5.0
NOISE ELEMENT

LISTING OF TABLES

LISTING OF FIGURES

INTRODUCTION

The Noise Element of the General Plan provides a basis for comprehensive local programs to control and abate environmental noise and to protect local citizens from excessive noise exposure. The purpose of the Noise Element is to determine the quantity and quality of the noise environment present in the Colton General Plan Study Area and to establish policy and directions for controlling noise in the future developments of the area. This Element recognizes the guidelines established by the Office of Noise Control in the State Department of Health Services.

The California Planning and Zoning Law Requires "....a noise element, which shall recognize guidelines adopted by the Office of Noise Control pursuant to Section 46050.1 of the Health and Safety Code, and which quantifies the community noise environment in terms of noise exposure contours for both near- and long-term levels of growth and traffic activity. Such noise exposure information shall become a guideline for use in development of the land use element to achieve noise compatible land uses and also to provide baseline levels and noise source identification for local noise ordinance enforcement".

"It shall be the responsibility of the local agency preparing the general plan to specify the manner in which the noise element will be integrated into the city or county's zoning plan and tied to the land use and circulation elements and to the local noise ordinance. The noise element, once adopted, shall also become the guideline for determining compliance with the state's noise insulation standards, as contained in Section 1092 of Title 25 of the California Administrative Code." California Planning and Zoning Law, Chapter 3 Local Planning, Article 5, Section 65302(g)

ASSESSMENT

Excessive noise exposure can cause feelings of annoyance and disrupt working, learning, and recreational activities. The degree of annoyance from sound is subjective, with different people reporting various types of discomfort to the same noise.

When noise is prevalent in a community, the effects are widespread and include:

1. Phychological effects of fear, annoyance, interference with work, disruption of sleep or rest;

2. Sociological effects with speech and communication interference;

3. Physiological effects of hearing loss (either temporary or permanent), aural pain, nausea, loss of muscular control, blurring of vision; and

4. Economical effects by loss of efficiency of workers; reductions in property values.

The noise environment in Colton is composed of several major sources, all of which have a significant local or City-wide influence. A comprehensive analysis of these sources is contained in the Community Profile Report and summarized below, and includes: 1) primary arterials and major local streets; 2) passenger and freight on-line railroad operations; 3) highways and freeways; and 4) airport operations.

Primary Arterials and Major Local Streets

Colton's residents are generally affected by high noise levels at some point during the day or night. Impacts seem to be the most intense in the central part of the City, generally parallel to Interstate 10 (see Exhibit B located in the map pocket which accompanies this document).

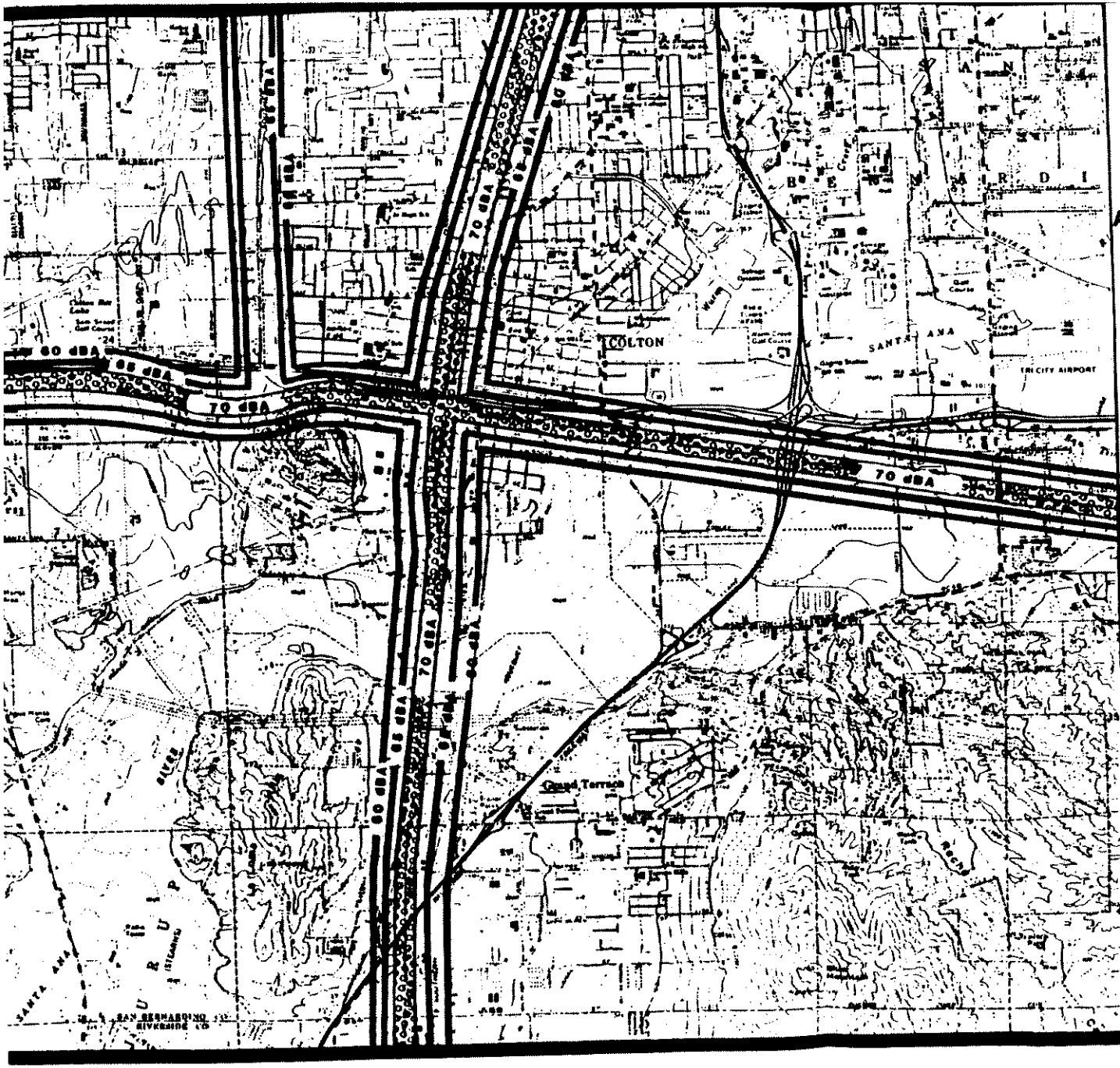
At present, truck noise is the predominant noise source on Colton Avenue, Mt. Vernon Avenue, Rancho Avenue and Valley Boulevard, and La Cadena Drive. In general, trucks generate 10 to 15 dBA greater than normal passenger traffic. However, actual noise levels produced by motorized vehicles depend on a complicated array of factors, such as road and tire conditions, speed and the type of muffler used on the vehicles. Motorcycles present a problem on freeways and surface streets, although they are not as frequent as trucks.

Another source of noise on local streets are buses used for public transportation. OMNITRANS serving San Bernardino County presently provides bus service to the City of Colton on three routes. Buses now in use emit noises at a level of approximately 83 dBA.

Automobile, bus and other transportation vehicles along the City's major streets, including Mt. Vernon Avenue, La Cadena Drive, and Rancho Avenue can create noise problems for those living or working immediately adjacent to these streets.

Railroad Operations

Colton is bisected by the tracks and marshalling yards of three railroad companies. Numerous operations along those lines which are adjacent to, or run through, residential neighborhoods can negatively affect their quality of life. Typically, noise above 65 decibels (or moderately loud) can extend inland from a railroad track up to 315 feet, depending upon surrounding uses, condition of the tracks, speed of the train, and type of railing stake being used, among other physical factors as shown in Figure 5-1.



RAILROAD NOISE CONTOURS

ASSESSMENT OF NOISE IMPACTS WITHIN THE CITY OF COLTON

CSA

FIGURE 5-

Highways and Freeways

Automobiles, trucks, buses, motorcycles, utility and maintenance vehicles, and some types of recreation vehicles use the freeways and major highways in Colton. High noise levels (up to 85 dBA at 50 feet) are generated by vehicles operating on the San Bernardino Freeway (Interstate Highway 10) and the Barstow Freeway (Interstate Highway 215).

Interstate 10 passes through the City with most of the community located north and south of the roadway. Interstate 10 is a west-east segment through the City of Colton and currently carries an Average Daily Traffic (ADT) volume of approximately 95,800 vehicles. This is an average 24 hour, 2 way ADT which tends to obscure a heavy increase in traffic in peak hour volumes (8,600 vehicles).

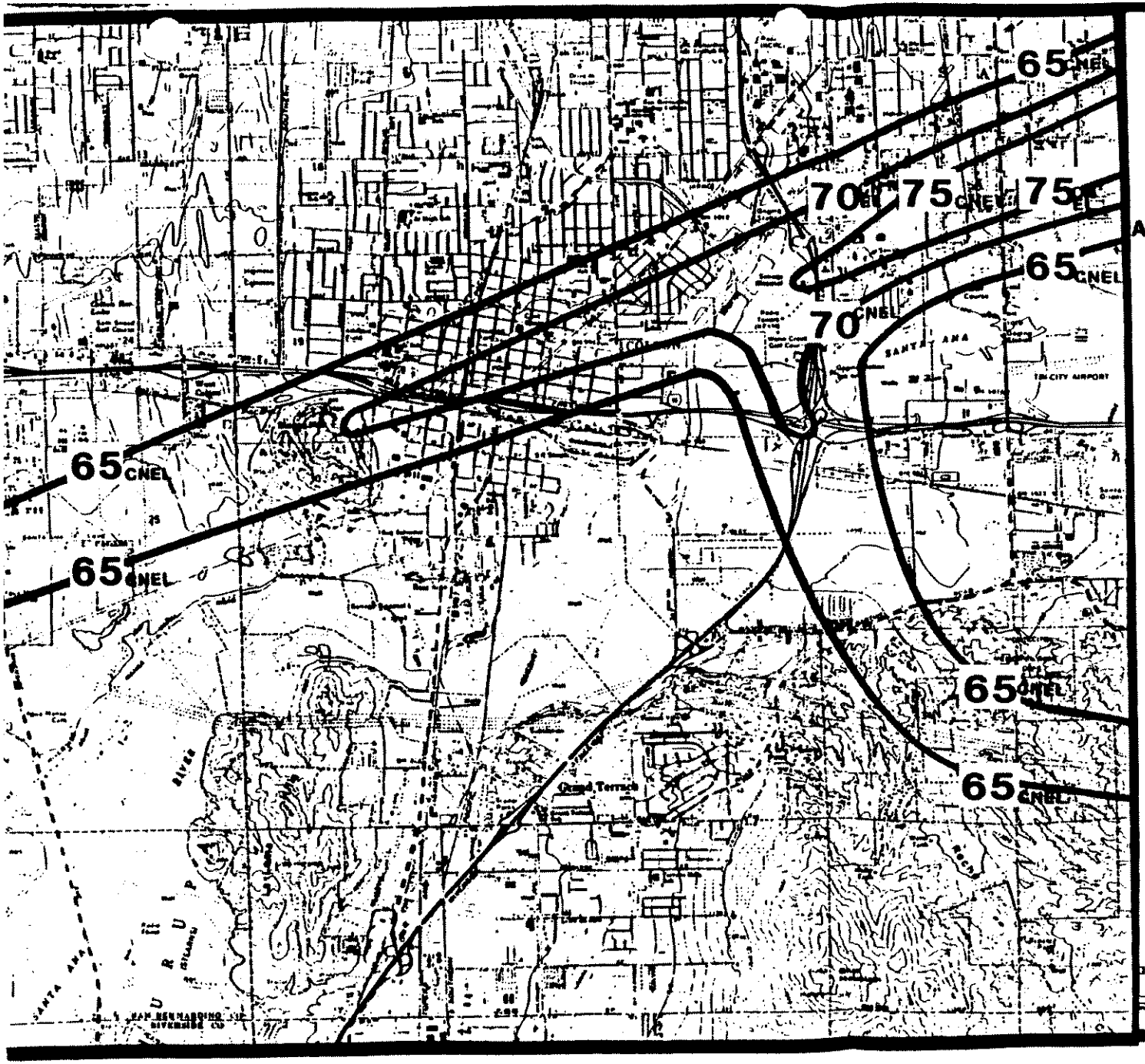
Interstate 215 is a north-southwest segment on the eastern portion of the City of Colton and presently carries an Average Daily Traffic (ADT) volume of approximately 97,500 vehicles, and a peak hour volume of 9,000 vehicles.

Traffic along Interstate 10 and Interstate 215 creates noise greater than 60 decibels (considered to be high) along a 1,900 foot wide corridor along this route. (See Exhibit B).

Airport Operations

Of all the sources of noise, the impact of jet aircraft approaching Norton Air Force Base, and major transportation facilities, have received the greatest amount of public attention because of the complaints of many affected Colton residents. Unfortunately, present State and Federal laws preempt local government from controlling certain sources by setting noise levels and operational procedures for aircraft, motor vehicles, and interstate carriers.

Military flight operations in and out of Norton Air Force Base facility subjects the entire City to loud jet noise of up to 80 decibels (very loud). The map in Figure 5-2 outlines the most intensive noise corridors surrounding the airport.



AIRPORT NOISE CONTOURS

ASSESSMENT OF NOISE IMPACTS WITHIN THE CITY OF COLTON

FIGURE 5-

THE POLICY PLAN

General Objective

To achieve and maintain an environment where noise is compatible with human activities interacting with a variety of land uses.

Principles and Standards

Principles:

1. Establish criteria defining compatible land uses as a function of the level of noise exposure.

2. Control noise exposure from future noise generators so the ambient environment will be kept within acceptable limits.

3. Establish acceptable noise standards consistent with health and quality of life goals.

Standards:

1. Residential structures should be constructed to maintain interior noise levels of not greater than 45 dBA, through the use of sound barrier improvements, building design, construction materials and/or insulating techniques.

2. Residential growth in Community Noise Exposure Areas greater than 70 dBA should be discouraged, unless on-site noise levels can be reduced to 60 dBA or lower via on- and off-site noise alleviating improvements.

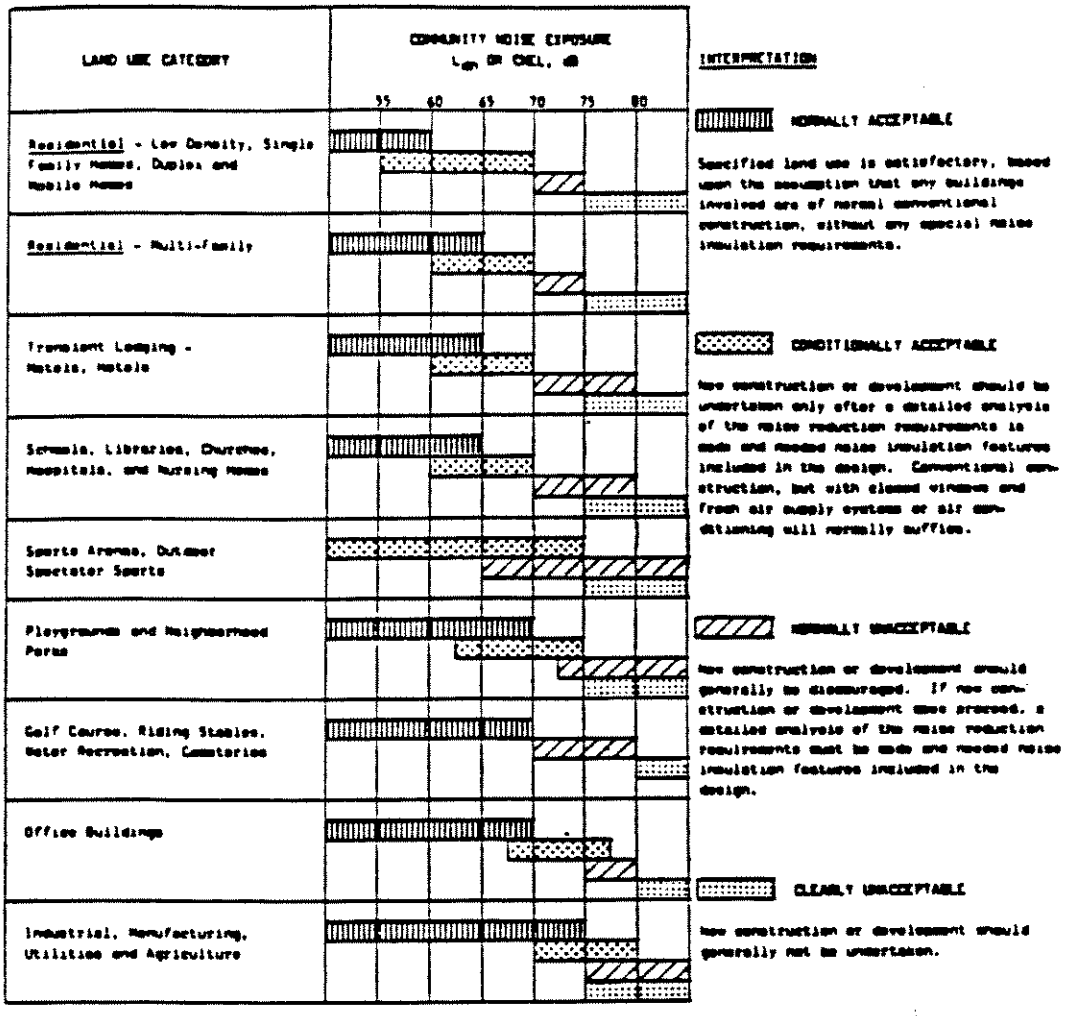
3. Exterior noise levels should not exceed 65 dBA during the day or 55 dBA at night for commercial land uses, including general business and general merchandising.

4. Exterior noise levels should not exceed 60 dBA at any time for such areas important to public need, and where the preservation of serenity and quietness is essential if the area is to continue to serve its intended purpose. Such areas could include parks, open spaces, amphitheaters, and other areas dedicated for activities requiring special qualities of serenity.

Table 5-1 describes Land Use Compatibility for various community noise environments. These guidelines, along with the adjustment factors given in the Noise Adjustment Reference in Table 5-2, allow the City to arrive at acceptability standards which reflect the desires of Colton and the City's assessment of the relative importance of noise pollution.

TABLE 5-1

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants as described in the Noise Adjustment Table to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL or L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

TABLE 5-2

NOISE ADJUSTMENT REFERENCE

Corrections to be Added to the
Measured Community Noise Equivalent Level (CNEL)
to Obtain Normalized CNEL

Type of Correction	Description	Amount of Correction to be Added to Measured CNEL in dB
Seasonal Correction	Summer (or year-round operation).	0
	Winter only (or windows always closed	- 5
Correction for Outdoor Residual Noise Level	Quiet suburban or rural community (remote from large cities and from industrial activity and trucking).	+10
	Quiet suburban or rural community (not located near industrial activity).	+ 5
	Urban residential community (not immediately adjacent to heavily traveled roads and industrial areas).	0
	Noisy urban residential community (near relatively busy roads or industrial areas).	- 5
	Very noise urban residential community.	-10
Correction for Previous Exposure and Community Attitudes	No prior experience with the intruding noise.	+ 5
	Community has had some previous exposure to intruding noise but little effort is being made to control the noise. This correction may also be applied in a situation where the community has not been exposed to the noise previously, but the people are aware that bona fide efforts are being made to control the noise.	0
	Community has had considerable previous exposure to the intruding noise and the noise maker's relations with the community are good.	- 5
	Community is aware that operation causing noise is very necessary and it will not continue indefinitely. This correction can be applied for an operation of limited duration and under emergency circumstances.	-10
Pure Tone or Impulse	No pure tone or impulsive character.	0
	Pure tone or impulsive character present.	+ 5

PLAN PROPOSALS AND PROGRAMS

Plan proposals, achieved through coordinated, effective programs, will allow the goals and policies of this element to be implemented and excessive noise reduced to acceptable levels.

A continuing effort will be required to determine where and how new sources of noise will be generated as the City expands throughout its General Plan Area and attempts to accommodate the increasing population and traffic flow over the next 20 years. By quantifying the community noise environment, in terms of noise exposure contours, due to long-term levels of growth and traffic activity, a guideline for use in development of land can be established (see Exhibit C for noise projections to year 2005). This noise exposure information allows Colton to achieve noise compatible land use and also provides identification of areas for enforcement of a local noise ordinance.

The City should continue to follow-up on the mitigation measures recommended in the original Noise Element, as follows:

1. Existing noise source regulations for new motor vehicles and new aircraft should be strictly enforced.

2. Acceptable noise levels should be specified for the purchase of all future vehicles, maintenance equipment, and aircraft and their components.

3. A Colton Noise Ordinance should be developed.

4. Establish a noise monitoring program with the County Environmental Health Services Department.

5. Coordinate with, and assist, the County and neighboring cities in dealing with the problem of noise and provide assistance when requested by other jurisdictions.

6. Initiate Noise Abatement site plan reviews for all projects within "Special Study Zones".

7. Continue to study noise abatement features for inclusion in a revised Uniform Building Code.

8. Promote increased public awareness concerning the effects of noise.

9. Support railroad schedule restrictions and airport operation changes during critical time periods.

10. Coordinate with Federal, State, County and adjacent city governments in developing and implementing noise abatement programs, while seeking funds to underwrite the costs.

11. Reduce the present and future impact of excessive noise from transportation sources through use of technology, planning and regulatory measures.

12. Coordinate with other elements of the General Plan to give appropriate recognition to noise level-land use relationships and other relevant matters.