

**LA MESA NOISE ELEMENT
BACKGROUND REPORT**

Prepared for:

City of La Mesa
8130 Allison Avenue
La Mesa, CA 92041-0314

Prepared by:

ERC Environmental and Energy Services Co.
5510 Morehouse Drive
San Diego, CA 92121

and

Illingworth & Rodkin, Inc.
160 Chesterfield Drive
Cardiff by the Sea, CA 92007



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I. INTRODUCTION

The purpose of the Noise Element is to identify and appraise existing noise problems in the community and to provide guidance to planners and developers for avoiding problems in the future. Accomplishing this task requires an evaluation of the noise sources in the community. Noise contours of major roadways and railways have been prepared to assist in the placement of appropriate land uses to reduce noise impacts. Noise policies can be established for new land uses, and potential solutions to existing problems can be recommended, based on the results of the community noise survey.

The State of California recognizes the relationship between noise and noise-sensitive land uses, and emphasizes the need to control noise at the local level through land use regulation. A Noise Element, as well as other general plan policy and implementing ordinances (zoning codes, noise ordinances, etc.), are effective tools in noise reduction and mitigation. Section 65302(f) of the California Government Code requires that each City have a Noise Element as part of the General Plan. Preparation of the City of La Mesa Noise Element follows the guidelines adopted by the Office of Noise Control, pursuant to Section 46050.1 of the Health and Safety Code.

State guidelines are very specific as to the content of the Noise Element. The Government Code (Section 65302{f}) states that the Noise Element should be prepared according to guidelines established by the State Department of Health Services. At a minimum, the Government Code requires the Element to analyze noise levels for the following:

- Highways and freeways;
- Primary arterials and major local streets;
- Passenger and freight on-line railroad operations and ground rapid transit systems;
- Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation;
- Local industrial plants, including but not limited to, railroad classification yards; and

- Other ground sources identified by local agencies as contributing to the community noise environment.

This Element quantifies the community noise environment of the City of La Mesa in terms of noise exposure contours. These contours are the basis for the development of land use compatibility guidelines.

II. ENVIRONMENTAL NOISE CHARACTERISTICS

Understanding environmental noise requires a familiarity with the physical description of noise and the way humans react to different noises. The important physical characteristics of environmental noise include frequency (pitch), loudness, and duration. The effects of noise on people can be grouped into three general categories: subjective effects, interference with activities, and physiological effects.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. The pressure fluctuation is caused by a vibrating object. It is received by the ear and perceived by the brain as sound. Noise is defined as unwanted or undesired sound. Table 1 contains the definitions of technical terminology commonly used in the characterization of noise.

The standard unit of sound measurement, which includes both loudness and frequency is the decibel, abbreviated "dB(A)". Filters are used with sound level measuring equipment to emphasize various frequency or pitch ranges. The "A" filter is most commonly used since it comes closest to matching the frequency range of the human ear.

Sound pressure levels measured in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a tenfold increase in sound pressure, or acoustic energy. Zero dB(A) is the faintest sound a good human ear can hear. Upper limits are approximately 140-160 dB(A). The ear begins to feel pain at about 120 dB(A). Figure 1 depicts common noises and their resulting noise levels.

The effects of noise on people include: subjective effects, such as annoyance and nuisance; interference with activities, such as speech and sleep; and physiological effects, such as startle and hearing loss.

In any typical noise environment, about 10 percent of the population will object to any noise not of their own making, and 25 percent will not react or complain at all, regardless of the level of noise being generated. Noise control measures, then, are most beneficial to the remaining 65 percent of the population who are neither ultrasensitive nor insensitive to noise. Negative reaction to noise generally increases with the increase in difference between background, or ambient, noise

Table 1

DEFINITION OF NOISE-RELATED TECHNICAL TERMS

Term	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, hZ	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
L ₁₀ , L ₅₀ , L ₉₀	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L _{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Maximum Instantaneous Noise Levels	The greatest sound level measured on the sound level meter during a designated time interval or event.

Figure 1

TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

At a Given Distance from Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100')	130		
Jet Takeoff (200')	120		Pain Threshold
	110	Rock Music Concert	
Pile Driver (50') Ambulance Siren (100')	100		Very Loud
	90	Boiler Room Printing Press Plant	
Freight Cars (50') Pneumatic Drill (50') Freeway (100')	80	In Kitchen with Garbage Disposal Running	
	70		Moderately Loud
Vacuum Cleaner (10')	60	Data Processing Center Department Store	
Light Traffic (100') Large Transformer (200')	50	Private Business Office	
	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

and the noise generated from a particular source such as traffic or railroad operations. In most situations, noise control measures need to reduce noise by five to ten dB(A) in order to effectively reduce complaints.

People generally have the ability to distinguish one sound from a background of sounds, such as a telephone ringing over music. However, certain noise levels can render a sound inaudible, for example, when heavy trucks interfere with a conversation on Spring Street. Face-to-face conversation usually can proceed where the noise level is up to 66 dB(A), group conversations up to 50 or 60 dB(A), and public meetings, up to 45 or 55 dB(A), without interruption.

Sleep interference is more difficult to quantify, although studies have shown that progressively deeper levels of sleep require louder noise levels to cause a disturbance. The California Office of Noise Control (ONC) recommends that individual events within sleeping areas should not exceed 50 dB(A) in residential areas exposed to noise levels of 60 Ldn or greater. Interior noise standards of 45 Ldn will protect against sleep interference.

Environmental noise, in almost every case, produces effects which are subjective in nature or involve interference with human activity. However, brief sounds at levels exceeding 70 dB(A) can produce temporary physiological effects such as constriction of blood vessels, changes in breathing, and dilation of the pupils. Steady noises of 90 dB(A) have been shown to increase muscle tension and adversely affect simple decision making. Long-term exposure to levels exceeding 70 dB(A) can cause hearing loss.

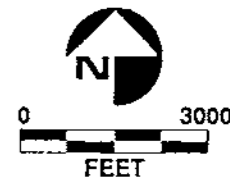
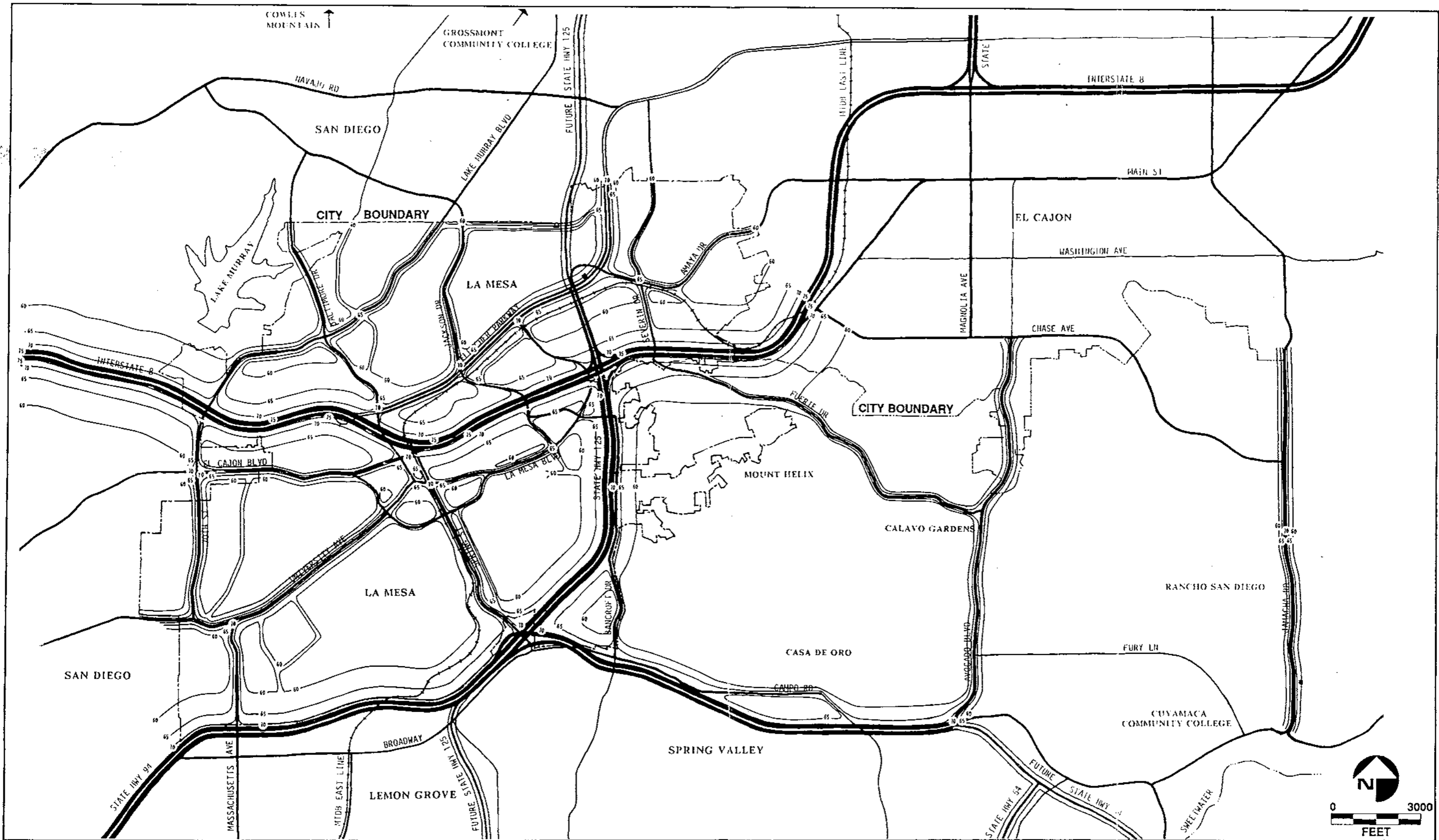
III. EXISTING NOISE ENVIRONMENT

Highway and Vehicular Traffic: The major source of noise in La Mesa is vehicular traffic including automobiles, trucks, buses, and motorcycles. The level of vehicular noise generally varies with the volume of traffic, the percent of trucks, the speed of traffic, and the distance from the roadway. Noise generated by vehicular traffic in the City currently is greatest along Interstate 8, Highway 94, Highway 125, Fletcher Parkway, Lake Murray Boulevard, Baltimore Drive, Jackson Drive, 70th Street, Massachusetts Avenue, El Cajon Boulevard, University Avenue and Spring Street.

Figure 2 depicts the existing 1989 noise levels within the La Mesa planning area. The noise contours are based on the Federal Highway Administration Traffic Noise Prediction Model. The contours reflect an existing "worst-case" potential and do not include the effects of shielding from buildings, terrain or other barriers which tend to reduce noise levels. The contours are shown in terms of the day/night average noise level (Ldn), a single-number rating of the average daily noise level at a given location. The Ldn is calculated by averaging the acoustical energy at a given location over a 24-hour period with a 10 dB(A) penalty added to noise levels that occur between the hours of 10 p.m. and 7 a.m. The penalty is added to account for increased sensitivity of people exposed to noise during sleeping hours.

To validate the traffic noise prediction model for the La Mesa planning area, noise measurements were taken at various roadside locations within the area. Continuous 24-hour measurements were taken at four locations, and short-term measurements were taken at about ten additional locations. Measurements were taken along Interstate 8, Highway 94, and major roads. The results of the noise survey are summarized in Table 2. Appendix A contains the actual results from the 24-hour and short-term monitorings.

Based on the noise survey throughout the City, noise levels within the La Mesa planning area are generally above 65 dB(A) along the major roadways. Traffic along Interstate 8, Highway 94, and Highway 125 generate noise levels of approximately 80 dB(A) Ldn adjacent to the highway. Outdoor noise levels of 65 dB(A) are normally considered intrusive, while outdoor noise levels of 80 dB(A) are normally considered unacceptable in residential areas. Those areas adjacent to



1989 Existing Noise Exposure (in L_{dn})

FIGURE
2

Table 2

**SUMMARY OF 24-HOUR NOISE MEASUREMENTS
CONDUCTED IN THE CITY OF LA MESA**

Location	Hourly Noise Level (L_{eq})		L_{dn}
	7 AM-10 PM	10 PM-7 AM	
I-8, east of 70th Street (120 ft. from centerline)	73-78 dB(A)	67-73 dB(A)	80 dB(A)
SR 94 (120 ft. from centerline)	73-78 dB(A)	67-79 dB(A)	80 dB(A)
Baltimore Drive (60 ft. from centerline)	58-65 dB(A)	49-61 dB(A)	64 dB(A)
El Cajon Blvd. (40 ft. from centerline)	68-72 dB(A)	60-67 dB(A)	73 dB(A)

*Detailed data and short-term data are included in Appendix A.

roadways with higher average daily traffic volumes, therefore, experience higher noise levels. Tables within Appendix B summarize the existing noise levels adjacent to the major city streets in La Mesa and the City's planning area.

Railway Operations: San Diego & Eastern Arizona Railway Company (SD&AE) operate the only railway in La Mesa. The SD&AE railroad passes through the La Mesa planning area adjacent to Spring Street, Fletcher Parkway, and Water Street. Currently, one train per night is operated on the tracks. For safety reasons, the train blows its whistle at each major road crossing which results in annoying noise events for nearby residents. A whistle generates a maximum level of about 105 dBA at 100 feet from the source. An engine typically generates a maximum level of about 90 dBA at a distance of 100 feet from the engine. Because only one train per day is operated on the tracks, significant average noise levels are not generated. Maximum instantaneous noise levels generated by trains are high, however.

Industrial Noise Sources: Noise generated by industrial operations, such as loading, unloading, and general warehouse activities, is limited primarily to the industrial and manufacturing area located south of Fletcher Parkway between Baltimore Drive and Jackson Drive. This area is separated from residential areas by commercial land uses and by Interstate 8 which masks the noise generated by the industrial area. No sensitive land uses are, therefore, exposed to industrial-generated noise.

Aircraft Noise: There are no airports located within the City of La Mesa planning area. The closest airport is Gillespie Field located in El Cajon, approximately 2 miles northeast of the planning area boundary. Residents in La Mesa are located far enough from the airport so that they are subjected to relatively low average noise levels from aircraft operations at the facility.

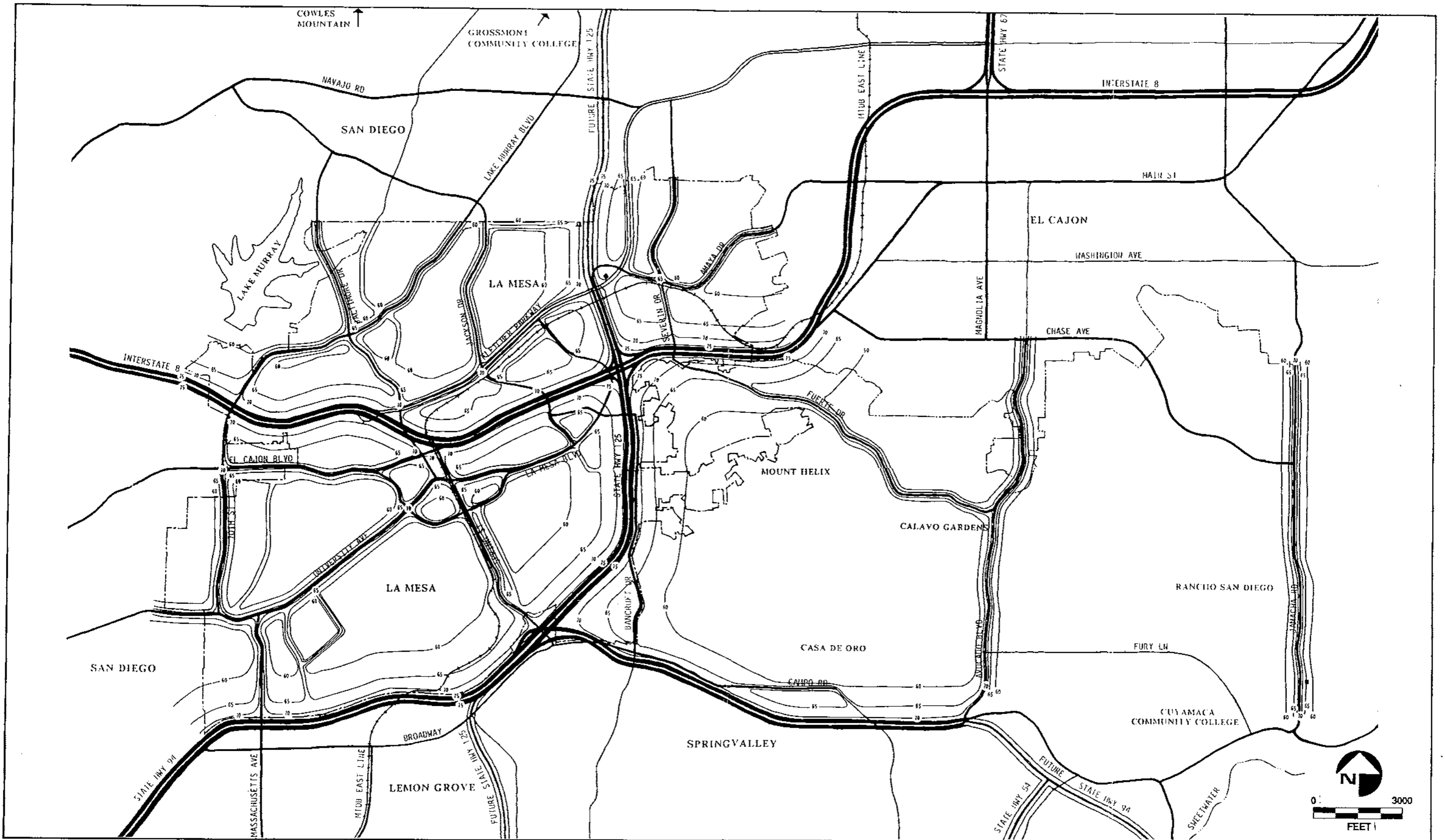
Grossmont Hospital operates the only heliport in the City of La Mesa. The facility is only used to transport medical patients and not trauma cases. Five to ten flights are normally flown to the hospital every month, typically during normal business hours. This relatively low number of flights is not enough to generate noise levels above 60 Ldn.

IV. FUTURE NOISE ENVIRONMENT

Highway and Vehicular Traffic: Major existing streets and highways can be expected to continue to be the dominant noise sources in La Mesa in the future. In most cases, the noise levels are expected to increase by about one to two decibels for areas adjacent to the major roads due to increases in traffic volumes. Noise levels along some of the streets serving the northern and southern portions of the city, where new development (city or regional) is expected to occur, will receive significantly greater increases in traffic. Baltimore Drive at the northern city limits and Massachusetts Avenue are examples of streets that will carry significantly greater traffic volumes in the future. Because future traffic volumes have only been calculated for the primary arterials and highways, the noise contours in Figure 3 depict the future (Year 2010) noise levels for only those roadways. Some Class II collectors would also generate a significant level of noise in the future. However, future noise levels for these roadways and some segments of the primary arterials cannot be calculated until future traffic volumes have been determined. In the absence of specific traffic information, three decibels could be added to the existing noise levels on these Class II collectors to provide an approximation of the future noise levels for these roadways. Tables within Appendix C depict the future noise levels for those streets with traffic information.

Railway Operations: The Metropolitan Transit Development Board (MTDB) is currently finishing the construction of the El Cajon segment of the East Line Light Rail Transit (LRT) system. Starting in June 1989, LRT vehicles will begin operating along the SD&AE railway, which travels through La Mesa. MTDB is expected to operate approximately four LRT trains per hour during the day and two LRT trains per hour during the evening and night until 11:00 p.m. The LRT trains are expected to generate noise levels of 58 to 61 Ldn at 50 feet.

In addition to the railway noise generated by the LRT, grade crossing bells are anticipated at each street intersection the LRT passes through. The greatest intrusion due to the bell noise would occur when the bells are ringing before and after the LRT passing the intersection is audible; the LRT noise itself would otherwise mask the bell noise.



Future (Year 2010) Noise Exposure (in Ldn)

FIGURE
3

Industrial Noise: The industrial area is expected to continue its present operations. No new industrial areas are planned in the City, and, in the future, industrial generated noise would remain the same as the existing conditions.

Aircraft Noise: Any future changes in helicopter operations at Grossmont Hospital are not known at this time. However, because residential development is designated adjacent to the hospital, noise impacts may occur in the future due to the close proximity of the residential area to the helipad facility.

V. GOALS AND POLICIES

Noise and Land Use Compatibility: The objective of noise and land use compatibility guidelines is to provide an acceptable community noise environment and to minimize noise related complaints from residents. The compatibility guidelines are used in conjunction with the future noise exposure levels in Figure 3 to identify projects or activities which may require special treatment to minimize noise exposure. Homes should not be allowed near a freeway, for example, unless mitigation measures can effectively reduce noise exposure to acceptable levels.

Figure 4 contains an example of preliminary guidelines which the City may consider adopting to evaluate the compatibility between land uses and future noise levels in La Mesa. It is recommended that the City eliminate the overlaps between acceptable and unacceptable noise exposures in the final adopted version. The guidelines should be used in conjunction with the noise exposure levels in Figure 3, which refer to the outdoor day/night average noise level (Ldn) in general locations. According to the guidelines, a land use or proposed project in the "normally acceptable" category will be considered compatible with the noise levels indicated in the figure, in most cases, without special noise abatement measures. For example, a home of standard construction would be an acceptable use in any area of 60 Ldn or less without special insulation, setback or building design. A home in an area projected for noise levels of 60 to 70 Ldn should only be allowed following an acoustical study which recommends site specific noise attenuation measures such as double pane windows, setbacks and/or construction of soundwalls to provide acceptable indoor and outdoor noise levels.

The following considerations should be taken into account when using the Noise and Land Use Compatibility Guidelines:

- The goal for maximum outdoor noise levels in residential areas is an Ldn of 60 dB(A). This level is a requirement to guide the design and location of future development, and a goal for the reduction of noise in existing development. However, 60 Ldn is a goal which cannot necessarily be reached in all residential areas within the realm of economic or aesthetic feasibility. This goal should be applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments and

Figure 4

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

(Source: Guidelines for the Preparation and Content of Noise Elements of the General Plan, California Department of Health Services, 1988)

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L _{dn} OR CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL – LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
RESIDENTIAL – MULTI. FAMILY	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
TRANSIENT LODGING – MOTELS, HOTELS	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
PLAYGROUNDS, NEIGHBORHOOD PARKS	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable

INTERPRETATION



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

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 described in Table 1 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 residential communities from unacceptable exposure to aircraft 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 Com-

munity 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 of 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.

recreation areas in multi-family housing projects). The outdoor standard should not normally be applied to balconies or patios associated with apartments and condominiums due to the general lack of use of these balconies and patios even in quiet areas.

- The indoor noise level, as required by the State of California Noise Insulation Standards, must not exceed an Ldn of 45 dB in multi-family dwellings. This indoor criterion could also be adopted as the maximum acceptable indoor noise level in single-family homes.
- If the primary noise source is a railroad, then the outdoor noise exposure criterion should be 70 Ldn for future development. It may not be feasible to reduce exterior noise levels to 70 Ldn in existing residential areas adjacent to railroads. This is because train noise is usually characterized by a relatively small number of loud events which generally do not create significant noise effects in an outdoor environment. Even though the outdoor Ldn may be high, during the majority of the time the noise level will be acceptable for speech communication, and people would not be highly annoyed.
- Interior noise levels in new single-family and multi-family residential units exposed to an Ldn of 60 dB(A) or greater should be limited to a maximum instantaneous noise level in the bedrooms of 50 dBA. Maximum instantaneous noise levels in other rooms should not exceed 55 dB(A).
- Appropriate interior noise levels in commercial, industrial, and office buildings are a function of the use of space. For example, the noise level in private offices should generally be quieter than for data processing rooms. Interior noise levels in offices generally should be maintained at 45 Leq or less. Acoustical designs to achieve this level should be demonstrated by the project sponsor in sufficient detail to satisfy City staff and OSHA requirements.
- These guidelines are not intended to be applied reciprocally. In other words, if the ambient noise in an area is currently below the desired noise standard, an increase in noise up to the maximum should not necessarily be allowed. The impact of a proposed project on an existing land use should

be evaluated in terms of the potential for adverse community response, based on a significant increase in existing noise levels, regardless of the compatibility guidelines.

Noise Goals, Policies and Programs: The following goals, policies and programs are proposed as examples which the City may consider in development of the Noise Element.

Goal 1: To reduce noise to acceptable levels throughout the community.

Policy 1: Require new projects to meet acceptable exterior noise level standards.

Program 1.1: Use the "normally acceptable" noise levels for new land uses as established in the "Noise and Land Use Compatibility Guidelines" contained in Figure 4, including the descriptions in the text.

Program 1.2: Use noise guidelines and contours to determine the need for noise studies, and require new developments to pay for noise attenuation features as a condition of approving new projects.

Program 1.3: Require noise studies for future projects to use a consistent format, to analyze alternative mitigations and to monitor the effectiveness of the mitigations following their implementation.

Policy 2: Reduce outdoor noise levels in existing residential areas that currently exceed the City standards where economically and aesthetically feasible.

Program 2.1: Install soundwalls, noise insulation and other mitigations.

Program 2.2: Continue to project and monitor noise levels using traffic projections and noise monitoring.

Program 2.3: Verify projected noise levels with noise monitors at locations adjacent to residential and other noise sensitive areas where

traffic volumes are projected to increase by more than 50 percent from baseline conditions.

Policy 3: Ensure that noise does not exceed interior noise levels of 45 Ldn for residential uses and those levels specified in noise studies for other uses.

Program 3.1: Require new developments to pay their fair share of mitigation measures necessary to reduce interior noise levels within adjacent or impacted land uses.

Policy 4: Control noise at its source to maintain existing noise levels, and in no case allow noise to exceed acceptable levels as established in the Noise and Land Use Compatibility Guidelines.

Program 4.1: Enforce the noise emission standards for various noise emitting land uses established in the City's Noise Ordinance.

Policy 5: Protect schools, hospitals, libraries, churches, convalescent homes, and other noise sensitive uses from noise levels exceeding those allowed in residential areas.

Program 5.1: Locate noise sensitive uses away from significant noise sources whenever possible, unless mitigation measures are included in development plans.

Policy 6: Limit truck traffic in residential and commercial areas to designated truck routes.

Program 6.1: Limit construction, delivery and through truck traffic to designated routes.

Program 6.2: Distribute maps of approved truck routes to City traffic office.

Policy 7: Design City streets to reduce noise levels in adjacent areas.

Program 7.1: Continue to require soundwalls, earth berms, setbacks and other noise reduction techniques as conditions of development approval.

Program 7.2: Attempt to maintain local and collector streets at 6000-9000 ADT or less to ensure acceptable noise levels at and within adjacent residences.

Policy 8: Encourage other agencies to reduce noise levels generated by roadways, railways, airports, and other facilities.

Program 8.1: Continue to work with the County Airport Land Use Commission (ALUC), State Office of Noise Control (ONC), Metropolitan Transit Development Board (MTDB), and other agencies to reduce noise generated from sources outside the City's jurisdiction.

VI. RECOMMENDED NOISE MITIGATION

Noise mitigation measures recommended by site specific studies include soundwalls, earth berms, noise insulation, building orientation and setback requirements. Most new buildings in La Mesa include construction materials adequate to reduce interior noise by 15 to 20 dB(A) below exterior levels. Special acoustical construction techniques can be added to new buildings or retrofitted to old buildings, including roof and wall insulation, sound rated windows and ventilation systems. Site plan review of new building projects in La Mesa includes consideration of topography, building orientation and setbacks to reduce noise levels. All of these noise reduction measures should be considered in locations shown in Figure 3 as being within "conditionally acceptable" areas, and should be tailored to individual site characteristics based on the findings of an acoustical report. The objective of implementing such measures is to provide outdoor noise levels at or below 60 Ldn and interior noise levels at or below 45 Ldn. This would reduce the noise in usable areas, i.e., backyards, pool areas, to acceptable levels.

VII. POLICY ENFORCEMENT

To adequately carry out the programs identified in the Noise Element and to comply with State requirements for certain other noise control programs, specific enforcement programs are recommended at the local level:

- 1) Adoption and application of a community noise ordinance for resolution of noise complaints. Currently, La Mesa has a quantitative noise ordinance, which regulates the level of noise that can be generated from one property onto another. The ordinance allows noise levels during the nighttime hours of up to 50 dB(A) for single-family development and 55 dB(A) for multi-family residences. The ordinance is intended to discourage unusually noisy activities in residential areas.

The ordinance should be strengthened by establishing criteria to account for the tonal content of the noise, regulating construction activities of single-family residential occupants, and applying the 50 dB(A) noise criteria at multi-family areas.

- 2) Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such hot rod vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. There are a number of statewide vehicle noise regulations that can be enforced by local authorities as well as the California Highway Patrol. Specifically, Sections 23130, 23130.5, 27150, 27151, and 38275 of the California Vehicle Code. In addition, excessive speed laws may be strictly enforced to curtail this problem. Both the Highway Patrol and the State Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound level measurements.
- 3) The adopted Noise Element shall serve as a guideline for compliance with the State's and the City's recommended noise insulation standards. Recognizing the need to provide acceptable habitation environments, State law requires noise insulation of new multi-family dwellings constructed within the 60 dB (CNEL or L_{dn}) noise exposure contours. It is a function of the noise element to provide

noise contour information around all major sources in support of the sound transmission control standards (Chapter 2-35, Part 2, Title 24, California Administrative Code).

Areas projected to exceed 60 L_{dn} would have the potential to generate interior noise levels greater than 45 L_{dn} . Therefore, an interior acoustical analysis should be conducted for all residential projects proposed in areas exposed to exterior noise levels greater than 60 L_{dn} to comply with the recommended City standards.

APPENDIX A
NOISE SURVEY RESULTS

Table A-1

24-HOUR MONITORING ALONG INTERSTATE 8 EAST OF
70TH STREET (APPROXIMATELY 120 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (Leq)*
4/26/89	12:00 p.m.	76
	1:00 p.m.	77
	2:00 p.m.	77
	3:00 p.m.	74
	4:00 p.m.	73
	5:00 p.m.	74
	6:00 p.m.	78
	7:00 p.m.	77
	8:00 p.m.	76
	9:00 p.m.	76
	10:00 p.m.	74
11:00 p.m.	73	
4/27/89	12:00 p.m.	71
	1:00 a.m.	68
	2:00 a.m.	68
	3:00 a.m.	67
	4:00 a.m.	69
	5:00 a.m.	73
	6:00 a.m.	77
	7:00 a.m.	77
	8:00 a.m.	78
	9:00 a.m.	77
	10:00 a.m.	77
11:00 a.m.	77	

L_{dn} = 80 dB(A)

*Leq = The average A-weighted noise level during the measurement period.

Table A-2

24-HOUR MONITORING ALONG HIGHWAY 94 EAST OF
 MASSACHUSETTS AVENUE
 (APPROXIMATELY 120 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (Leq)*
4/27/89	2:00 p.m.	76
	3:00 p.m.	77
	4:00 p.m.	76
	5:00 p.m.	76
	6:00 p.m.	75
	7:00 p.m.	74
	8:00 p.m.	74
	9:00 p.m.	73
	10:00 p.m.	73
	11:00 p.m.	72
4/28/89	12:00 a.m.	69
	1:00 a.m.	67
	2:00 a.m.	67
	3:00 a.m.	67
	4:00 a.m.	71
	5:00 a.m.	77
	6:00 a.m.	79
	7:00 a.m.	78
	8:00 a.m.	77
	9:00 a.m.	76
	10:00 a.m.	76
	11:00 a.m.	76
	12:00 p.m.	76
	1:00 p.m.	76

L_{dn} = 80 dB(A)

*Leq = The average A-weighted noise level during the measurement period.

Table A-3

24-HOUR MONITORING ALONG BALTIMORE DRIVE
 NORTH OF LAKE MURRAY BOULEVARD
 (APPROXIMATELY 60 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (L_{eq})*
5/3/89	11:00 a.m.	62
	12:00 p.m.	63
	1:00 p.m.	63
	2:00 p.m.	63
	3:00 p.m.	63
	4:00 p.m.	64
	5:00 p.m.	64
	6:00 p.m.	62
	7:00 p.m.	62
	8:00 p.m.	60
	9:00 p.m.	59
	10:00 p.m.	58
	11:00 p.m.	54
5/4/89	12:00 a.m.	52
	1:00 a.m.	52
	2:00 a.m.	50
	3:00 a.m.	49
	4:00 a.m.	50
	5:00 a.m.	55
	6:00 a.m.	61
	7:00 a.m.	64
	8:00 a.m.	65
	9:00 a.m.	64
10:00 a.m.	63	

$L_{dn} = 64 \text{ dB(A)}$

* L_{eq} = The average A-weighted noise level during the measurement period.

Table A-4

24-HOUR MONITORING ALONG EL CAJON BOULEVARD
 WESTERN END OF CITY LIMITS
 (APPROXIMATELY 40 FEET TO CENTERLINE)

Date	Hour Beginning	Noise Level (Leq)*
5/23/89	9:00 a.m.	70
	10:00 a.m.	70
	11:00 a.m.	70
	12:00 p.m.	71
	1:00 p.m.	71
	2:00 p.m.	72
	3:00 p.m.	72
	4:00 p.m.	72
	5:00 p.m.	72
	6:00 p.m.	71
	7:00 p.m.	71
	8:00 p.m.	70
5/24/89	9:00 p.m.	70
	10:00 p.m.	68
	11:00 p.m.	67
	12:00 a.m.	65
	1:00 a.m.	63
	2:00 a.m.	61
	3:00 a.m.	60
	4:00 a.m.	60
	5:00 a.m.	65
	6:00 a.m.	69
	7:00 a.m.	72
	8:00 a.m.	71

L_{dn} = 73 dB(A)

*L_{eq} = The average A-weighted noise level during the measurement period.

Table A-5
SHORT-TERM MEASUREMENTS

Street/ Segment	Distance to Centerline	Date	Time	Leq ¹	L01 ²	L10	L50	L90	Number of:		
									Cars	Medium Trucks	Heavy Trucks
Amaya Dr. (between Fletcher Parkway and Severin Dr.)	80'	5/4/89	3:36-3:51 p.m.	62	71	65	59	53	276	3	5
Fletcher Parkway (between Grossmont Center and Amaya Dr.)	100'	4/26/89	11:25-11:35 a.m.	66	75	70	62	55	233	7	3
Jackson Dr. (5700 Block)	60'	5/4/89	9:40-9:55 a.m.	67 ³	77	71	63	51	232	3	1
Lake Murray (near Maryland Ave.)	55'	5/4/89	8:45-9:00 a.m.	70 ³	79	73	67	61	486	7	10
La Mesa Blvd. (between University Ave. and Jackson Dr.)	55'	5/4/89	2:22-2:32 a.m.	67	77	71	65	55	200	1	3
Massachusetts Ave. (near Pearson)	50'	5/4/89	10:35-10:50 a.m.	70	77	72	68	57	355	12	5
Severin Dr. (between Murray Rd. and Amaya Dr.)	50'	5/4/89	3:04-3:14 p.m.	66	72	70	65	58	168	0	2
Spring St. (between Finley St. and La Mesa Blvd.)	60'	5/4/89	1:42-1:57 p.m.	66	76	70	64	55	440	9	7
University Ave. (near Maple)	65'	5/4/89		66	75	70	64	56	331	7	2

¹Leq -- The average A-weighted noise level during the measurement period.

²L01, L10, L50, L90 -- The A-weighted noise levels that are exceeded during the measurement period 01, 10, 50, and 90 percent of the time, respectively.

³Leq -- Estimated from, statistical data.

APPENDIX B
EXISTING NOISE CONTOURS
ALONG MAJOR ROADWAYS

Table B-1
1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Interstate 8						
Western City Limits to Spring St.	176,000	80	170	360	775	1675
Spring St. to Jackson Dr.	154,000	70	155	330	710	1532
Jackson Dr. to Hwy. 125	145,000	70	145	315	685	1472
Hwy. 125 to Eastern City Limits	195,000	85	180	385	830	1793
Highway 94						
Western City Limits to Lemon Grove Ave.	121,000	60	130	280	605	1305
Lemon Grove to Future Hwy. 125	115,000	60	125	270	585	1260
Future Hwy. 125 to Spring St.	115,000	60	125	270	585	1260
Spring St. to East of City Limits	57,000	*	80	170	365	790
Highway 125						
Northern City Limits to Interstate 8	0					
Interstate 8 to Lemon Ave.	70,000		90	195	420	905
Lemon Ave. to Spring St.	74,000		95	205	435	940
Amaya Drive						
Fletcher Parkway to Severin Dr.	13,367				60	130
Severin Dr. to Water St.	15,532				65	145
Water St. to Primrose Dr.	7,624					90
Allison Avenue						
University Ave. to Spring St.	6,551					65
Spring St. to Palm Ave.	6,177					R-O-W
Baltimore Drive						
Northern City Limits to El Paso St.	10,271					110
El Paso St. to Lake Murray Blvd.	12,170				55	120
Lake Murray Blvd. to Aztec Dr.	15,253				65	140
Aztec Dr. to Parkway Dr.	20,010				80	170
Parkway Dr. to El Cajon Blvd.	31,383				105	230
El Cajon Blvd. to University Ave.	27,694				100	210
Bancroft Drive						
I-8 to Shirley Dr.	13,103				60	130
Shirley Dr. to Lemon Ave.	8,059				40	95
Lemon Ave. to Golondrina Dr.	10,943				55	115
Golondrina Dr. to Campo Rd.	9,526				45	105
Center Street						
Commercial St. to Timken St.	7,363				45	100
Timken St. to Jackson Dr.	11,147				60	130
Grossmont Center Dr. to Future Hwy. 125	3,624					60

Table B-1 (Continued)
1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Commercial Street						
Center St. to Guild St.	4,848					75
Guild St. to Center Dr.	5,062					75
Cowles Mountain Boulevard						
Northern City Limits to Lake Murray Blvd.	4,357					60
Dallas Street						
Lake Murray Blvd. to Jackson Dr.	4,816					65
Jackson Dr. to Meadowcrest Dr.	7,041				35	85
Meadowcrest Dr. to Fletcher Parkway	9,735				50	105
El Cajon Boulevard						
Western City Limits to Thorne Dr.	27,667			60	130	280
Thorne Dr. to La Mesa Blvd.	26,560			60	125	275
La Mesa Blvd. to Baltimore Dr.	24,439			55	120	260
Baltimore Dr. to I-8	21,809			50	110	240
Fletcher Parkway						
I-8 to Baltimore Dr.	33,965			90	195	425
Baltimore Dr. to Jackson Dr.	31,788			90	190	405
Jackson Dr. to Grossmont Center Dr.	24,422			75	160	340
Grossmont Center Dr. to Amaya Dr.	28,443			80	175	380
Amaya Dr. to Dallas St.	30,529			85	185	395
Dallas St. to Northern City Limits	26,437			60	165	360
Grossmont Boulevard						
La Mesa Blvd. to Hwy. 125	19,319				90	190
Grossmont Center Drive						
Fletcher Parkway to Center Dr.	19,649				50	110
Center Dr. to Havenhill Rd.	12,629					80
Havenhill Rd. to Murray Dr.	17,935				45	105
Murray Dr. to I-8	18,396				50	105
Guava Avenue						
Alvarado Rd. to El Cajon Blvd.	5,886					60
Harbinson Avenue						
Amhurst St. to Camellia Dr.	3,902					45
Camellia Dr. to University Ave.	5,519					60
Jackson Drive						
Northern City Limits to Laird St.	12,058				55	120
Laird St. to Fletcher Parkway	20,965			40	95	210
Fletcher Parkway to Center St.	27,457				90	195

Table B-1 (Continued)
1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Jackson Drive (Continued)						
Center St. to Murray Dr.	22,389				80	170
Murray Dr. to Grossmont Blvd.	28,136		45		100	215
Grossmont Blvd. to Washington Ave.	15,800				65	145
Washington Ave. to La Mesa Blvd.	11,203				55	115
La Mesa Blvd. to Jefferson Ave.	12,180				45	100
Jefferson Ave. to Lemon Ave.	6,677					65
Lake Murray Boulevard						
Northern City Limits to El Paso St.	27,137				95	210
El Paso St. to Aztec Dr.	28,975				85	180
Aztec Dr. to Baltimore Dr.	30,227				100	220
Baltimore Dr. to Maryland Avenue	34,385				105	225
Maryland Ave. to I-8	33,382			65	115	245
La Mesa Boulevard						
El Cajon Blvd. to Guava Ave.	8,753					80
Guava Ave. to University Ave.	11,603					95
University Ave. to Acacia Ave.	13,110					105
Acacia Ave. to Spring St.	12,165					80
Spring St. to Third St.	6,927					55
Third St. to Grant Ave.	7,044					55
Grant Ave. to University Ave.	7,328					70
University Ave. to Jackson Dr.	13,765				60	130
Jackson Dr. to Grossmont Blvd.	8,808					100
Grossmont Blvd. to I-8	13,125				60	130
Lemon Avenue						
Glenn St. to Jackson Dr.	5,280					45
Jackson Dr. to Hwy. 125	12,302				45	100
Hwy. 125 to East of City Limits	3,498					
Lowell Street						
University Ave. to Orion Ave.	4,565					50
Massachusetts Avenue						
University Ave. to Hoffman Ave.	20,155				105	225
Hoffman Ave. to Hwy. 94	22,974			60	135	290
Murray Drive						
Jackson Dr. to Grossmont Center Dr.	15,607				65	145
Grossmont Center Dr. to Future Hwy. 125	11,659				55	120
Future Hwy. 125 to Severin Dr.	10,363				50	110
Severin Dr. to Water St.	7,271				35	85
Murray Hill Road						
University Ave. to Waite Dr.	7,520					75

Table B-1 (Continued)
1989 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Orion Avenue						
Murray Hill Rd. to Lowell St.	4,675					55
Palm Avenue						
La Mesa Blvd. to Finley Ave.	10,568				55	110
Finley Ave. to Spring St.	10,645				50	110
Parkway Drive						
Lake Murray Blvd. to Baltimore Dr.	5,423				35	85
Baltimore Dr. to Jackson Dr.	8,158				50	110
Severin Drive						
Northern City Limits to Stanley Dr.	8,508					80
Stanley Dr. to Amaya Dr.	11,637				45	95
Amaya Dr. to Murray Dr.	18,605				90	190
Spring Street						
I-8 to University Ave.	28,163				105	220
University Ave. to Allison Ave.	32,668			65	115	245
Allison Ave. to La Mesa Blvd.	30,164				105	230
La Mesa Blvd. to Finley Ave.	31,103			60	110	235
Finley Ave. to Palm Ave.	31,822			75	160	340
Palm Ave. to Hwy. 94	39,308			85	180	390
University Avenue						
Western City Limits to Massachusetts Ave.	31,026			65	140	305
Massachusetts Ave. to Lowell St.	27,858			60	130	280
Lowell St. to La Mesa Blvd.	23,807			65	120	255
La Mesa Blvd. to Spring St.	20,984				110	235
Spring St. to La Mesa Blvd.	9,286				65	135
Waite Avenue						
Massachusetts Ave. to Murray Hill Rd.	6,977					70
Water Street						
Amaya Dr. to Murray Dr.	6,281					65
70th Street						
I-8 to El Cajon Blvd.	48,356			50	130	285
El Cajon Blvd. to University Ave.	?					

(*) Traffic data provided by Caltrans and City of La Mesa.
*Blank indicates noise contour within right-of-way.

Table B-2

1989 L_{dn} CONTOURS BY ROADWAY
(ROADS WITHIN PLANNING AREA)

Roadway	Average Traffic	L _{dn} (Distance in Feet)		
		70	65	60
Avocado Blvd.	20,000	50	105	225
Campo Rd.	17,000	35	85	180
Fuerte Dr.	13,712	*	60	130
Jamacha Rd.	20,000	48	105	226

*Blank indicates noise contour is located within the right of way.

APPENDIX C
FUTURE NOISE CONTOURS ALONG MAJOR ROADWAYS

Table C-1
2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet from center line of roadway)				
		80	75	70	65	60
Interstate 8						
Western City Limits to Fletcher Parkway	211,000	90	190	410	880	1890
Fletcher Parkway to Spring St.	169,000	75	165	350	760	1630
Spring St. to Hwy. 125	187,000	80	175	3765	810	1745
Hwy. 125 to East of City Limits	225,000	90	200	425	915	1970
Highway 125						
Spring St. to Grossmont Blvd.	223,000	95	200	435	940	2020
Grossmont Blvd. to I-8	212,000	90	190	410	880	1895
I-8 to Northern City Limits	145,000	70	150	320	685	1470
Highway 94						
Western City Limits to Massachusetts Ave.	161,000	75	160	340	735	1580
Massachusetts Ave. to Future Hwy. 125	169,000	75	165	380	760	1630
Future Hwy. 125 to Spring St.	229,000	90	200	430	920	1985
Spring St. to East of City Limits	110,000	60	120	265	570	1225
Amaya Drive						
Fletcher Parkway to Severin Dr.	18,000				75	160
Severin Dr. to Primrose Dr.	15,000				65	140
Baltimore Drive						
Northern City Limits to El Paso St.	17,000				70	155
El Paso St. to Lake Murray Blvd.	21,000				80	175
Lake Murray Blvd. to El Cajon Blvd.	32,000				110	230
El Cajon Blvd. to University Ave.	27,000				95	210
El Cajon Boulevard						
Western City Limits to I-8	39,000			25	165	355
Fletcher Parkway						
Interstate 8 to Jackson Dr.	33,000			50	195	415
Jackson Dr. to Grossmont Center Dr.	27,000			50	170	365
Grossmont Center Dr. to Future Hwy. 125	64,000		65	140	300	650
Future Hwy. 125 to Northern City Limits	16,000			85	120	260
Grossmont Boulevard						
La Mesa Blvd. to Hwy. 125	14,000				70	150
Jackson Drive						
Northern City Limits to Fletcher Parkway	19,000				90	195
Fletcher Parkway to I-8	19,000				70	155
I-8 to La Mesa Blvd.	26,000			40	95	200
La Mesa Blvd. to Lemon Ave.	17,000				60	125

Table C-1 (Continued)
2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic	L _{dn} (Distance in Feet from center line of roadway)				
		80	75	70	65	60
Lake Murray Boulevard						
Northern City Limits to Baltimore Dr.	22,000				85	180
Baltimore Dr. to Maryland Ave.	24,000				90	190
Maryland Ave. to I-8	33,000			60	130	280
La Mesa Boulevard						
El Cajon Blvd. to University Ave.	19,000				65	135
University Ave. (west) to University Ave.	16,000				40	95
University Ave. to Jackson Dr.	32,000			50	110	235
Jackson Dr. to Grossmont Blvd.	28,000				100	215
Lemon Avenue						
Jackson Dr. to Hwy. 125	17,000				60	125
Massachusetts Avenue						
University Ave. to Hoffman Ave.	29,000			60	135	290
Hoffman Ave. to Hwy. 94	38,000			75	160	345
Murray Drive						
Future Hwy. 125 to East of City Limits	15,000				65	140
Murray Hill Road						
University Ave. to Waite Dr.	15,000				55	115
Severin Drive						
Amaya Dr. to I-8	19,000				90	195
Spring Street						
I-8 to La Mesa Blvd.	43,000			65	135	295
La Mesa Blvd. to Finley Ave.	33,000			53	115	245
Finley Ave. to Hwy. 94	33,000			75	160	350
University Avenue						
Western City Limits to Spring St.	33,000			70	145	315
Spring St. to La Mesa Blvd.	34,000			70	150	320
Waite Drive						
Murray Hill Rd. to Hwy. 94	13,000				45	100

(a) Based on data provided by SANDAG, SANDAG Series VII, 2010 Regional Forecast, May, 1989.

* Blank indicates noise contour within right-of-way.

Table C-2
2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic (A)	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Allison Avenue						
University Ave. To Spring St.	9,892				*	90
Spring St. to Palm Ave.	7,968					60
Bancroft Drive						
I-8 to Shirley Dr.	16,903				70	150
Shirley Dr. to Lemon Ave.	10,396				50	110
Lemon Ave. to Golondrina Dr.	14,116				65	135
Golondrina Dr. to Campo Rd.	14,003				60	135
Center Street						
Commercial St. to Timken St.	10,308				60	125
Timken St. to Jackson Dr.	15,606				75	165
Grossmont Center Dr. to Future Hwy. 125	5,074					75
Commercial Street						
Center St. to Guild St.	6,848				40	95
Guild St. to Center Dr.	7,087				40	95
Cowles Mountain Boulevard						
Northern City Limits to Lake Murray Blvd.	5,359					70
Dallas Street						
Lake Murray Blvd. to Jackson Dr.	6,116					75
Jackson Dr. to Meadowcrest Dr.	8,942				45	100
Meadowcrest Dr. to Fletcher Parkway	12,363				55	125
Grossmont Center Drive						
Fletcher Parkway to Center Dr.	29,081				65	140
Center Dr. to Havenhill Rd.	18,691				50	105
Havenhill Rd. to Murray Dr.	26,544				60	135
Murray Dr. to I-8	27,226				65	135
Guava Avenue						
Alvarado Rd. to El Cajon Blvd.	7,828					75
Harbinson Avenue						
Amhurst St. to Camellia Dr.	5,580					60
Camellia Dr. to University Ave.	7,892					75

Table C-2 (Continued)
2010 L_{dn} CONTOURS BY ROADWAY

Roadway	Average Traffic (A)	L _{dn} (Distance in Feet) from Centerline of Roadway				
		80	75	70	65	60
Lowell Street University Ave. to Orion Ave.	9,632				35	85
Orion Avenue Murray Hill Rd. to Lowell St.	9,864				35	85
Palm Avenue La Mesa Blvd. to Finley Ave.	13,633				60	130
Finley Ave. to Spring St.	14,690				65	140
Parkway Drive Lake Murray Blvd. to Baltimore Dr.	6,941				45	100
Baltimore Dr. to Jackson Dr.	10,442				60	130
Severin Drive Northern City Limits to Stanley Dr.	13,528				50	110
Stanley Dr. to Amaya Dr.	18,503				60	135
Waite Avenue Massachusetts Ave. to Murray Hill Rd.	10,466				40	90
70th Street I-8 to El Cajon Blvd.	64,313			75	160	345
El Cajon Blvd. to University Ave.	33,372			70	150	320

(A) Future traffic volumes based on SANDAG's projection of percentage increase in Daily Trip Ends by Traffic Analysis Zones (TAZ) September 1988.

(*) Traffic data provided by Caltrans and City of La Mesa.

* Blank indicates noise contour within right-of-way.

Table C-3

**2010 L_{dn} CONTOURS BY ROADWAY
(ROADS WITHIN PLANNING AREA)**

Roadway	Average Traffic	L _{dn} (Distance in Feet)		
		70	65	60
Avocado Blvd.	23,000	70	145	315
Campo Rd.	15,000	*	75	165
Fuerte Dr.	24,000	*	90	190
Jamacha Rd.	50,000	90	195	415

*Blank indicates noise contour is located within the right of way.