, and potential aircraft hazards. They also establish the relationship between adopted and future area and neighborhood plans, and the *Airport Environs Plan*.

OVERALL ENVIRONS POLICY 1. “Ldn 65+ Area: Discourage the development of capital improvements in areas exposed to high levels of aircraft noise, unless it is demonstrated that the improvements would serve only airport-compatible development.”

Background

The primary intent of this policy is to minimize new capital improvement projects in areas exposed to high levels of aircraft noise because new projects with excess capacity could induce incompatible growth in noise exposure areas. For example, before the federal prison was built southeast of the Airport in the late 1970s, the Tucson Airport Authority obtained assurances that the utilities would be sized to accommodate only the prison. The Authority recognized that oversized utilities could induce growth and wanted to prevent incompatible development from locating in areas exposed to aircraft noise.

This overall policy provides additional detailing for the already adopted *Comprehensive Plan*, Section 11: Land Use Policy 2; Provide for efficient development of urban areas.

OVERALL ENVIRONS POLICY 2. “Prohibit development that would create a hazard to aircraft.”

Background

The A-A overlay zone already includes regulations to prevent development that could cause hazards to aircraft. However, the boundaries of the existing A-A zone include only the runway approach. The boundaries of the A-A zone in the proposed amendment (Appendix E of the ANCLUC Draft Final Report) include only the runway approach and noise exposure areas. It is recognized that development could also occur in other parts of the Airport vicinity, not covered by the A-A zone, where some types of development could cause hazards from smoke, glare, or other factors.

Implementation

- A. Industrial and commercial uses that locate in the immediate vicinity of the Airport should be compatible not only with regard to noise effects (some activities within nonresidential buildings could be adversely affected by high levels of noise), but also with regard to ensuring the safety of aircraft. Specifically, uses that would interfere with navigation aids, produce smoke emissions or excessive illumination, allow ground petroleum storage or explosives manufacture, or attract birds or other hazards to aircraft, should not be permitted.
- B. The City should establish a review procedure which would provide the Tucson Airport Authority with an opportunity to review development proposals in the Airport vicinity to determine if they could be hazardous to aircraft operations.

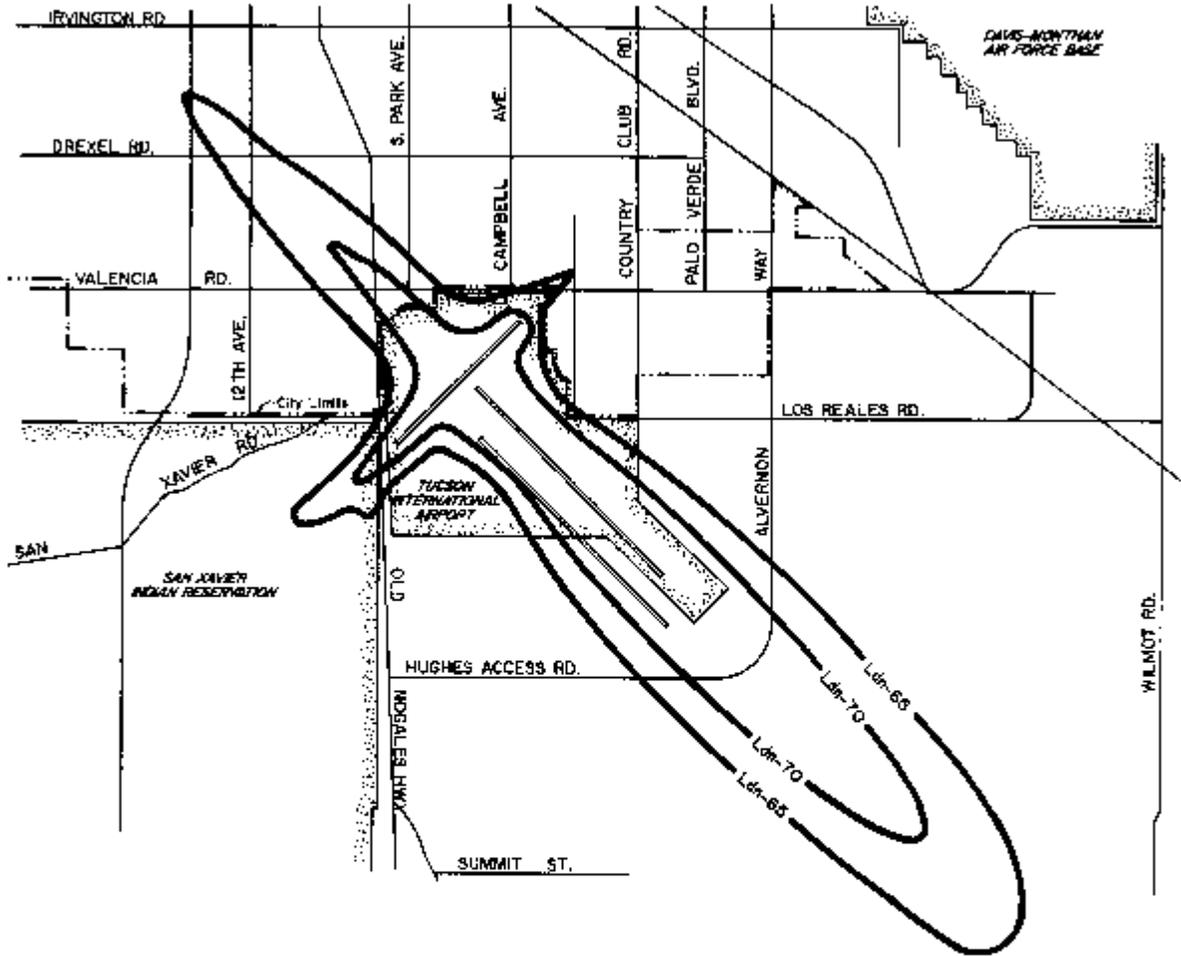
OVERALL ENVIRONS POLICY 3. “Update area and neighborhood plans to reflect the recommendations in the Airport Environs Plan.”

Background and Implementation

The Airport High Noise Exposure Area (Ldn 65 to 75)* encompasses portions of the *Kino and Tumamoc Area Plans* and the *Santa Cruz Riverpark Master Plan*. The land uses recommended in these three area plans are generally in conformance with the recommendation of the *Airport Environs Plan*. However, some updating will be required in order to include appropriate cross-references to the pertinent Environs Plan policies. Future planning efforts in the Environs area will also incorporate these policy considerations, where appropriate.

* The Airport High Noise Exposure Area has been modified to exclude the *Tumamoc Area Plan*.

HIGH NOISE EXPOSURE MAP



**High Noise Exposure Boundaries Amended on
January 28, 1991, Resolution No. 15576**