Chapter Eight

NOISE ELEMENT

General Plan for City of Adelanto

Chapter Eight - Noise Element

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I. INTRODUCTION

A. Background

Noise has long been an accepted part of modern civilization and the urbanization process. The general background level of noise, however, seems to be rising as modern transportation systems develop and human dependence upon machines increases. As society becomes increasingly mobile and mechanization continues to increase, so does the need for a better understanding of the effects of noise exposure in the environment.

Noise has not received the degree of social attention and concern that has been given to air and water pollution, partially because noise cannot be seen (and its cumulative effects are still being studied), and partially because it is often a temporary noise event that causes annoyance. Interestingly, it is the noise of others that typically bothers us, not the noise we make ourselves. Not until recently have governmental agencies become vitally concerned about noise and its effects on the health and welfare of people.

The planning process has not traditionally been concerned with noise. In many instances, noise problems were identified only after the noise sources were allowed to establish in a community. It is now evident that these situations could have been avoided by considering noise generators and noise sensitive receptors as part of the comprehensive planning process.

Noise analysis can provide valuable input to the Circulation, Land Use, and Housing Elements of the General Plan. For example, extremely noisy areas which result from adjacent transportation systems and industrial land uses would not be suitable locations for noise sensitive residential uses. The Noise Element can recognize the need for both remedial measures for existing noise problems, and preventative actions to protect future development.

B. Purpose

The purpose of the Noise Element is to provide information for programs to control and abate environmental noise and to protect the citizens of Adelanto from excessive exposure to noise. This information will be incorporated into the planning program to guide the location, type, and intensity of future urban development within the

Planning Area, with particular consideration to noise impacts. This process will assure that compliance with State noise standards will be achieved.

The Noise Element is designed to develop policies and implementation strategies which will reduce the potential loss of property values, social character, psychological stability, and physical well-being which may result from excessive noise levels.

C. Authorization

The Noise Element of the General Plan is a mandatory component pursuant to State law (California Planning and Zoning Law, Section 65302 (f)). It must recognize the guidelines adopted by the California Office of Noise Control pursuant to Section 46050.1 of the Health and Safety Code. It must also quantify the community noise environment in terms of CNEL or Ldn metrics for both current and projected levels of growth. More importantly, the Noise Element should provide a systematic approach to:

1. The measurement and modeling of noise.
2. The establishment of noise standards.
3. The control of major noise sources.
4. Community planning for the regulation of noise.

The Noise Element is a guide to be used to identify and mitigate noise problems and establishes uniformity between City policy and programs undertaken to control and abate environmental noise. The Noise Element also serves as a guideline for compliance with the State's noise insulation standards.

D. Summary of Issues, Opportunities and Constraints

1. Issues

- <u>Aircraft Noise</u>

  Commercial jet aircraft activity from an airport at the now closed George Air Force Base is the major source of potentially harmful noise within the City. Development activity within close proximity to the Base has been restricted for 40 years due to such noise constraints. Although the Air Force left George AFB November, 1992, reuse plans have been identified that will continue aircraft operations for civilian uses. The scale of operations of this civilian facility will determine the extent of noise impacts, however, noise levels will be reduced significantly from the past military jet aircraft conditions, as civilian aircraft are much quieter.

- Industrial Noise

  Industrial park areas within the City create potentially significant noise levels. Currently there are no major land use conflicts between industrial uses and sensitive uses. However, whenever development of sensitive land use occurs adjacent to industrial parks, measures must be incorporated to minimize noise impacts.

- Motor Vehicle Noise

  Current motor vehicle noise is generated primarily from State Highway 395, which bisects the City of Adelanto. State Highway 395 and Highway 18 carry substantial volumes of both truck and commuter traffic.. The exterior noise environment of land uses adjacent to these roadways are affected by motor vehicle noise. At this time, no noise calculations are available for Highway 395 through Adelanto. However, Caltrans is currently studying the realignment of 395 and the existing corridor. When this study is complete and a preferred alternative is approved, more current noise data will be produced and implemented into this plan relating to motor vehicle noise generation data.

2. Opportunities

- The majority of the Planning Area is presently undeveloped and can be adequately planned to minimize the effects of significant noise sources.
- The transformation of George AFB will significantly reduce noise impacts on the City of Adelanto, regardless of the scale of the civilian airport.
- The City would be able to effectively control and monitor operations of the airport facility if the Base were to be transferred to Adelanto.

3. Constraints

- Increased urban development will expose more residents to significant noise levels in many portions of the Planning Area.
- The proposed civilian reuse of George AFB may expose the City's residents to significant noise levels.

- Increased industrial development may expose residents of Adelanto to significant noise levels.

II. EXISTING CONDITIONS

A. Definition of Noise

The characteristics of sound include parameters such as amplitude, frequency, and duration. The decibel (db), a logarithmic units that accounts for the large variations in amplitude, it the accepted standard unit measurement of sound. When measuring sound to determine its effects on a human population, weighted sound levels are typically used to account for the response of the human ear. Weighted sound levels represent the sound level according to a prescribed frequency response established by the American National Standards Institute.

Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying. Noise levels often change with time; therefore, to compare levels over different time periods, several descriptions were developed that take into account this time varying nature. These descriptors are used to assess and correlate the various effects of noise on humans and animals, including land use compatibility, sleep interference, annoyance, hearing loss, speech interference, and startle effects. Descriptors for noise levels include CNEL (California Noise Equivalency Level), DNL (Day-Night Average Sound Level), and SEL (Sound Exposure Level).

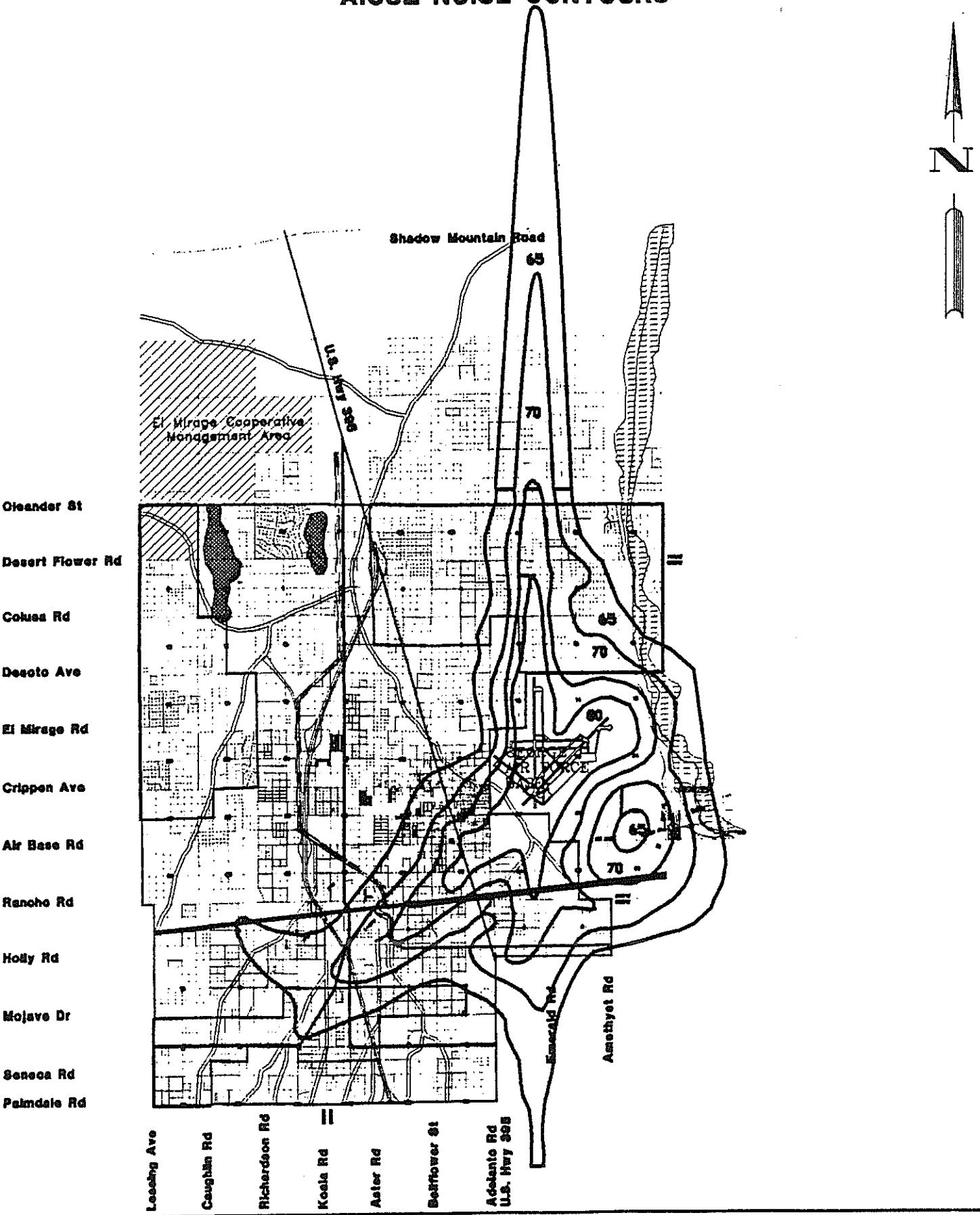
The CNEL and DNL descriptors are virtually identical in that each system was developed to evaluate the total community noise environment. The descriptors weight sound levels (acoustical energy) during a 24 hour period with a 10 dB adjustment added to the nighttime levels (between 10 p.m. and 7 a.m.). This adjustment is an effort to account for the increased sensitivity to nighttime noise events. For purposes of the General Plan and EIR, the CNEL descriptor shall be utilized.

B. The Existing Noise Environment

1. George Air Force Base

- The City of Adelanto's noise environment was dominated by the operations of George Air Force Base. Jet aircraft activity exposed the existing urban core of the City to noise levels that exceeded 65 CNEL, which impaired communications and other physical processes. Approximately 350 acres of residential development was exposed to CNEL levels between 65 and 75 dB from aircraft operations, which affected nearly 2,000 residents. Nearly 600 acres of commercial areas were exposed to CNEL levels between 65 and 75 dB. Most of the remaining areas within the 65 CNEL contour were zoned as manufacturing and low density residential and are still primarily undeveloped. Figure VIII-1 shows the noise contours for George AFB operations prior to closure, based on the Air Installation Compatibility Use Zone study prepared by the Air Force.

FIGURE VIII-1
AICUZ NOISE CONTOURS



2. Traffic Noise

Traffic noise that occurs within the Planning Area is generated primarily by the major roadways. U.S. 395 and State Route 18 constitute the major traffic routes of the City which contribute to significant noise levels. The existing ambient noise level exceeds 65 CNEL adjacent to both of these roadways, although most of the land is undeveloped. Other roadways which contribute to the ambient noise levels include Air Base Road, El Mirage Road, Rancho Road, and Adelanto Road. The 65 dB CNEL noise level contour is contained relatively close to those roadways and little exposure to existing land uses occurs, except in the urbanized core area of the City. Existing CNEL noise level contours for the major streets are shown in Table VIII-1.

Table VIII-1
Existing Noise Contours (1)

			DISTANCE TO CONTOUR (FT.)		
ROADWAY	ADT	CNEL @100'	70 DBA	65 DBA	60 DBA
Highway 395	5,400	61	3	56	124
El Mirage	1,500	56	-	-	49
Air Base	1,500	56	-	-	49
Palmdale	4,200	59	-	-	103

(1) Existing and future noise contours are based on Highway Traffic Noise prediction model (FHA-RD-77-108) with four percent trucks.

3. Industrial Noise

The industrial areas of the City are located away from the existing urban core area. Noise generated by manufacturing and industrial activities is considered minimal. However, an increase in industrial development could present increased noise impacts in some locations of the Planning Area, namely in residential and commercial districts.

4. Land Use Compatibility

Land uses deemed noise sensitive by the State of California under Government Code Section 50485 include: schools, hospitals, rest homes, long-term care and mental care facilities. Some jurisdictions elect to also consider day care centers, single family dwellings, mobile home parks, churches, libraries, and recreation areas sensitive to noise. Moderately sensitive land uses typically include; multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs and equestrian clubs. In addition, Public Utilities Code Section 21670 requires that land uses surrounding an aviation facility conform to the Airport Land Use Plan of the regional commission.

Relatively insensitive uses are business, commercial, and professional developments. Insensitive noise receptors include industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, motorcycle parks, rifle ranges, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. Current land uses located within the City of Adelanto that are sensitive to intrusive noise include schools, residential dwellings, churches, and motels.

C. State Guidelines and Standards

Section 1092 of Title 25, Chapter 1, Subchapter 1, Article 4, of the California Administrative Code includes noise insulation standards which detail specific requirements for new multi-family structures (hotels, motels, apartments, condos, and other attached dwellings) located within the 60 CNEL contour adjacent to roads, railroads, rapid transit lines, airports or industrial areas.[1] An acoustic analysis is required showing that these multi-family units have been designed to limit interior noise levels with doors and windows closed to 45 CNEL is any

[1] An exception is made for railroads where there are no nighttime (10 p.m. to 7 a.m.) operations and where daytime (7 a.m. to 10 p.m.) operations do not exceed four per day.

habitable room. Title 21 of the California Administration Code (Subchapter 6, Article 2, Section 5014) also specifies that multi-family attached units incorporate noise reduction features sufficient to assure that interior noise levels in all habitable rooms do not exceed 45 CNEL.

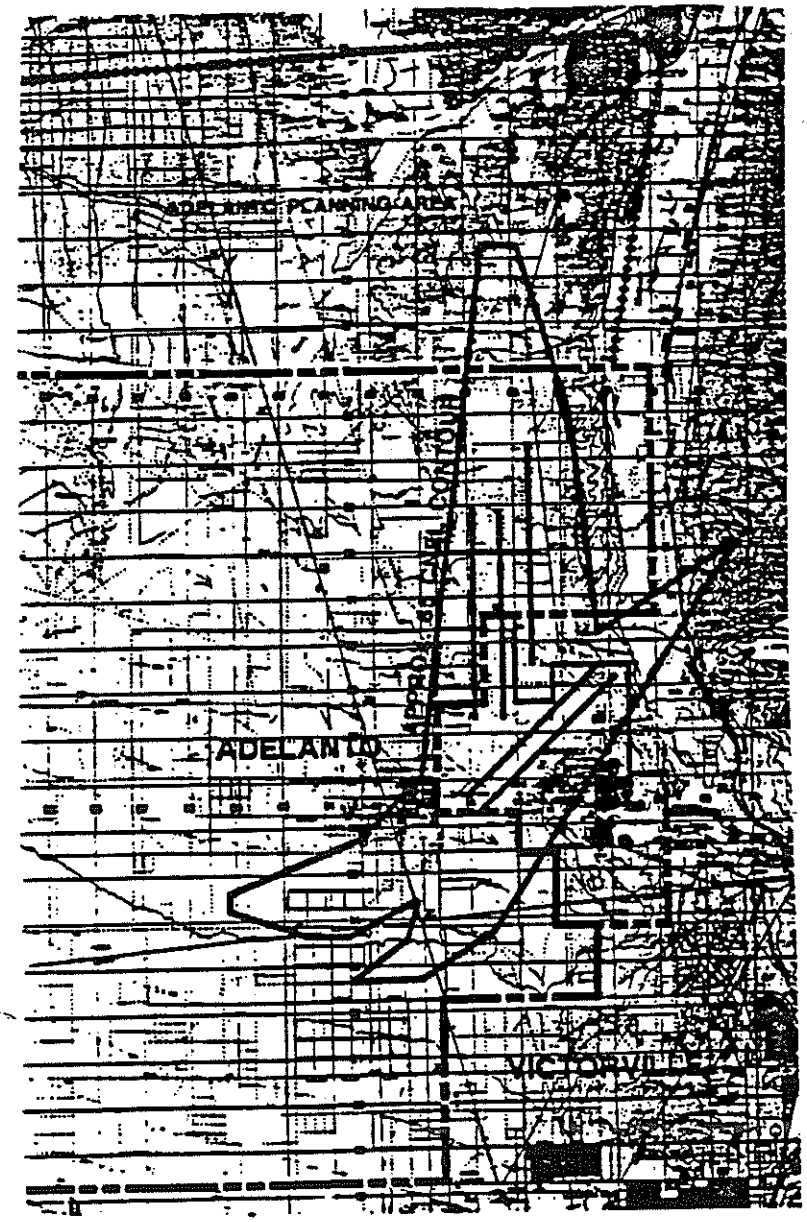
Section 65302(f) of the Government Code specifies that it is the responsibility of the local agency preparing the general plan to specify the manner in which the noise element will be integrated into the zoning plan and tied to the land use element, circulation element, and the local noise ordinance. The noise element, once adopted, also becomes the guideline for determining compliance with the State noise insulation standards discussed above. The Office of Noise Control, established by the California Noise Control Act of 1973, has developed criteria and guidelines for local agencies for use in setting standards for human exposure to noise and preparing noise elements. The noise standards developed by the Office of Noise Control are intended as guidelines for municipal noise elements.

Each locality, in developing a Noise Element, must make a determination regarding how much noise is too much. A community's sensitivity to noise may be taken into account by starting with the general guidelines and then applying adjustment factors which allow acceptability standards to be set which reflect the desires of the community and its assessment of the relative importance of noise pollution, and are below the known levels of health impairment.

III. THE PLAN

Two significant ambient noise generation sources will affect the City of Adelanto during the planning period and through build out. Historically, the primary source of ambient noise was generated by aircraft from George Air Force Base. High levels of noise significantly impact sensitive land uses such as schools and residential development. In large sections of the City ambient noise generated by aircraft exceeded 65 CNEL noise levels which adversely affected such land uses. Although the City intends to reuse the facility at George Air Force Base as a major civilian airport, noise exposure levels are expected to decrease, due to the more quiet commercial airliners, which have strict noise guidelines imposed by the FAA. Figure VIII-1 shows the AICUZ (Air Installations Compatibility Use Zone) model established by the Air Force for operational levels of the Base. The descriptor used in this study was the CNEL/DNL model. Figure VIII-2 shows the maximum conceptual noise contours (CNEL) for a proposed major airport with an operational level of 25 million annual passengers (MAP).

FIGURE VIII-2
MAXIMUM CONCEPTUAL NOISE CONTOURS (CNEL) 65 DBA



The California Department of Health, Office of Noise Control, has established land use compatibility guidelines giving 60 to 70 dB as the maximum normally acceptable level and 70 as the conditionally acceptable level for noise sensitive receptors such as residences, transient lodging, churches, and schools. The San Bernardino County Noise Element also provides land use guidelines giving 60 dB as the acceptable external noise level for residential uses and 65 dB if noise reduction is incorporated and the interior level is below 45 dB. Table VIII-1 provides the Federal Aviation Administration recommended CNEL ranges for various land use categories.

A. Proposed Major Airport

The conceptual noise contours for a proposed major airport under the proposed land use alternative identify noise levels that will be incompatible with some surrounding land uses. This element contains programs and implementation strategies intended to eliminate all potential conflicts. Most notably is the inclusion of the Airport Development District (ADD), intended to accommodate those activities that are airport related, whether directly or indirectly. All uses contained within the ADD must be compatible with airport operations and must be integrally planned as part of the Specific Plan Area (SPA) and the ADD. Those uses that are incompatible with the operations of the airport must be relocated to other sites within the Planning Area.

The number of persons exposed to excessive noise under the airport scenario is basically the same as under the prior use of George AFB. However, according to policies of this General Plan, proposed land uses within the potential 65 CNEL of the airport have been designated as Airport Development District (ADD), Manufacturing/Industrial (MI), Commercial Restricted (CR), or Open Space (OS). It is the intent of the City to accommodate the airport facility within the framework of the General Plan and to either relocate conflicting land uses to new sites within the Planning Area or mitigate existing land uses to accommodate noise levels in accordance with Table VIII-2. Relocation would only take place if the City of Adelanto is assured that it has primary control over policy decisions of the airport, through the anticipated Airport Authority. Mitigation would only take place if adequate funding is made available by the Airport Authority.

TABLE VIII-2
LAND USE COMPATIBILITY GUIDELINES RELATED TO NOISE EXPOSURE

Land Use	CNEL 65-70	CNEL 70-75	CNEL 75 & Above
RESIDENTIAL			
Residential, other than mobile homes/transient lodging	NLR required[1]	NLR required	Incompatible
Mobile home parks	Incompatible	Incompatible	Incompatible
Transient lodgings	NLR required[1]	NLR required[1]	Incompatible
PUBLIC USE			
Schools, hospitals, and nursing homes	NLR required[1]	Incompatible	Incompatible
Churches, auditoriums, and concert halls	NLR required[1]	NLR required	Incompatible
Governmental services	Compatible	NLR required	NLR required
Transportation	Compatible	Compatible[2]	Compatible[2]
Parking	Compatible	Compatible[2]	Compatible[2]
COMMERCIAL USE			
Offices, business and professional	Compatible	NLR required	NLR required
Wholesale & retail-building materials, hardware, & farm equipment	Compatible	Compatible[2]	compatible[2]
Retail trade - general	Compatible	NLR required	NLR required
Utilities	Compatible	Compatible[2]	Compatible
Communication	Compatible	NLR required[1]	NLR required
MANUFACTURING AND PRODUCTION			
Manufacturing, general	Compatible	Compatible[2]	Compatible[2]
Photographic and optical	Compatible	NLR required	NLR required
Agriculture (except livestock) & forestry	Compatible	Compatible	Compatible
Livestock farming and breeding	Compatible	Compatible	Incompatible
Mining and fishing, resource production and extraction	Compatible	Compatible	Compatible
RECREATIONAL			
Outdoor sports arenas & spectator sports	Compatible	Compatible	Incompatible
Outdoor music shells, amphitheaters	Incompatible	Incompatible	Incompatible
Nature exhibits and zoos	Compatible	Incompatible	Incompatible
Amusements, parks, resorts, and camps	Compatible	Compatible	Incompatible
Golf courses, riding stables, & water recreation	Compatible	Compatible	Incompatible

CNEL: California Noise Equivalency Level in decibels.
COMPATIBLE: Generally, no special noise attenuating materials are required to achieve an interior noise level of CNEL 45 in habitable spaces, or the activity would not be subject to a significant adverse effect to the outdoor noise level.
NLR: Noise Level Reduction. NLR is used to denote the total amount of noise transmission loss in decibels required to reduce an exterior noise level to habitable interior spaces to DNL(CNEL) 45.
INCOMPATIBLE: Generally, the land use is considered to be incompatible with outdoor noise exposure, even if special attenuating materials were to be used in the construction of the building.

1 The land use is generally incompatible and should only be permitted in areas of infill in existing neighborhoods or where the community determines that the use must be allowed.
2 NLR required in offices or other areas with noise sensitive activities.

Source: Derived from the US Department of Transportation, Federal Aviation Administration, Federal Aviation Regulations (FAR) Part 150, "Airport Noise Compatibility Planning", Code of Federal Regulations, Title 14, Chapter I, Subchapter I Part 150, Table 1, (January 18, 1985, revised October 25, 1989).

The following are specific mitigation/implementation strategies that are incorporated into the General Plan that will lessen the significance of airport noise impacts to residents and business within the Adelanto Planning Area:

1. Require the preparation of a Master Development Plan specific plan for the long range operational requirements of the airport facility and the surrounding Airport Development District.

2. Require that all proposed development within the Airport Development District be in conformance with the Master Development Plan/Specific Plan.

3. Require all new development to conform to policies and regulations established for uses occurring within the 65 CNEL noise contour and the overflight areas of the proposed airport facility.

Other strategies which are controlled by the operational characteristics of the airport to lessen the severity of noise impacts include:

1. Operational measures: Change take-off, climb-out, or landing procedures; change flight tracks, limit or rotate primary runway usage, enforce prescribed flight track use and fan out departure flight tracks. Prohibit or limit Stage II aircraft operations.

2. Preventive measures: Acquire undeveloped land adjacent to the runways that are exposed to aircraft noise levels of 65 dB or greater. Restrict new residential and hospital development to areas outside the 65 CNEL noise contour.

3. Management measures: Develop a noise monitoring system, and establish a community relations office.

4. Remedial measures: Acquire mobile home sites and single family homes exposed to aircraft noise of 65 CNEL or greater. Redevelop such uses to other more compatible uses related to the operations of the airport. Establish and conduct a sound attenuation program for single family residences, schools, hospitals, and churches in areas exposed to aircraft noise of 65 dB of greater.

TABLE VIII-3 HARMFUL EFFECTS OF NOISE	
Effect	Noise Levels at Which Harmful Effects Occur
Prevention or Interruption of Sleep	35 - 45 DBA
Speech Interference	50 - 60 DBA
Extra Auditory Physiological Effects	65 - 75 DBA
Hearing Loss	75 - 85 DBA
Source: California Department of Public Health Report to 1971 Legislature.	

Title 21, Subchapter 6 of the California State Regulations provides a limit of community noise exposure levels for residential areas and requires all areas within the 65 CNEL to conduct measurements to verify the noise contours and a study to determine if people actually reside in those housing units. If a noise problem were determined, noise level monitoring would be required.

B. Proposed Circulation and Development Impacts

Noise levels as high as 86 dB CNEL may be experienced at approximately sixty feet from centerline of major roadways and freeways. Increased urban development will add to noise levels of all improved and unimproved roadways in the Planning Area. Specific noise monitoring is currently being undertaken by CALTRANS for segments of Highway 395 through the Planning Area.

Proposed land use policies and associated circulation improvements to accommodate projected development are intended to minimize the impacts associated with increased traffic levels. Special design considerations for major roadways are incorporated into the Development Standards, which will reduce the exposure of residents to harmful effects of noise. In addition, CALTRANS must incorporate noise reduction measures along the proposed Freeway 395 alignment.

Typical CNEL noise contours for major street and highways are shown in Table VIII-4.

Table VIII-4
Future 2010 Projected Noise Contours

			DISTANCE TO CONTOUR (FT.)		
ROADWAY WEST OF NEW 395	ADT (000's)	CNEL @100'	70 DBA	65 DBA	60 DBA
El Mirage	24	67	70	154	312
Air Base	35	69	90	190	370
Mojave	35	69	90	190	370
Palmdale	25	68	73	157	315
EAST OF NEW 395					
El Mirage	45	70	100	205	380
Air Base	60	71	110	235	402
Mojave	60	71	110	235	402
Palmdale	35	69	90	190	370
NORTH/SOUTH					
Caughlin	26	68	75	165	326
Richardson	19	66	61	132	270
Koala	11	64	38	93	196
Bellflower	18	66	58	126	263
Old 395	55	71	110	235	402

Mitigation measures for residential units within 65 CNEL contour or higher.
(1) Air conditioning, (2) Double Glazed Windows, (3) Staggered stud walls with absorbent blanket.

C. Planning for Noise

Acoustic site planning involves the careful arrangement of land uses, lots and buildings to intrusive noise levels. The placement of noise compatible land uses between the roadway and more sensitive uses is an effective planning technique. The use of buildings as noise barriers, and their orientation away from the source of noise can shield sensitive activities, entrances and common open space areas. Clustered and planned unit developments can maximize the amount of open space available for landscaped buffers next to heavily travelled roadways and thereby allowing aesthetic residential lot setbacks in place continuous noise barriers.

Acoustic architectural design involves the incorporation of noise reduction strategies in the design and lay-out of individual structures. Building heights, room arrangements, window size and placement, balcony and courtyard design, and the provision of air conditioning all play an important role in shielding noise sensitive activities from intrusive sound levels.

Acoustic construction is the treatment of various parts of a building to reduce interior noise level. Acoustic wall design, doors, ceilings and floors, as well as dense building materials, the use of acoustic windows (double glazed, double pane, thick, non-operable, or small with air-tight seals) and the inclusion of maximum air spaces in attics and walls are all available options.

Noise barriers are relatively easy to design and incorporate. Consequently, they are often used indiscriminately in place of the techniques discussed above. Developments typically are bordered by six foot block walls, behind which residences are "protected" from excessive noise levels. Ideally, noise barriers incorporate the placement of berms, walls or a combination of the two in conjunction with appropriate landscaping to create an aesthetically pleasing environment. Where space is available (clustered developments) a meandering earth berm is both effective and pleasing. Where space is restricted, a wall is effective. In either case, however, thick landscaping (without deciduous plants) should be specified to reduce the visual impact of the barrier and retain the rural ambiance.

The City of Adelanto currently has a unique opportunity to understand the ramifications of future planning decisions in terms of their effects on ambient noise levels. This understanding can allow appropriate environmental standards to be established which will protect current and future citizens from excessive noise levels that interfere with their daily routines and sense of well being.

The major thrust of the Noise Element is to establish objectives and policies which will result in compatible land use planning. To accomplish this, decision makers must consider the State guidelines, as well as, the adjustments which can be applied to reflect local needs and objectives. Upon adoption of the General Plan Update, these objectives will need to be addressed.

The General Plan will also be used as the vehicle to specify zoning requirements which reflect uses of the land that are noise compatible and restrict less compatible uses. In this manner unacceptable noise exposures can be prevented.

The City will require proper site planning to minimize noise impacts and encourage creative solutions when potential conflicts between ambient noise levels and land use arise. Detailed noise impact analyses should be required in conjunction with the submittal of plans for new development within the City. These analyses will be required to address future as well as existing noise levels.

Several techniques are available to prevent an increase in noise levels in areas where noise sensitive uses are currently located. The City should consider reducing the speed slightly or diverting heavy truck traffic onto designated truck routes, as traffic volumes increase with future growth.

D. Goals and Policies

NS 1 To reduce the number of persons and land uses exposed to excessive noise levels within the Planning Area.

NS 2 To provide a safe and comfortable living environment for new residential, business, and commercial developments in Adelanto which are minimally affected by noise.

NS 1.1 Minimize noise emissions from all local government controlled or sanctioned activities via the creation and adoption of the Noise Element.

NS 1.2 Ensure that the design and improvement of future master planned roadways in the City are accomplished in a manner which minimizes noise impacts on adjacent educational facilities and adjoining neighborhoods.

NS 1.3 Ensure through the General Plan provisions and the objectives and policies contained therein, a compatible noise environment for all existing and future land uses within the City.

NS 1.4 Encourage the School District to design and locate schools so that exterior noise exposures do not exceed 65 CNEL and interior peak noise levels do not exceed 60 DBA as a result of exterior noise sources.

NS 1.5 Ensure through the design review process that library facilities are designed and located so that interior noise levels do not exceed 65 CNEL and average interior noise levels during business hours do not exceed 40 dB.

NS 1.6 Ensure through the design review process that interior noise levels for hospital and convalescent homes do not exceed 55 CNEL in interior living areas and 45 CNEL in interior sleeping areas.

NS 1.7 Ensure through the design review process that recreational areas intended for quiet or passive activities are designed and located so that noise levels do not exceed 70 dB.

NS 1.8 Ensure through the design review process that recreational areas intended for noise or active uses are buffered from passive use areas and from surrounding noise sensitive land uses.

NS 1.9 Ensure through the design review process that business and professional offices, where effective communication is essential, mitigate interior noise to 50 CNEL.

NS 1.10 Ensure through the design review process that exterior noise levels at commercial and industrial areas do not exceed 75 dB.

NS 1.11 Ensure through the design review process that noise tolerant land uses are located in areas irrevocably committed to noise producing land uses, such as transportation corridors or railroads.

NS 1.12 Coordinate with State and Federal agencies to minimize transportation noise through transit way design, facility location or configuration modifications.

NS 1.13 Assist in the formation of special assessment districts or other funding opportunities to install noise barriers or berm and barrier combinations in areas where existing residences back up to major thoroughfares.

NS 1.14 Consider the following uses noise sensitive and discourage them in areas where exterior noise levels exceed 65 CNEL unless measures are implemented which reduce the noise exposure below this level: single and multiple family residential uses, group homes, hospitals, schools, and other learning institutions, parks and open space areas where quiet is a basis for use.

NS 1.15 Acoustical privacy consistent with the Noise Insulation Standards (California Administrative Code, Title 25, Chapter 1, Subchapter 1, Article 4) and all existing and future requirements outlined in the State Housing Code will be enforced for both single and multiple family residential construction.

NS 1.16 Noise sensitive land uses, including: residences, hospitals, and long-term medical care facilities, educational facilities, libraries, churches and places of public assembly will not be allowed near major stationary noise sources.

NS 1.17 The application of noise insulation and other noise control techniques in new schools, hospitals, and convalescent homes shall be consistent with State and Federal regulations.

E. Implementation Strategies

1. Short Term

NS 1.1.1 Set maximum allowable noise specifications for new City owned or operated vehicles.

NS 1.1.2 Set noise emission and construction time limits on public work projects.

NS 1.1.3 Limit siren usage, to the extent feasible, within populated areas by police, fire and ambulance vehicles.

NS 1.1.4 Continue to require subdivision perimeter walls to be constructed as solid block walls, continue to require dual pane glass windows as part of energy conservation measures, and continue to install air conditioners in all homes as ways to reduce environmental noise and meet State noise requirements.

2. Long Term

NS 1.2.1 Provide noise reduction retrofit equipment where effective and economically feasible.

NS 1.2.2 Enforce State vehicle noise regulations (Sections 23130, 23130.5, 27150, 27151 and 38275 of the California Vehicle Code) to curtail the use of vehicles equipped with illegal or faulty exhaust systems and "hot rods" exhibiting tire squeal or excessive exhaust noise.

NS 1.2.3 Require landscaped berm and barrier combinations where feasible.

NS 1.2.4 Require all proposed barriers be not only dense enough to be effective but also properly designed and aesthetically compatible with the surrounding community.

NS 1.2.5 Enforce the California Noise Insulation Standards (Title 25 California Administrative Code) for multi-family dwellings to ensure an acceptable maximum interior noise level of 45 CNEL in habitable rooms and maintain adequate noise insulation.

NS 1.2.6 Incorporate measures into future residential projects which attenuate exterior noise levels in outdoor activity areas to a maximum of 65 CNEL.

NS 1.2.7 Future projects approved within the City shall reflect adopted policies regarding the reduction of unnecessary noise near sensitive receptors such as parks, hospitals, libraries, schools and convalescent homes.

NS 1.2.8 The City shall periodically review County and regional plans for land use, transportation, airport operation, etc. to identify any potential noise impacts and develop strategies for the control of major noise sources on a county wide and regional basis.