7.0 NOISE ELEMENT

The Noise Element generally describes the fundamental concepts of noise and summarizes existing noise levels and noise sources in the City of Loma Linda. Goals and supporting policies related to the control of noise levels and the maintenance of appropriate noise levels are described in this section.

The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. Projected noise levels for planned land uses as well as transportation corridors are given. The projected noise levels are used to guide future land use decisions to limit noise and its effects on the community. The Noise Element contains policies for limiting the noise generated from future projects as well as means to abate existing noise problems.

Government Code Section 65302(f) states that a General Plan shall include a Noise Element, which identifies and appraises noise problems in the community. The Noise Element also serves as a guideline for compliance with the State's noise insulation standards.

7.1 NOISE CONCEPTS

Noise may be defined as sound that is objectionable and disturbing to some individuals. There are several noise measurement scales used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement that indicates the relative intensity of a sound. The decibel scale increases as the square of the change, representing the sound pressure energy. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect, but changes of 3.0 dB or less are perceptible only in laboratory environments. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A sound as soft as human breathing is about 10 times greater than 0 dB. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the "A-weighted sound level, or dBA". This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect our ability to hear. Pitch is the number of complete vibrations or cycles per second of a wave that results in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and the amplitude of the sound wave measures it. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. Sound intensity can be measured precisely with instruments. Sound intensity and its effect on adjacent sensitive land uses are evaluated as part of the noise environment of a project area.

The predominant rating scales for human communities in the State of California are the Equivalent-Continuous Sound Level (L_{eq}) and the Community Noise Equivalent Level (CNEL) based dBA. L_{eq} is the total sound energy of time-varying noise over a sample period. CNEL is the time-varying noise over a 24-hour period, with a weighting factor of 5 dBA applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours). Events occurring between 10:00 p.m. and 7:00 a.m. (defined as sleeping hours), 10 dBA is applied. The noise adjustments are added to the noise events occurring during the more sensitive evening and nighttime hours. The Day-Night Average Level (L_{dn}) is similar to the CNEL scale, but with no adjustments for the evening hours between 7:00 p.m. and 10:00 p.m. CNEL and L_{dn} are typically within 1 dBA of each other and are interchangeable.

7.2 HUMAN HEALTH NOISE CONSIDERATIONS

The effects of noise on people can be listed in three general categories: subjective effects of annoyance, nuisance and dissatisfaction; interference with activities such as speech, sleep, and learning; and physiological effects such as startling, and hearing loss. The levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in facilities such as industrial plants can experience effects in the last category. Unfortunately, there is as yet no completely satisfactory way to measure the subjective effects of noise, or to the corresponding reactions of annoyance and dissatisfaction. This is because of the wide variation in individual thresholds of annoyance and the habituation to noise over differing individual past experiences with noise. Table 7.A identifies common sound levels and their sources.

Physical damage to human hearing occurs with prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire systems, with prolonged noise exposure in excess of 75 dBA increasing body tensions and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 130 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 140 dBA will rupture the eardrum and permanently damage the inner ear.

Table 7.A: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environment	Subjective Evaluations
	0	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
Rustling Leaves	20	Very Faint	
Soft Whisper	30	Faint	
Average Residence Without Stereo Playing	40	Faint	⅛ as Loud
Large Transformer	45	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	¼ as Loud
Suburban Street	55	Moderate	
Average Office	60	Moderate	½ as Loud
Normal Conversation	65	Moderate	
Near Freeway Auto Traffic	70	Moderately Loud	Loud
Busy Restaurant	75	Moderately Loud	
Pneumatic Drill; Vacuum Cleaner	80	Moderately Loud	2 times as Loud
Freight Cars; Living Room Music	85	Moderately Loud	
Garbage Disposal	90	Very Loud	4 times as Loud
Ambulance Siren; Food Blender	95	Very Loud	
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as Loud
Accelerating Motorcycle at a few feet away	110	Very Loud	16 times as Loud
Hard Rock Band	120	Threshold of Feeling	32 times as Loud
Civil Defense Siren	130	Threshold of Pain	64 times as Loud
Jet Engine in close proximity	140	Deafening	128 times as Loud

Source: Compiled by LSA Associates, Inc. 2000.

7.3 NOISE STANDARDS

Tolerance to noise varies by land use. Commercial and industrial uses are less affected by noise intrusion than are hospitals, schools and residences. On a broader level, the amount of ambient noise in a community can affect whether the community is perceived as a desirable place to live, work, and play, or a stressful place. Because of this, noise and land use compatibility relationships are important factors to consider in planning and land use studies.

Land use and noise compatibility criteria have been developed from various sources, including the California Office of Noise Control. These criteria are designed to integrate noise consideration into land use planning to prevent noise/land use conflicts. The California Land Use Compatibility Matrix is shown in Table 7.B.

Table 7.B: California Office of Noise Control Land Use Compatibility Matrix for Community Noise Exposure

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						
Residential – Multifamily						
Transient Lodging – Hotels, Motels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Areas, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings – Business, Commercial & Professional						
Industrial, Manufacturing, Utilities, Agriculture						

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

CONDITIONALLY – 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 – 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 – New construction or development should generally not be undertaken.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of the General Plan, February 1976.

As shown in Table 7.A, low-density residential uses are most sensitive to community noise with noise levels of 60 dBA CNEL/L_{dn} and below considered "normally acceptable" (65 dBA CNEL/L_{dn} for

multifamily uses). For schools, churches hospitals, and business and commercial areas, noise levels up to 70 dBA CNEL/L_{dn} are "normally acceptable." For industrial, manufacturing, and utility uses, noise levels up to 75 dBA CNEL/L_{dn} may be considered "normally acceptable."

Table 7.C shows the City's policies related to land use and acceptable noise levels which are based on the California Office of Noise Control Community Compatibility Matrix. These standards are determined to be performance guidelines that provide a decibel range for the City to follow and to help determine what type of noises are nuisances and are unacceptable to the community.

Table 7.C: City of Loma Linda Noise Level Standards

Land Use Categories	Energy Average CNEL			
	Normally Acceptable(1)	Conditionally Acceptable(2)	Normally Unacceptable(3)	Clearly Unacceptable(4)
Residential	55	70	75	76 or more
Residential (10:00 p.m. to 7:00 p.m.)	< 50	55 or more	----	----
Transient Lodging, Motels, Hotels	65	70	75	76 or more
Schools, Libraries, Churches, Hospitals, Nursing Homes	70	70	80	81 or more
Auditoriums, Concert Halls, Amphitheaters	----	80	----	90 or more
Sports Arenas, Outdoor Spectator Sports	----	80	----	90 or more
Playgrounds, Neighborhood Parks	70	----	75	76 or more
Golf Course, Riding stables, Water Recreation, Cemeteries	----	----	80	81 or more
Office Buildings, Business Commercial and Professional	70	75	76 or more	----
Industrial Manufacturing, Utilities, Agriculture	70	80	81 or more	----

Emergency type land uses, emergency response vehicles, and emergency notification measures shall be considered as Normally Acceptable measures and exempt from violations and or penalties.
Source: Chapter 9.20 Loma Linda Municipal Code
INTERPRETATION
(1) Specified land use activities that are satisfactory based upon the assumption that any land use or buildings involved are of ordinary performance standards.
(2) Activities or Actions shall be undertaken only after a detailed analysis of the noise reduction (muffling) requirements is made and noise reduction insulation features are included as a preventive measure.
(3) Noise levels exceeding the following ranges shall generally be discouraged. If new activities or actions proceed, a detailed analysis of the noise reduction requirements must be made and necessary noise insulation features included in the design.
(4) Activities shall not be undertaken or permitted.

In addition to the performance guidelines, the noise ordinance lists prohibited noises in the community. For example, refuse collection trucks are prohibited between the hours of 10 p.m. and 6 a.m. and construction activity is limited to the hours between 7:00 a.m. and 8:00 p.m., Monday through Friday, with heavy construction not permitted on weekends, or national holidays.

7.4 NOISE SOURCES

Typical major noise sources in communities like Loma Linda include:

- Cars, trucks and buses;

- Routine community activities of daily life;
- Trains along railroad tracks; and
- Aircraft near airport

Transportation is the dominant noise source

The most important difference between transportation and non-transportation noise sources is that municipalities can generally exercise control on the level and duration of noise at the property line of any non-transportation source of noise. Cities can adopt noise exposure standards for noise levels generated from mobile sources, such as trucks, trains or planes, and then make permitting decisions regarding sensitivity of land uses in areas with excessive noise. Cities play a role in enforcing the requirement in the state vehicle code regarding properly operating mufflers and may also set speed limits or weight restrictions on streets. In general terms, a city's actions are primarily proactive with respect to stationary noise sources versus reactive for those mobile sources beyond City control.

Automobiles, buses, trucks and trains dominate transportation noise in Loma Linda. Bus service is provided on major streets, collectors, and local streets within the Loma Linda circulation system. Measurements have shown that background noise levels on "quieter" major streets in Loma Linda are near 60 dBA while the "noisier" streets are about 65 dBA at the nearest residences. An increase of 3 dB is generally considered the threshold level at which people complain that their noise quality has become noticeably degraded. Major transportation noise sources in the City of Loma Linda include traffic on I-10, Redlands Boulevard, Barton Road, Anderson Street, Mountain View Avenue, and Mission Road and trains on the UPRR lines.

The City does not have industrial uses that would generate high noise levels to be considered stationary noise sources.

Rail noise occurs at intervals from the operations on the Union Pacific rail lines, which currently transports only freight. Although the City supports the Metropolitan Transportation Authority (MTA) light rail transit service through the City, currently the City has no Metrolink service.

There are no airports in Loma Linda and the nearest Airport is the San Bernardino International Airport. This airport serves only small aircraft and does not offer commercial flights. The City is outside the 60 dBA CNEL airport noise contours of the Airport. Therefore, aircraft noise is not typically a problem in the City. The Jerry L. Pettis Memorial Medical Center and the Loma Linda University Medical Center operate helipads on the roof of each hospital. The hospitals and the County of San Bernardino Sheriff's Search and Rescue Division use these helipads. Flights to the hospitals average one to two per day primarily between 3:00 p.m. and midnight. The Search and Rescue Division uses the helipads only on an as-needed basis, generally averaging one flight a month.

7.5 EXISTING NOISE MEASUREMENTS

Twelve representative locations throughout the City were monitored for existing noise exposure. Measurements were made using a Larson-Davis Model 720 sound level meter on August 29, 2001. Each site was monitored for 20 minutes. Measurement sites were chosen to provide a representative spectrum of the community's existing noise environment, focusing on locations where there might be a reasonable expectation of quiet, such as hospitals and residences. Several commercial sites near busy streets were included to provide some basis for comparison with some of the less noisy locations.

Results of the community noise monitoring survey are summarized in Table 7.D. The quietest locations were homes on low-traffic streets or places where traffic was screened by topography or distance. As would be expected, the noisiest locations were along major arterials/expressways/freeways or near commercial areas. Many sites were heavily street-oriented, and many readings were taken at corners where traffic noise from two roadways was combined. Since most people cannot detect ambient noise differences of less than 3 dBA, and it takes a doubling of traffic volumes to increase noise levels by 3 dBA, very few Loma Linda receiver sites are likely to have experienced a perceptible change in noise levels in the past few years.

Table 7.D: Ambient Noise Monitoring August 29, 2001

Location	Start Time (Duration)	L_{eq} (dBA)	Noise Sources	Remarks
1. Court Street off Anderson Street	9:20 a.m. (20 minutes)	60.3	Traffic on Anderson Street, light traffic on Court Street, birds.	Monitor is approx. 50 feet from Anderson Street, facing west. Wind is 0-5 mph.
2. Corner of Anderson Street and Stewart Street	9:50 a.m. (20 minutes)	71.8	Traffic on Anderson, lighter traffic on Stewart, birds.	Monitor is approx. 30 feet from Anderson Street and 15 feet from Stewart Street, facing west. Wind is 0-5 mph.
3. Corner of Campus Street and University Avenue	10:20 a.m. (20 minutes)	64.7	Traffic on Campus and University streets. Pedestrians.	Monitor is facing southwest approx. 15 feet from inter-section. Wind is 0-5 mph.
4. Corner of Barton Road and Anderson Street	10:55 a.m. (20 minutes)	69.3	Traffic on Barton and Anderson. Pedestrians	Monitor is on southwest corner, facing northeast approx. 20 feet from intersection. Wind is 0-5 mph.
5. Barton Road and Benton Street	11:25 a.m. (20 minutes)	67.5	Traffic on both streets passing through intersection.	Monitor is on northeast corner facing south, approx. 30 feet from Barton Road and 10 feet from Benton Street Wind is 0-5 mph.
6. Mountain View Avenue and Lawton Avenue	12:05 p.m. (20 minutes)	74.8	Traffic on both streets coming through intersection. Birds.	Monitor is approx. 30 feet from Mt. View Avenue facing east. Wind is 0-5 mph.
7. Railroad tracks near Nevada Street	1:00 p.m. (20 minutes)	77.2	Light traffic on road, birds, winds. Train passing through - 3 minutes of actual noise, 2 minutes as the train passed by.	Monitor is on western side of tracks facing east approx. 30 feet from tracks. Wind is 0-5 mph.

Table 7.D: Ambient Noise Monitoring August 29, 2001 (continued)

Location	Start Time (Duration)	L_{eq} (dBA)	Noise Sources	Remarks
8. New Jersey Street and Barton Road	1:35 p.m. (20 minutes)	62.4	Traffic on Barton, occasional vehicle on New Jersey. High winds.	Monitor is approx. 100 yards from Barton Road and approx. 8 feet from New Jersey Street facing south. Wind is 15-20 mph.
9. Mission Road near historical landmark	2:10 p.m. (20 minutes)	59.1	Traffic on Mission, high winds and birds.	Monitor is approx. 20 feet from road facing west. Wind velocity is 15-20 mph.
10. Mobile home park at southwest corner of Redlands Boulevard and Mt. View Avenue	2:35 p.m. (20 minutes)	63.7	Traffic on Redlands, winds.	Monitor is approx. 15 feet from Redlands Boulevard facing south. A brick wall separates the monitor from Redlands Boulevard. Wind is 5-10 mph.
11. Richardson Road near I-10	3:05 p.m. (20 minutes)	65.7	Traffic on Richardson Road and I-10. Winds.	Monitor is approx. 15 feet from road, facing south. Redlands Boulevard is approx. 400 yards away; I-10 is approx. 200 yards to the north. Wind is 10-15 mph.
12. Taft Street and Redlands Boulevard	3:35 p.m. (20 minutes)	69.4	Traffic on Redlands Boulevard, light traffic on Taft Street. Ambulance with sirens on passing by.	Monitor is approx. 25 feet from Redlands Boulevard, facing south. Wind velocity is 0-10 mph.

Source: LSA Associates, Inc., August 2001.

7.6 IDENTIFIED ISSUES

Although there are no significant citywide noise problems, there are locations in the City that are subject to noise impacts. These locations consist primarily of areas adjacent to major streets. It is likely that some longtime Loma Linda residents have noticed that noise levels have become significantly degraded within the last two decades. Roadways that have maintained a reasonable travel speed despite moderate volume increases are probably only slightly noisier. Clearly, traffic noise is a pervasive problem in an urbanized environment that will not change much in Loma Linda until some quieter mode of transportation replaces the combustion engine vehicle.

Because of the hour of the flights and the nature of the need, helicopters to the VA Medical Center and Loma Linda University Medical Center may cause noise levels sufficient to cause sleep interruption during nighttime hours. However, overflights are usually brief, lasting only a few minutes.

The railroad track that traverses the City serves both passenger and freight trains. The passage of these trains through the City creates noise problems not only from the movement of the trains themselves but also from the sounding of train whistles. As the number of trains using the track increases in the future, the noise pollution created by the trains will increase.

Should the proposed off-ramp from the I-10 Freeway at Evans be constructed, a new source of noise impacts is likely to be created. Not only will new traffic noise be created, but there will also be short-term noise during construction. Existing sensitive receptors need to be considered in the design of the off-ramp.

7.7 NOISE ABATEMENT AND POTENTIAL FUTURE NOISE CONTOUR TABLE

Three basic mechanisms are effective at reducing excessive noise exposure: 1) reducing the strength of the noise at the source; 2) increasing the distance between the source and the receiver; and 3) placing an obstruction between the noise source and the receiver. The potential future noise contour map for the City of Loma Linda based upon build out of the proposed land uses and completion of the Master Plan of Arterial Highways denotes the areas in the City susceptible to excessive noise in the future (Figure 7.1).

Although State and Federal law establish vehicular noise emissions standards, local agencies can play a significant part in reducing traffic noise by controlling traffic volume and congestion. Traffic noise is greatest at intersections due to acceleration, deceleration and gear shifting. Measures such as signal synchronization can help minimize this problem. Likewise, reduction of congestion aids in reduction of noise. This can be accomplished through the application of traffic engineering techniques such as channelization of turning movements, parking restrictions, separation of modes (bus, auto, bicycle, pedestrian), and restrictions on truck traffic.

Noise caused by traffic volumes can also be reduced with incentive programs for use of public transit facilities and high-occupancy vehicles, staggering of work hours, and land use controls. Vehicle trips can be turned into pedestrian trips with integration of housing and employment into the same project area and affordable housing in proximity to employment, shopping, and public transit facilities, among other techniques.

Placement of walls, landscaped berms, or a combination of the two between the noise source and the receiver can accomplish noise reduction. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise. In addition to site design techniques, noise insulation can be accomplished through proper design of buildings. Nearby noise generators should be recognized in determining the location of doors, windows, and vent openings. Sound-rated windows and wall insulation are also effective.

7.8 POLICIES

Following are the City policies pertaining to noise.

7.8.1 Guiding Policy

Strive to achieve an acceptable noise environment for existing and future residents of the City of Loma Linda.

7.8.1.1 Implementing Noise Policies for Land Use and New Development

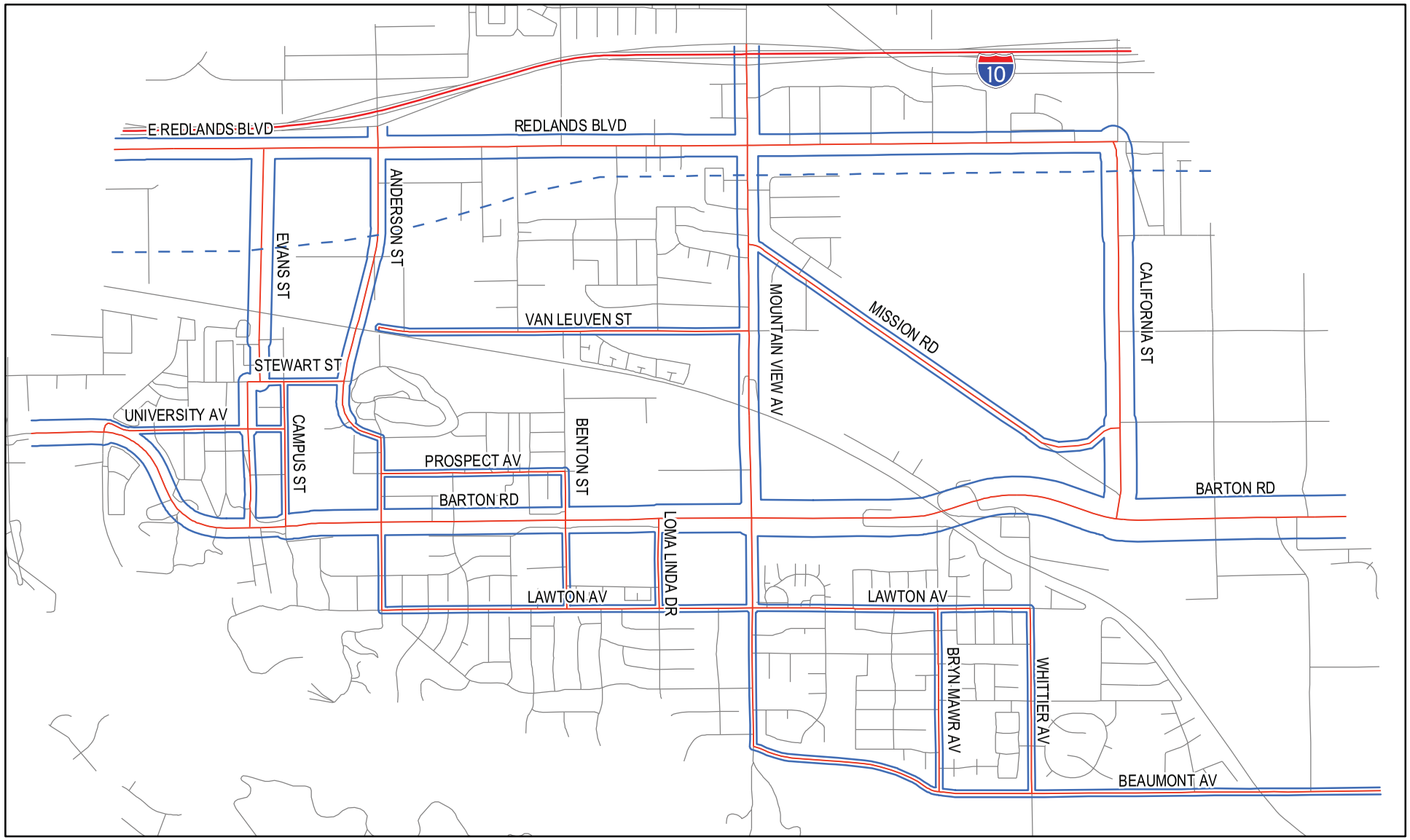
a. Achieve and maintain exterior noise levels appropriate to planned land uses throughout Loma Linda as indicted below:

- Residential

  Single-Family 65 dBA within rear yards.

  Multifamily: 65 dBA within private yard or enclosed balcony spaces.

  Single/Multifamily, indoor noise level: 45 dBA with windows closed.



L S A

Figure 7.1

MODELED ROAD SEGMENT*

CENTER-LINE TO 65 CNEL (FEET)

*ASSUMES ALL FUTURE ROADWAYS COMPLETE

I-10 CENTER-LINE TO 65 CNEL (FEET)

0 1,000 2,000 Feet

City of Loma Linda General Plan

FUTURE NOISE CONTOURS

SOURCE: Basemap - Thomas Bros. 2001

I:\LLD0701\Reports\Traffic\Orchard_Park\fig7-1_noise_contour.mxd (06/21/04)

- Schools

  Classrooms: 65 dBA exterior noise environment at the classroom location.

  Play and sports areas: 70 dBA.

- Libraries, Churches, Hospitals, Nursing Homes: 60dBA exterior noise environment at the building location.
- Commercial/Industrial: 70 dBA exterior noise environment at the building location, unless additional interior mitigation is provided.

b. Maintain a pattern of land uses that separates noise-sensitive land uses (e.g., residential, churches, schools, hospitals) from major noise sources to the extent possible, and guide noise-tolerant land uses into the noisier portions of the Planning Area.

c. Require new developments to limit noise impacts on adjacent properties through acoustical site planning, which may include, but is not limited to the following actions:

- Increased setbacks from noise sources from adjacent buildings;
- Screen and control noise sources, such as parking, and loading facilities, outdoor activities and mechanical equipment;
- Use soundproofing materials and double-glazed windows;
- Retain fences, walls, and landscaping that serve as noise buffers;
- Orient delivery, loading docks, and outdoor work areas away from noise-sensitive areas;
- Cluster office, commercial, or multifamily residential structures to reduce noise levels within interior open space areas.

d. Where new development (including construction and improvement of roadways) is proposed in areas exceeding the noise levels identified in the General Plan, or where the development of proposed uses could result in an increase of more than 3.0 dBA above existing background noise, require a detailed noise attenuation study prepared by a qualified acoustical engineer to determine and incorporate appropriate mitigation into project design and implementation to reduce potential noise levels to acceptable noise levels as identified in the General Plan.

e. Utilize site design and architectural design features to the extent feasible to mitigate impacts on residential neighborhoods and other noise-sensitive uses. In addition to sound barriers, design techniques to mitigate noise impacts may include, but are not limited to:

- Increased building setbacks to increase the distance between the noise source and sensitive receptors.
- Orienting buildings that are noise-compatible with adjacent to noise generators or in a manner that shields noise-sensitive uses.
- Orienting delivery, loading docks, and outdoor work areas away from noise-sensitive uses.
- Placing noise tolerant activity areas, (e.g., parking) between the noise source and sensitive receptors.

f. Provide double glazed and double paned windows on the side of the structure facing a major noise source, and place entries away from the noise source to the extent possible.

g. Continue enforcement of California Noise Insulation Standards (Title 25, Section 1092, California Administrative Code).

h. Discourage new projects that have potential to create ambient noise levels more than 5 dBA above existing background noise within 250 feet of sensitive receptors, (e.g., schools, hospitals, churches, residential uses, etc.).

i. Require new noise sources to use best available control technology (BACT) to minimize noise from all sources.

j. Ensure that construction activities are regulated as to the hours of operation in order to avoid or mitigate noise impacts on adjacent noise-sensitive land uses.

k. Require proposed development adjacent to occupied noise-sensitive uses to implement a construction-related noise mitigation plan that identifies the location of construction equipment storage and maintenance areas, and documents the methods that will be used to minimize impacts on adjacent noise-sensitive land uses, including, where needed, installation of temporary noise barriers.

l. Require that all construction equipment utilize noise-reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

7.8.1.2 Implementing Noise Policies for Circulation and Transportation Noise

a. Implement measures – which may include reduced speed limits, improved paving texture, and traffic controls – to assist in reducing noise levels to acceptable levels (as defined in Section 7.8.1.1.a.) in areas where noise standards are presently or will be exceeded.

b. Work with Caltrans and SANBAG to include noise mitigation measures in the design and operation of the proposed new Evans Street off-ramp. Design and operation measures may include synchronized traffic controls, landscaping berms, and improved paving textures.

c. Work with the administrators of the area hospitals that have, or plan to have, helicopters to coordinate non-emergency helicopter service during normal business hours to help reduce potential noise impacts to nearby residential neighborhoods.

d. Work with public transit agencies to ensure that the buses, vans, and other vehicles used rely on the best available control technology to minimize noise.

e. Participate and monitor the plans to continue the conversion of Norton Air Force Base to the San Bernardino International Airport to ensure that no additional adverse noise impacts will result in the City.

f. Work with the passenger and freight train operators to establish “quiet zones” (areas where train whistles are not sounded) within the City.