Appendix H Noise Data

Appendix

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Fundamentals of Noise

NOISE

Noise is most often defined as unwanted sound; whether it is loud, unpleasant, unexpected, or otherwise undesirable. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

Noise Descriptors

The following are brief definitions of terminology used in this chapter:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Decibel (dB).** A unitless measure of sound, expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20 μPa).

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.

- **Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

- **Maximum Sound Level (L_{max})**. The highest RMS sound level measured during the measurement period.
- **Root Mean Square Sound Level (RMS).** The square root of the average of the square of the sound pressure over the measurement period.

- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. NOTE: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive – that is, higher than the L_{dn} value). As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.

- **Peak Particle Velocity (PPV).** The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Characteristics of Sound

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves.

Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). Loudness or amplitude is measured in dB, frequency or pitch is measured in Hertz [Hz] or cycles per second, and duration or time variations is measured in seconds or minutes.

Amplitude

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 1 presents the subjective effect of changes in sound pressure levels. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Changes of 1 to 3 dB are detectable under quiet, controlled conditions, and changes of less than 1 dB are usually not discernible (even under ideal conditions). A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernible to most people in an exterior environment, and a 10 dB change is perceived as a doubling (or halving) of the sound.

Table 1 Noise Perceptibility

Change in dB	Noise Level
± 3 dB	Barely perceptible increase
± 5 dB	Readily perceptible increase
± 10 dB	Twice or half as loud
± 20 dB	Four times or one-quarter as loud

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").

Frequency

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all, but are "felt" more as a vibration. Similarly, though people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz.

When describing sound and its effect on a human population, A-weighted (dBA) sound levels are typically used to approximate the response of the human ear. The A-weighted noise level has been found to correlate well with people's judgments of the "noisiness" of different sounds and has been used for many years as a measure of community and industrial noise. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- General nature of the existing conditions (e.g., quiet rural or busy urban)
- Difference between the magnitude of the sound event level and the ambient condition
- Duration of the sound event
- Number of event occurrences and their repetitiveness
- Time of day that the event occurs

Duration

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These "n" values are typically used to demonstrate compliance for stationary noise sources with many cities' noise ordinances. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period, respectively.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment (or "penalty") of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or L_{dn} metrics are commonly applied to the assessment of roadway and airport-related noise sources.

Sound Propagation

Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single-point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level would be 79 dBA, and at 200 feet it would be 73 dBA. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance over a reflective ("hard site") surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dB for each doubling of distance.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, through generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 2 shows typical noise levels from familiar sources.

Table 2 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers. As with noise, vibration can be described by both its amplitude and frequency. Vibration displacement is the distance that a point on a surface moves away from its original static position; velocity is the instantaneous speed that a point on a surface moves; and acceleration is the rate of change of the speed. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the root mean square (RMS) velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the

square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage and RMS is typically more suitable for evaluating human response.

As with airborne sound, annoyance with vibrational energy is a subjective measure, depending on the level of activity and the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons accustomed to elevated ambient vibration levels, such as in an urban environment, may tolerate higher vibration levels. Table 3 displays the human response and the effects on buildings resulting from continuous vibration (in terms of various levels of PPV).

Table 3 Human Reaction to Typical Vibration Levels

Vibration Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e. not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: California Department of Transportation (Caltrans). 2020, April. *Transportation and Construction Vibration Guidance Manual*. Prepared by ICF International.

LOCAL REGULATIONS AND STANDARDS

§ 83.01.080 Noise.

This Section establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses.

(a) *Noise Measurement.* Noise shall be measured:

(1) At the property line of the nearest site that is occupied by, and/or zoned or designated to allow the development of noise-sensitive land uses;

(2) With a sound level meter that meets the standards of the American National Standards Institute (ANSI § SI4 1979, Type 1 or Type 2);

(3) Using the “A” weighted sound pressure level scale in decibels (ref. pressure = 20 micronewtons per meter squared). The unit of measure shall be designated as dB(A).

(b) *Noise Impacted Areas.* Areas within the County shall be designated as “noise-impacted” if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subdivision (d) (Noise Standards for Stationary Noise Sources) and Subdivision (e) (Noise Standards for Adjacent Mobile Noise Sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.

(c) *Noise Standards for Stationary Noise Sources.*

(1) *Noise Standards.* Table 83-2 (Noise Standards for Stationary Noise Sources) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties:

Table 83-2

Noise Standards for Stationary Noise Sources

Affected Land Uses (Receiving Noise)	***7:00 a.m. - 10:00 p.m. Leq***	***10:00 p.m. - 7:00 a.m. Leq***
Residential	55 dB(A)	45 dB(A)
Professional Services	55 dB(A)	55 dB(A)
Other Commercial	60 dB(A)	60 dB(A)
Industrial	70 dB(A)	70 dB(A)

Leq = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically one, eight or 24 hours.

dB(A) = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Ldn = (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour day obtained by adding 10 decibels to the hourly noise levels measured during the night (from 10:00 p.m. to 7:00 a.m.). In this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.

(2) *Noise Limit Categories.* No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

(A) The noise standard for the receiving land use as specified in Subdivision (b) (Noise-Impacted Areas), above, for a cumulative period of more than 30 minutes in any hour.

(B) The noise standard plus five dB(A) for a cumulative period of more than 15 minutes in any hour.

(C) The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour.

(D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.

(E) The noise standard plus 20 dB(A) for any period of time.

(d) *Noise Standards for Adjacent Mobile Noise Sources.* Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (Noise Standards for Adjacent Mobile Noise Sources).

Table 83-3

Noise Standards for Adjacent Mobile Noise Sources

Land Use		***Ldn (or CNEL) dB(A)***	
Categories	***Uses***	***Interior*** (1)	***Exterior*** (2)
Residential	Single and multi-family, duplex, mobile homes	45	60(3)
Commercial	Hotel, motel, transient housing	45	60(3)
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Notes:

(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

(2) The outdoor environment shall be limited to:
- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks

· Multi-family private patios or balconies · Park picnic areas · Private yard of single-family dwellings · School playgrounds
(3) An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.
CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

(e) *Increases in Allowable Noise Levels.* If the measured ambient level exceeds any of the first four noise limit categories in Subdivision (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subdivision (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

(f) *Reductions in Allowable Noise Levels.* If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (Noise Standards for Stationary Noise Sources) shall be reduced by five dB(A).

(g) *Exempt Noise.* The following sources of noise shall be exempt from the regulations of this Section:

(1) Motor vehicles not under the control of the commercial or industrial use.

(2) Emergency equipment, vehicles, and devices.

(3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

(h) *Noise Standards for Other Structures.* All other structures shall be sound attenuated against the combined input of all present and projected exterior noise to not exceed the criteria.

Table 83-4

Noise Standards for Other Structures

Typical Uses	***12-Hour Equivalent Sound Level (Interior) in dBA Ldn***
Educational, institutions, libraries, meeting facilities, etc.	45
General office, reception, etc.	50
Retail stores, restaurants, etc.	55
Other areas for manufacturing, assembly, testing, warehousing, etc.	65

In addition, the average of the maximum levels on the loudest of intrusive sounds occurring during a 24-hour period shall not exceed 65 dBA interior.

(Ord. 4011, passed - -2007; Am. Ord. 4245, passed - -2014)

Chapter 14. Noise

INTRODUCTION

San Bernardino is affected by several different sources of noise, including automobile, rail, and air traffic, sports events, commercial and industrial activity, and periodic nuisances such as construction. Excessive levels of noise can damage our physical health, psychological stability, social cohesion, property values, and economic productivity. The control of noise, therefore, is an essential component in creating a safe, compatible, and productive environment.

Purpose

The Noise Element provides policy guidance that addresses the generation, mitigation, avoidance, and the control of excessive noise. Specifically, this Element addresses the following issues:

- Land use;
- Transportation related noise generated from roadways, passenger and freight railroad operations, and air flights; and
- Spill over noise from activities such as construction, leaf blowers, and commercial/industrial operations.

Relationship to Other Elements

The Noise Element is closely linked with the Land Use and Circulation Elements as well as the Development Code, which contains the City's noise standards. Together, these guidelines and standards provide for the citywide regulation of excessive noise.

It should be recognized that the City does not have the authority to regulate all sources of noise within the City and various other agencies may supercede City authority. A discussion of these agencies and their roles with respect to regulating noise is provided below. Furthermore, various types of project funding (e.g., State Highway projects, HUD

redevelopment, etc.) could be subject to standards that differ from the City's.

1. Federal Highway Administration

Several major transportation routes traverse the City of San Bernardino: State Routes 18, 30, 330, and 66, as well as Interstates 10 and 215. These routes are subject to federal funding and, as such, are under the purview of the Federal Highway Administration (FHWA), which has its own noise standards. These noise standards are based on Leq and L_{10} values. The FHWA design noise levels are included in Table N-1, FHWA Design Noise Levels.

Table N-1
FHWA Design Noise Levels

Activity Category	*Design Noise Levels* [1]		*Description of Activity Category*
	L_{eq} (dBA)	*L_{10} (dBA)*	
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above
D	---	---	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

[1] Either L_{eq} or L_{10} (but not both) design noise levels may be used on a project.

2. U.S. Department of Housing and Urban Development

The Department of Housing and Urban Development (HUD) issues formal requirements related specifically to standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established three zones. These include:

- 65 dBA L_{dn} or less - an acceptable zone where all projects could be approved,

- Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn} - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA L_{dn} area and 10 dBA of attenuation in a 70 to 75 dBA L_{dn} area, and
- Exceeding 75 dBA L_{dn} - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather, a goal of 45 dBA L_{dn} is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that, using standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the interior level will be 45 dBA L_{dn} or less. It should be noted, however, that HUD regulations were created solely for residential development requiring government funding and are not related to the operation of other sensitive land uses such as schools or churches.

3. Federal Railroad Administration

The Environmental Protection Agency (EPA) is charged with the regulation of railroad noise under the Noise Control Act. No federal regulations specify absolute levels of acceptable noise that apply directly to railroad noise and compatible land uses along rail lines. While these regulations remain in full force, the EPA Office of Noise Abatement and Control was closed in 1982, leaving the enforcement of EPA regulations to the Federal Railroad Administration (FRA). Table N-2, Summary of EPA/FRA Railroad Noise Standards, summarizes the EPA railroad noise standards that set operating noise standards for railroad equipment and set noise limit standards for new equipment.

Table N-2
Summary of EPA/FRA Railroad Noise Standards

Noise Sources	*Operating Conditions*	*Noise Metric*[1, 2]	*Measured Distance (feet)*	*Standard (dBA)*
Non-Switcher Locomotives built on or before 12/31/79	Stationary	L_{max} (Slow)	100	73
	Idle Stationary	L_{max} (Slow)	100	93
	Non-Idle Moving	L_{max} (Fast)	100	95
Switcher Locomotives plus Non-Switcher Locomotives built after 12/31/79	Stationary	L_{max} (Slow)	100	70
	Idle Stationary	L_{max} (Slow)	100	87
	Non-Idle Moving	L_{max} (Fast)	100	90
Rail Cars	Speed $\leq$ 45 mph	L_{max} (Fast)	100	88
	Speed > 45 mph	L_{max} (Fast)	100	93
	Coupling	Adj. Avg. Max.	50	92

[1] Slow and fast exponential-time-weighting is used.
[2] Note that these values are in terms of the Lmax, and can be considerably greater than the Leq typically used in the measurement of obtrusive noise.
Source: United States Environmental Protection Agency Railroad Noise Emission Standard (40 Code of Federal Regulations Part 201).

4. California Department of Health Services

The California Department of Health Services (DHS) Office of Noise Control studied the correlation of noise levels and their effects on various land uses. As a result, the DHS established four categories for judging the severity of noise intrusion on specified land uses.

Figure N-1, Land Use Compatibility for Community Noise Exposure, presents a land use compatibility chart for community noise prepared by the California Office of Noise Control. It identifies "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" exterior noise levels for various land uses. A "conditionally acceptable" designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements.

Figure N-1 Land Use Compatibility for Community Noise Exposure

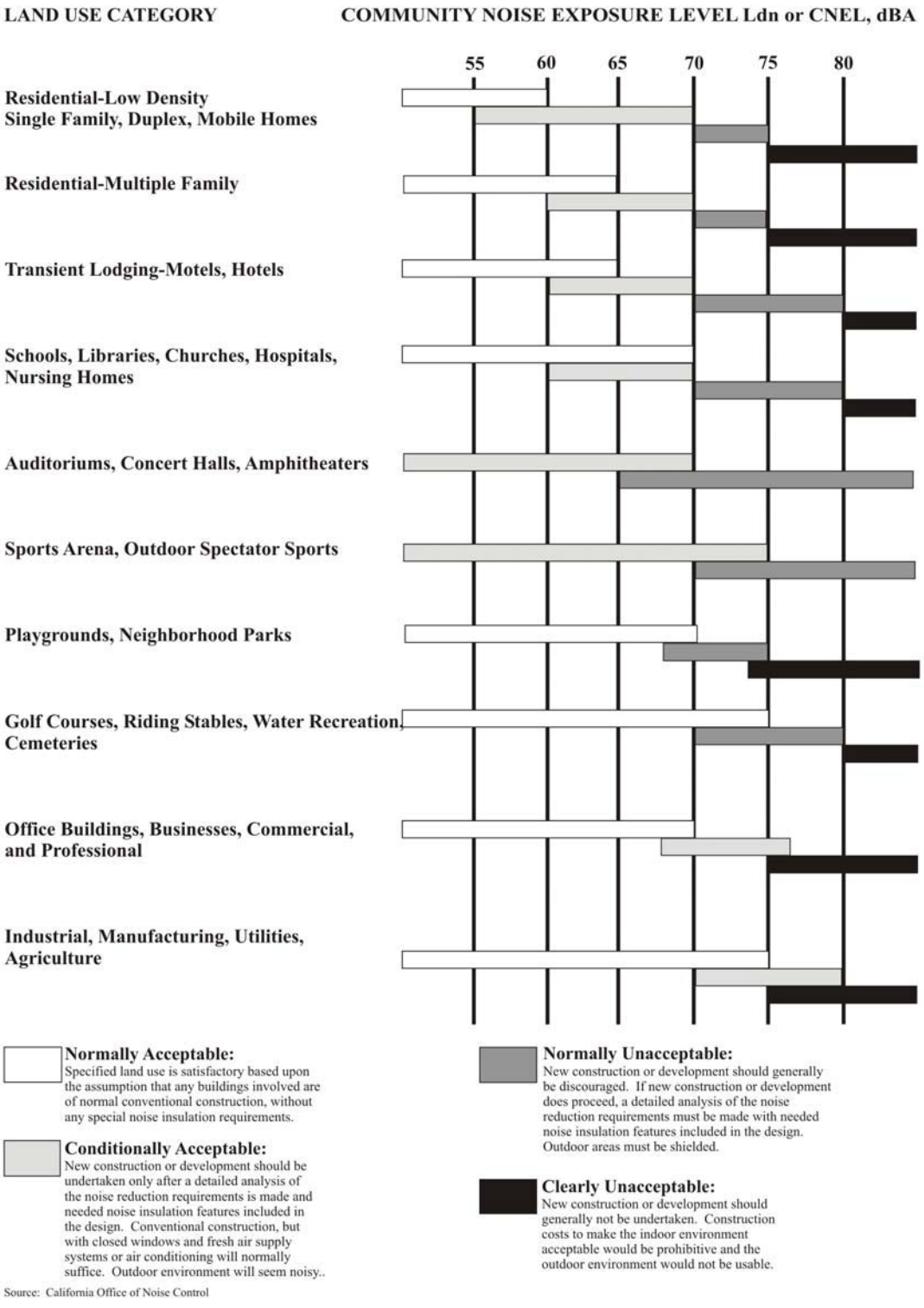

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Table N-3, State of California Interior and Exterior Noise Standards, includes the State interior and exterior noise standards for varying land uses. It is important to note that the exterior noise levels are to be attained in "habitable" exterior areas and need not encompass the entirety of a property.

Table N-3
State of California Interior and Exterior Noise Standards

Land Use		*CNEL (dBA)*	
Categories	***Uses***	***Interior*** [1]	***Exterior*** [2]
Residential	Single and multi-family, duplex	45[3]	65
	Mobile homes	----	65[4]
Commercial	Hotel, motel, transient housing	45	---
	Commercial retail, bank, restaurant	55	---
	Office building, research and development, professional offices	50	---
	Amphitheater, concert hall, auditorium, movie theater	45	---
	Gymnasium (Multipurpose)	50	---
	Sports Club	55	---
	Manufacturing, warehousing, wholesale, utilities	65	---
	Movie Theaters	45	---
Institutional/ Public	Hospital, school classrooms/playgrounds	45	65
	Church, library	45	---
Open Space	Parks	---	65

[1] Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors

[2] Outdoor environment limited to:

- Private yard of single-family dwellings
- Multi-family private patios or balconies accessed from within the dwelling (Balconies 6 feet deep or less are exempt)
- Mobile home parks
- Park picnic areas
- School playgrounds
- Hospital patios

[3] Noise level requirement with closed windows, mechanical ventilation or other means of natural ventilation shall be provided as per Chapter 12, Section 1205 of the Uniform Building Code.

[4] Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

5. City of San Bernardino Noise Ordinance

The City of San Bernardino Noise Ordinance (Section 19.20.030.15 of the Development Code) specifies the maximum acceptable levels of noise for residential uses in the City. These standards indicate that exterior noise

levels at residential locations should not exceed a CNEL of 65 dB while interior levels shall not exceed an annual CNEL of 45 dB in any habitable room. Chapter 12, Airport Overlay District, of the Development Code provides additional noise standards related to the flight operations of the San Bernardino International Airport and Trade Center within the 65 dB noise contours.

Definitions

The following is a list of commonly used terms and abbreviations that may be found within this element or when discussing the topic of noise. It is important to become familiar with the definitions listed in order to better understand the importance of the Noise Element within the City of San Bernardino General Plan.

- **Ambient Noise** – The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
- **Intrusive Noise** – 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 noise level.
- **dB (Decibel)** – The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.
- **dBA (A-weighted decibel)** – The A-weighted decibel scale discriminates against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (zero dBA). The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level.
- **L_{50}** – The A-weighted sound level that is exceeded 50% of the sample time. Alternatively, the A-weighted sound level that is exceeded 30 minutes in a 60-minute period (similarly, L_{10}, L_{25}, etc.). These values are typically used to demonstrate compliance with noise restrictions included in the City noise ordinance.
- **L_{eq} (Equivalent Energy Level)** – The average acoustic energy content of noise during the time it lasts. The L_{eq} of a time-varying

noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur.

- **L_{dn} (Day-Night Average Level)** – The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and Ldn represent daily levels of noise exposure averaged on an annual or daily basis, while Leq represents the equivalent energy noise exposure for a shorter time period, typically one hour.

- **CNEL (Community Noise Equivalent Level)** – The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

- **Noise Contours** – Lines drawn around a noise source indicating equal levels of noise exposure. CNEL and L_{dn} are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

- **Vibration** – Another community annoyance related to noise is vibration. As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized by displacement, velocity, and/or acceleration. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration.

  Vibration can be felt outdoors, but the perceived intensity of vibration impacts are much greater indoors, due to the shaking of the structure. Some of the most common sources of vibration come from trains and/or transit vehicles, construction equipment, airplanes, and large vehicles. Several land uses are especially sensitive to vibration, and therefore have a lower vibration threshold. These uses include, but are not limited to, concert halls, hospitals, libraries, vibration-sensitive research operations, residential areas, schools, and offices.

ACHIEVING THE VISION

As San Bernardino has developed and expanded its boundaries over time, there are numerous areas of the City that are impacted by noise. For instance, many residences are located near industrial areas or adjacent to busy streets or rail lines. The Citizens of San Bernardino are concerned about the effects of noise on their health and serenity and of the need to provide the range of uses needed to maintain a high quality of life.

There are several techniques to deal with noise impacts: applying noise attenuation techniques, limiting certain kinds of development near noise-producing land uses, implementing design and building techniques in site layouts and construction, and setting and enforcing standards for noise-producing land uses.

The Noise Element is responsive to our Vision because it represents our stated desires to:

- Manage and mitigate the impacts from truck traffic to decrease congestion and noise pollution;
- Locate future residential uses and other sensitive receptors away from existing noise sources; and
- Develop and employ measures to decrease the impacts associated with air and rail operations on sensitive receptors such as residences and schools.

GOALS AND POLICIES

The following presents the goals and policies for noise related issues in the City of San Bernardino planning area.

Land Use Planning and Design

As San Bernardino grows, the increases in population, employment, and tourist activity may generate more traffic and attract additional noise producing uses. Additionally, some undeveloped and underdeveloped areas are designated for land uses that may be noise-sensitive and are located in proximity to roadways, railroads, and transit facilities. As a result, land use compatibility in relation to noise is an important consideration in the planning and design process.

To identify potential mitigation to address noise abatement strategies, noise evaluations should be conducted when a proposed project places sensitive land uses and major noise generators within close proximity to each other. The City currently uses the project review process to identify potential noise issues and works with developers or landowners to apply site planning and other strategies to reduce noise impacts. A developer, for example, could take advantage of the natural shape and contours of a site to arrange buildings and other uses in a manner that would reduce, and possibly eliminate, noise impacts. Examples of other site and architectural techniques could include:

- Increasing the distance between noise source and receiver.
- Placing non-noise sensitive land uses such as parking lots, maintenance facilities and utility areas between the noise source and receiver.
- Using non-noise sensitive structures such as garages to shield noise-sensitive areas.
- Orienting buildings to shield outdoor spaces from a noise source.
- Locating bedrooms in residential developments on the side of the house facing away from major roads.

Goal 14.1	Ensure that residents are protected from excessive noise through careful land planning.

Policies:

14.1.1	Minimize, reduce, or prohibit, as may be required, the new development of housing, health care facilities, schools, libraries, religious facilities, and other noise sensitive uses in areas where existing or future noise levels exceed an Ldn of 65 dB(A) exterior and an Ldn of 45 dB(A) interior if the noise cannot be reduced to these levels. (LU-1)
14.1.2	Require that automobile and truck access to commercial properties abutting residential parcels be located at the maximum practical distance from the residential parcel. (LU-1)
14.1.3	Require that all parking for commercial uses abutting residential areas be enclosed within a structure, buffered by walls, and/or limited hours of operation. (LU-1)
14.1.4	Prohibit the development of new or expansion of existing industrial, commercial, or other uses that generate noise impacts on housing, schools, health care facilities or other sensitive uses above a Ldn of 65 dB(A). (LU-1)

Transportation Related Noise Sources

San Bernardino has long been a hub of transportation and includes several major highways (such as State Routes 18, 30, 330, and 66, as well as Interstates 10 and 215), major arterials, railways, and the San Bernardino International Airport and Trade Center. These transportation facilities, while important components to mobility and economic vitality, are the major contributors of noise in San Bernardino. Cost effective strategies to reduce their influence on the community noise environment are an essential part of the Noise Element.

Local government has little direct control of some of the transportation related noise at the source. These levels are set by state and federal agencies. However, the City does have some control over transportation noise that exceeds State and/or federal standards through the enforcement of the Municipal Code.

The most effective method the City has to mitigate transportation noise is through the application of noise barriers and site design review. The effect of a noise barrier is critically dependent on the distance between the noise source and the receiver. A noise barrier effect occurs when the barrier penetrates the "line of sight" between the source and receiver: the greater the penetration or height of the barrier, the greater the noise reduction. Additional attenuation can be achieved depending upon the source of transportation related noise.

1. Roadways

Roadways are a significant source of noise in the City. Sound emanates from vehicle engines and from the tires rolling over the pavement. One way the City can control vehicle noise is through speed reduction. A change of just 5 miles per hour can change the resultant noise by approximately one to two dBA. The difference in noise associated with a reduction of 10 miles per hour reduction could be roughly equivalent to reducing the traffic volume by one-half.

The City also has some control over traffic-generated noise through weight limitations and the designation of truck routes. Medium trucks, (i.e., those with a gross vehicle weight between 5 and 13.25 tons) produce as much acoustical energy as approximately 5 to 16 automobiles depending on the speed, with slower speeds demonstrating greater differential. Similarly, heavy trucks (i.e., those with a gross vehicle weight in excess of 13.25 tons) produce as much acoustical energy as 10 to 60 automobiles.

The City can further reduce traffic-generated noise by ensuring that street paving is maintained and bumps and dips are eliminated. Poor paving causes vehicles to bounce and this bouncing exacerbates the noise due to the rattling of the vehicle. Noise contours for the City's roadways and freeways are presented in Figure N-2, *Future Roadway Noise Contours*.

2. Aircraft

The San Bernardino International Airport (SBIA) accommodates cargo, airlines, and general aviation with the capacity to provide regional air traffic for domestic and international service, both commercial and cargo along with the necessary support facilities for major and smaller airlines.

Airport operations generate noise nuisances that could negatively impact nearby residences and businesses. The number of people exposed to airport noise should be minimized by limiting the development of sensitive land uses, such as residences, hospitals, and schools, within

Airport Noise Contours

As of the writing of this General Plan, the Airport Master Plan and the Comprehensive Land Use Plan (CLUP) for SBIA were in the process of being prepared. As a consequence, the precise noise contours were not available to include in this Plan. However, relative policies have been included in the General Plan. Upon adoption of the Airport Master Plan and CLUP, the new noise contours will be incorporated into Figure LU-4 of this General Plan.

specified noise contours. For planning purposes, federal and state laws have established well-defined regulations for acceptable noise levels with the basic criterion set at a maximum 65 decibel (dB) Community Noise Equivalent Level (CNEL) value. The noise contours for the San Bernardino International Airport are defined in the Comprehensive Land Use Plan (CLUP) for the SBIA and shown in Figure LU-4, San Bernardino International Airport Planning Boundaries. While there are some acceptable mitigation within the noise contours, avoidance by noise sensitive uses is often the best remedy. Conversely, those land uses with the fewest people or those that generate significant noise levels themselves (e.g. industrial uses), are ideally suited to locate within these noise contours.

Overflight creates another noise concern. An overflight is a distinctly visible and audible passage of an aircraft, not necessarily one that is directly overhead. Overflight often extends past the boundary of the defined CNEL contour and creates an annoyance. The SBIA has limited control of overflight impacts but provide policy guidance for minimizing these impacts in the CLUP.

Airport Related Policies in our General Plan

The San Bernardino International Airport (SBIA) influences many aspects of our community: from land use and economics, to circulation, noise, and safety. Accordingly, see related discussions/policies in the Land Use (Chapter 2) and Noise (Chapter 14) Chapters.

In addition, local helicopter air traffic is commonplace throughout the City. News and other helicopters (e.g., freeway traffic report helicopters) fly through the area. Helicopter use for fire and police and at hospitals is considered as an emergency activity and is addressed by FAA regulations. There are currently five heliports in San Bernardino (National Orange Show, Red Dog Properties, San Bernardino Community Hospital, SCE Eastern Division, and in the Tri-City area).

3. Railways

Another prevalent source of noise in the City is from railroad operations. Within the San Bernardino planning area, trains travel on three different rail lines that include: (1) The Cajon Pass Line; (2) The Main Line-Redlands, which extends eastward to the City of Redlands; and, (3) The Main Line-Colton, which extends westward to the City of Colton.

Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) also operate rail lines within the City. These rail lines include: (1) The Santa Fe Subdivision Two Line; (2) The Santa Fe Subdivision Three Line; and, (3) The Santa Fe Cajon Pass Line. Each route contributes a different level of noise to the City resulting from the different volumes of train traffic that occur on each line.

Railroad noise is dependant on a number of factors including the number of operations per day, the times these operations occur, the numbers of

engines and railcars, the speed, the type of rail (i.e., continuous or bolted), and whether at-grade rail crossings exist that require engineers to sound a warning horn. Noise contours for railway operations are presented in Figure N-2, *Future Roadway Noise Contours*.

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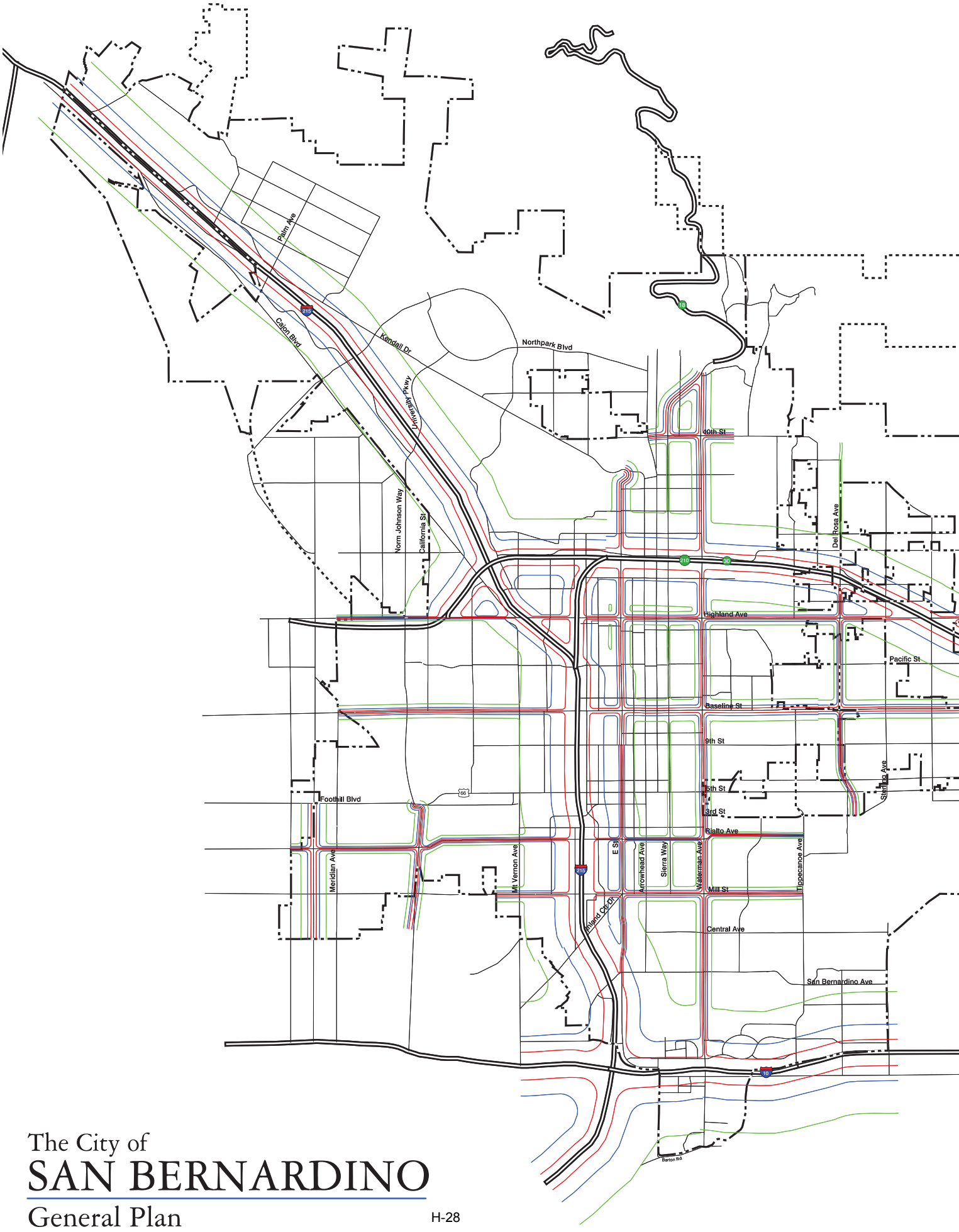

The City of
SAN BERNARDINO
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Goal 14.2 Encourage the reduction of noise from transportation-related noise sources such as motor vehicles, aircraft operations, and railroad movements.

Policies:

14.2.1 Work with Caltrans to landscape or install mitigation elements along freeways and highways adjacent to existing residential subdivisions or noise-sensitive uses to reduce noise impacts. (N-1)

14.2.2 Employ noise mitigation practices when designing future streets and highways, and when improvements occur along existing road segments. Mitigation measures should emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas. (N-1)

14.2.3 Require that development that increases the ambient noise level adjacent to noise-sensitive land uses provide appropriate mitigation measures. (LU-1)

14.2.4 Maintain roadways so that the paving is in good condition and free of cracks, bumps, and potholes. (A-2)

14.2.5 Require sound walls, berms, and landscaping along existing and future highways and railroad right-of-ways to beautify the landscape and reduce noise. (N-1)

14.2.6 Buffer residential neighborhoods from noise caused by train operations and increasing high traffic volumes along major arterials and freeways. (N-1)

14.2.7 Require heliports/helistops to comply with Federal Aviation Administration standards.

14.2.8 Minimize noise attributable to vehicular travel in residential neighborhoods by inhibiting through trips by the use of cul-de-sacs, one-way streets, and other traffic controls.

14.2.9 Enforce sections of the California Vehicle Code related to mufflers and modified exhaust systems.

14.2.10 Provide for the development of alternate transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips. (LU-1)

14.2.11 Require that new equipment and vehicles purchased by the City comply with noise performance standards consistent with the best available noise reduction technology. (A-3)

14.2.12 Require that commercial and industrial uses implement transportation demand management programs consistent with the Air Quality Management Plan that provide incentives for car pooling, van pools, and the use of public transit to reduce traffic and associated noise levels in the City. (LU-1)

14.2.13 Work with local agencies and businesses to provide public transit services that reduce traffic and associated noise.

14.2.14 Work with public transit agencies to ensure that the buses, vans, and other vehicles used do not generate excessive noise levels.

14.2.15 Work with all railroad operators in the City to properly maintain lines and establish operational restrictions during the early morning and late evening hours to reduce impacts in residential areas and other noise sensitive areas.

14.2.16 Work with all railroad operators to install noise mitigation features where operations impact existing adjacent residential or other noise-sensitive uses.

14.2.17 Ensure that new development is compatible with the noise compatibility criteria and noise contours as defined in the Comprehensive Land Use Plan for the SBIA and depicted in Figure LU-4.

14.2.18 Limit the development of sensitive land uses located within the 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour, as defined in the Comprehensive Land Use Plan for the SBIA and depicted in Figure LU-4.

14.2.19 As may be necessary, require acoustical analysis and ensure the provision of effective noise mitigation measures for sensitive land uses, especially residential uses, in areas significantly impacted by noise.

Non-Transportation Related Noise Sources

The City currently has a diverse collection of land uses, most of which generate their own noise. Industrial facilities generate noise through various processes that involve the use of heavy equipment and machinery. Commercial facilities and residential units can generate noise from the use of heating, ventilating, air conditioning (HVAC) units, pool and spa pumps, as well as landscape maintenance equipment. Additionally, schoolyard activities, barking dogs, and residential parties can also be sources of nuisance noise.

Mixed-use areas that place more sensitive residential uses alongside or above commercial uses can present their own problems. Requiring that the commercial aspect meet a residential standard could make commercial operations difficult and offer an unfair competitive advantage to a similar operation placed in a dedicated commercial zone. Alternatively, applying a commercial standard to a mixed-use project could result in unacceptable noise levels at the residential portion of the structure/site. Still, mixed-use projects offer several advantages from both an air quality and transportation perspective, and should be encouraged.

Another source of noise comes from the operations of trucks and trains within the City. As previously mentioned, the operation of railroad trains and heavy trucks is preempted from local noise regulation while operating on public roads and dedicated right-of-ways. However, noise is also generated by operations (e.g., idling, loading, and unloading) that occur at facilities. Once on private property, these sources are no longer considered preempted and the City has authority to regulate this noise if it "spills" into adjacent areas.

Finally, construction in all land use zones can temporarily elevate noise. The City recognizes that construction is a necessity; still, various measures are available to reduce this nuisance (and potentially hazardous) noise when necessary.

Goal 14.3	Protect residents from the negative effects of "spill over" or nuisance noise.

Policies:

14.3.1	Require that construction activities adjacent to residential units be limited as necessary to prevent adverse noise impacts. (LU-1)
14.3.2	Require that construction activities employ feasible and practical techniques that minimize the noise impacts on adjacent uses. (LU-1)
14.3.3	Adopt and enforce a standard for exterior noise levels for all commercial uses that prevents adverse levels of discernible noise on adjoining residential properties. (A-1)
14.3.4	Adopt and enforce a standard for exterior noise levels from the use of leaf blowers, motorized lawn mowers, parking lot sweepers, or other high-noise equipment on commercial properties if their activity will result in noise that adversely affects abutting residential parcels. (A-1)
14.3.5	Require that the hours of truck deliveries to commercial properties abutting residential uses be limited unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at another hour. (LU-1)
14.3.6	Ensure that buildings are constructed soundly to prevent adverse noise transmission between differing uses located in the same structure and individual residences in multi-family buildings. (LU-1)
14.3.7	Require that commercial uses in structures containing residences on upper floors not be noise intensive. (LU-1)
14.3.8	Require common walls and floors between commercial and residential uses be constructed to minimize the transmission of noise and vibration. (LU-1)

ARTICLE III – GENERAL

CHAPTER 19.20
PROPERTY DEVELOPMENT STANDARDS

Section		Page
19.20.010	Purpose	III-19.20-1
19.20.020	Applicability	III-19.20-1
19.20.030	General Standards	III-19.20-1

Tables

20.01	Fences, Walls, Hedges Height and Type Limits	III-19.20-8

19.20.010 PURPOSE

These standards shall ensure that new or modified uses and development will produce an urban environment of stable, desirable character which is harmonious with the existing and future development, consistent with the General Plan.

19.20.020 APPLICABILITY

Any permit which authorizes new construction or modifications to an existing structure in excess of 25% of the structure floor area shall be subject to the standards set forth in this Chapter.

19.20.030 GENERAL STANDARDS

No permit shall be approved unless it conforms to all of the following standards set forth in this Chapter:

1. Access
2. Additional Height Restrictions
3. Antennae, Satellite Dish and Telecommunications Facilities
4. Design Considerations
5. Dust and Dirt
6. Environmental Resources/Constraints
7. Exterior Building/Structure Walls
8. Fences and Walls
9. Fire Protection
10. Fumes, Vapor, and Gases
11. Glare
12. Hazardous Materials
13. Height Determination (Buildings and Structures)
14. Lighting
15. Noise
16. Odor
17. Projections into Setbacks
18. Public Street Improvements
19. Radioactivity or Electrical Disturbance
20. Refuse Storage/Disposal
21. Screening
22. Signs, Off-Street Parking, Off-Street Loading, and Landscaping
23. Solar Energy Design Standards
24. Storage
25. Toxic Substances and Wastes
26. Transportation Control Measures (TCM)
27. Undergrounding of Utilities
28. Vibration

(MC 890 1/20/94; MC 1056 10/8/99)

These standards apply to more than one zone, and therefore, are combined in this Chapter. Also, these standards are to be considered in conjunction with those standards and design guidelines located in the specific land use district chapters.

1. ACCESS

Every structure or use shall have frontage upon a public street or permanent means of access to a public street by way of a public or private easement, or recorded reciprocal access agreement.

2. ADDITIONAL HEIGHT RESTRICTIONS

Where the maximum permitted height of a new structure exceeds 35 feet, the following provisions shall apply:

A. Enhanced buffering to surround properties and the appropriateness of understructure parking shall be evaluated.

B. A visual analysis relating structure proportions, massing, height and setback shall be conducted to preserve and enhance the scenic viewshed.

C. The need and appropriateness of the additional height shall be demonstrated.

D. Compatibility and harmony with surrounding development, and land use designations shall be demonstrated.

E. Above 35 feet, additional structural setbacks (step back) may be required.

3. ANTENNAS, SATELLITE DISHES AND TELECOMMUNICATIONS FACILITIES

All antennas, telecommunications facilities, (monopoles) and satellite dishes shall be installed in the following manner, subject to the appropriate entitlement: **(MC 1090 11/20/00; MC 1237 1/8/07)**

A. EXEMPTIONS

The following installations in residential districts are exempt from the provisions of this section:

1. The installation of one (1) ground mounted satellite dish antenna in the rear yard which is less than 10.5 feet in diameter and less than 12 feet in height;

2. One (1) satellite dish antenna which is less than 24 inches in diameter may be installed on a building provided that such antenna does not extend above the eaveline of said building;

3. Residential single-pole or tower roof or ground mounted television, or amateur radio antennas where the boom of any active element of the array is 30 feet or less and the height does not exceed 75 feet.

B. DIRECTOR REVIEW

The following shall be reviewed by the Director, subject to a Development Permit:

1. Antennas up to a maximum of 15 feet in height that are mounted on a building or rooftop and that are screened from view from all adjacent public rights-of-way.

2. Antennas that are architecturally integrated with a building or structure so as not to be recognized as an antenna, such as clock towers, carillon towers and signs.

3. Antennas mounted on other existing structures including, but not limited to, water tanks, pump stations, utility poles, ball field lighting where antenna height does not exceed structure height.

4. Co-location of existing equipment on an existing City-approved support structure.

5. Modification of existing telecommunications facilities where the physical area of the reconfigured or altered antenna shall not exceed 15 percent of the original approval:

- **a.** Three (3) or more additional whip antenna (15 feet maximum height);
- **b.** The reconfiguration or alteration of existing antenna on a single support structure;
- **c.** Additional dishes up to 4 feet in diameter;
- **d.** Increased height of an existing antenna up to 75 feet.

6. Stand-alone monopoles camouflaged as palm trees, pine trees or other natural objects, within a grouping of similar natural objects.

C. PLANNING COMMISSION REVIEW

The following shall be reviewed by the Planning Commission, subject to a Conditional Use Permit:

1. Increased height of an existing, approved antenna that exceeds 75 feet in height.

2. New stand-alone monopoles that exceed 75 feet in height.

3. New ground mounted, uncamouflaged monopoles up to 75 feet in height.

4. All other wireless communication facilities, including lattice towers.

5. Placement of an antenna on any building not screened from public view.

6. On residentially designated property that is developed with a legal non-residential use (e.g., school, church, etc.).

7. Placement of a monopole or antenna (except as provided above) located within 75 feet from a property designated residential, or within 75 feet from an existing residence. **(MC 1237 1/8/07)**

D. DEVELOPMENT AND DESIGN STANDARDS

1. The antenna, support structure and associated equipment shall not be located within any residential land use district except as provided by Section 19.20.030(3)(A) and 19.20.030(3)(C)(6).

2. A maximum of one (1) satellite dish antenna shall be permitted per lot except retail locations selling and displaying satellite dish antennas and/or televisions may have more than one (1) such antenna.

3. No part of any satellite dish antenna shall be located within a required front yard, side yard, or on the street side of a corner lot.

4. No part of any satellite dish antenna shall be located within three (3) feet of any property line.

5. No part of any monopole shall be located within ten (10) feet of any property line. **(MC 1237 1/8/07)**

6. Associated equipment shall be located within a completely enclosed structure or otherwise screened from view. Equipment shelter buildings shall be architecturally compatible with existing buildings on the site, as well as the surrounding properties, and shall be subject to the architectural Design Guidelines of the Development Code. Design features include, but are not limited to, split-face concrete block, slump stone, faux roof with pitch, etc. **(MC 1237 1/8/07)**

7. Fencing shall be wrought iron or similar decorative material and shall be consistent with the provisions of Section 19.20.030(8). Prohibited fencing includes chain link, razor wire and barbed wire. **(MC 1237 1/8/07)**

8. The antennae shall be sited to assure compatibility with surrounding development and not adversely impact the neighborhood.

9. Antennas and support equipment shall be sited to minimize views from the public rights-of-way. Landscaping may be required to screen the tower, equipment buildings or support structures from view. **(MC 1237 1/8/07)**

10. If an antenna is attached or integrated into a building, it shall be painted to match the color of the building and/or covered with similar materials, subject to approval of the Director.

11. If not camouflaged, antenna and monopoles shall be a single, non-glossy color (e.g., off-white, cream, beige, green, black, or gray).

12. Antenna structures shall conform to Federal Aviation Administration regulation AC70/7460 latest edition. This may include beacons, sidelights and/or strobes.

13. The operation of the antennae shall not cause interference with any electrical equipment in the surrounding neighborhoods (e.g., television, radio, telephone, computer, inclusive of the City's trunked 800MHz public safety radio system, etc.) unless exempted by Federal regulation.

14. A support structure may be required to be adequately designed for a co-location on another company's equipment, of no more than two companies. If co-location is proposed, the application shall be reviewed by the Director, subject to a Development Permit.

15. Camouflaged monopoles shall have heavy-density branch coverage per the manufacturer's specifications (e.g., a minimum of 60 palm fronds or a minimum of 100 pine branches). Antennae shall be painted to match the structure or camouflaged with an approved concealment. A minimum of one-half of the length of the monopole shall be covered with a simulated bark cladding. **(MC 1237 1/8/07)**

4. DESIGN CONSIDERATIONS

The following standards are in addition to the specific design guidelines contained in the individual zones:

A. The proposed development shall be of a quality and character which is consistent with the community design goals and policies including but not limited to scale, height, bulk, materials, cohesiveness, colors, roof pitch, roof eaves and the preservation of privacy.

B. The design shall improve community appearance by avoiding excessive variety and monotonous repetition.

C. Proposed signage and landscaping shall be an integral architectural feature which does not overwhelm or dominate the structure or property.

D. Lighting shall be stationary and deflected away from all adjacent properties and public streets and rights-of-way.

E. Mechanical equipment, storage, trash areas, and utilities shall be architecturally screened from public view.

F. With the intent of protecting sensitive land uses, the proposed design shall promote a harmonious and compatible transition in terms of scale and character between areas of different land uses.

G. Parking structures shall be architecturally compatible with the primary and surrounding structures.

H. Nearly vertical roofs (A-frames) and piecemeal mansard roofs (used on a portion of the structure perimeter only) are prohibited. Mansard roofs, if utilized on commercial structures, shall wrap around the entire structure perimeter.

5. DUST AND DIRT

In addition to the provisions of Section 19.30.040 (Grading), all land use activities (e.g. construction, grading, and agriculture) shall be conducted so as not to create any measurable amount of dust or dirt emission beyond any boundary line of the parcel. To ensure a dust free environment, appropriate grading procedures shall include, but are not limited to, the following:

A. Schedule all grading activities to ensure that repeated grading will not be required, and that implementation of the desired land use (e.g. planting, paving or construction) will occur as soon as possible after grading.

B. Disturb as little native vegetation as possible.

C. Water graded areas as often as necessary to prevent blowing dust or dirt, hydroseeding with temporary irrigation, adding a dust palliative, and/or building wind fences.

D. Revegetate graded areas as soon as possible.

E. Construct appropriate walls or fences to contain the dust and dirt within the parcel subject to the approval of the City Engineer.

6. ENVIRONMENTAL RESOURCES/CONSTRAINTS

All development proposals shall be evaluated in compliance with the California Environmental Quality Act (CEQA) and all General Plan environmental policies including, but not limited to, biological resource management areas, riparian corridors; rare, threatened and/or endangered species; air quality; mineral resources; archaeological resources; high wind areas; and, geologic hazards. Development within 50 feet of a riparian corridor may be prohibited or restricted, and structures within 50 feet of an active or potentially active fault shall be prohibited. Development within these areas shall be subject to the submittal of appropriate report(s) prepared by qualified professionals which address the impacts of the proposed project; the identification of mitigation measures necessary to eliminate the significant adverse impacts; and, the provision of a program for monitoring, evaluating the effectiveness of, and insuring the adequacy of the specified mitigation measures.

7. EXTERIOR BUILDING/STRUCTURE WALLS

The following standards shall apply to all exterior building/structure wall construction:

A. Since walls will always be a main architectural and visual feature in any major development, restraint must be exercised in the number of permissible finish materials. The harmony of materials and particularly color treatment is essential to achieve unity in the project.

B. The following designs are deemed unacceptable in any development and therefore shall be prohibited:

1. Nonanodized and unpainted aluminum finished window frames.

2. Metal grills and facades. However, grills and facades of unique design and in keeping with the general decor of the development and neighborhood may be permitted subject to prior approval by the Director.

3. Aluminum or other metal panels are not permitted on the street elevation, unless it can be demonstrated that they are consistent with a structure's overall design character, and do not adversely affect the pedestrian environment.

8. FENCES AND WALLS

The following standards shall apply to the installation of all fences and walls:

A. HEIGHT AND TYPE LIMITS

Fences and walls shall conform to the limitations outlined in Table 20.01. **(MC 1056 10/8/99)**

B. TRAFFIC SAFETY SITE AREA

On a corner lot, no fence, wall, hedge, sign or other structure, shrubbery, mounds of earth or other visual obstruction over 30 inches in height above the nearest street curb elevation shall be erected or placed within a Traffic Safety Sight Area. The foregoing provision shall not apply to public utility poles; trees trimmed (to the trunk) to a line at least six feet above the level of the intersection; supporting members of appurtenances to permanent structures existing on the date this Development Code becomes effective; and official warning signs or signals. **(MC 1056 10/8/99)**

C. PROHIBITED FENCE MATERIALS/CHAIN LINK FENCING

1. The use of barbed wire, razor wire, or concertina wire fencing in conjunction with any other fence, wall, roof, or by itself within any land use district, is prohibited except as shown in Table 20.01, or unless required by any law or regulation of the City, the State of California, Federal Government, or agency thereof.

TABLE 20.01
FENCES AND WALLS
HEIGHT AND TYPE LIMITS

	Zones	Maximum Permitted Height[1]	
1.	Residential		
	Front yard or side of street yard	3’	Solid structures
	(not including the rear yard)[2&3]	4’	Open work structures (must permit the passage of (a minimum of 90% of light)
	Other yard area	6’	
	Outside of required yard area	8’	
	Abutting a non-residential district	6’	Solid, decorative masonry wall
2.	Commercial, Industrial and Institutional		
	Front yard or side of street yard	2’6”	Solid structures
		6’	Open work structures
	Abutting residential zone	8’	Solid, decorative masonry wall
	Other yard area	8’	
	Outdoor storage areas visible	10’	Commercial
	from public rights-of-way	16’	Industrial
	(located behind required yards)		
	Electric fences		
	(located behind a primary fence)		
	Within a setback area	10’	Commercial/Industrial
	Outside the setback area	16’	Industrial
3.	All Zones – Traffic Safety Site Area	2’6”	
4.	Public Right-of-Way	8’	
5.	Hillside Management Overlay – Retaining Walls		
	Uphill slope	8’	
	Down slope	3’6”	
	Lots sloping with the street	3’6”	
	Adjacent to driveways	8’	
	Facing streets	5’	Constructed with natural, indigenous materials
6.	Foothill Fire Zones Overlay – Fences and Walls		Constructed with non-combustible materials only

[1] The limitations shall not apply in the following instances:

- Where a greater height is required by any other provision of the Municipal Code; or
- Where a greater height or type of fence or wall is required by a condition of approval.

[2] Rear yard defined for the purposes of this section shall be from the rear property line to the rear plane(s) of the structure. **(MC 888 1/6/94)**

[3] Except for school uses (including pre-schools) which were legally established prior to November 1, 2004, which may have a 6’ decorative security fence (wrought iron) in the front yard area and street-side side yard areas. **(MC 1212 8/15/05)**

2. Six-foot high chain link fencing is permitted at all property lines for vacant commercial/industrial lots or buildings. The chain link fence shall be removed from the front yard and any other location adjacent to a public street by the owner/applicant at the time of development or occupancy.

3. Chain link fencing with neutral colored slats may be used for outdoor storage areas located in the CH, IL, IH, and IE zones within required yards, if the fence would not be adjacent to a public street. Landscaped planting of sufficient density and height may be used to screen the fence from public view. Additionally, chain link fencing may be used with tennis courts, private and commercial, temporarily at construction sites, and where it is required by any law or regulation of the City, the State of California, Federal Government, or agency thereof.

4. The above limitations shall not apply where the prohibited fence material is required as a condition of approval. **(MC 889 1/6/94; MC 1384 1/16/13)**

D. WALL DESIGN STANDARDS

Perimeter tract or commercial/industrial development walls which are adjacent to a public street shall have articulated planes by providing at a minimum for every 100 feet of continuous wall an 18-inch deep by eight-foot long landscaped recession. **(MC 888 1/6/94)**

Walls shall be constructed with pilasters provided at every change in direction, every five feet difference in elevation and at a minimum of every 25 feet of continuous wall.

E. RESIDENTIAL FENCING/WALL REQUIREMENT

Fencing or walls are required between individual residential units, and residential developments if adjacent to parks, open spaces, and/or major rights-of-way. All fencing and walls are to be provided by each developer at the time of construction.

F. ELECTRIC FENCES

1. Permit Required. No electric fences shall be installed or used unless a Fence Permit has been applied for and obtained from the Community Development Department.

2. Type of Electric Fences Allowed. The construction and use of electric fences shall be allowed in the City only as provided in this section and subject to the following standards:

a. IEC Standards 60335-2-76: Unless otherwise specified herein, electric fences shall be constructed or installed in conformance with the specifications set forth in International Electrotechnical Commission (IEC) Standard No. 60335-2-76.

b. Electrification:

(1) The energizer for electric fences must be driven by a commercial storage battery not to exceed 12 volts DC.

(2) The electric charge produced by the fence upon contact shall not exceed energizer characteristics set forth in paragraph 22.108 and depicted in Figure 102 of IEC Standard No. 60335-2-76.

3. Conditions for Installation.

a. Perimeter Fence or Wall: No electric fence shall be installed or used unless it is completely surrounded by a non-electrical fence or wall that is not less than six feet high.

b. Location: Electric fences shall be permitted only in non-residential zones and only in locations approved by the Community Development Department.

c. Height: Electric fences shall not have a height in excess of 10 feet in commercial and industrial setback areas and shall not have a height in excess of 16 feet outside of the setback areas on industrial properties.

d. Warning Signs: Electric fences shall be clearly identified with warning signs prepared in English and Spanish that read: "Warning-Electric Fence" at intervals of not less than 60 feet.

e. "Knox Box": A "Knox Box Electrical Shunt Switch" and a "Knox Box" or other similar approved device shall be installed for emergency access of Police and Fire Departments.

4. Indemnification. All applicants issued permits to install or use an electric fence as provided in this Chapter shall agree, as a condition of permit issuance, to defend, indemnify and hold harmless the City of San Bernardino and its agents, officers, consultants, independent contractors and employees from any and all claims, actions or proceedings arising out of any personal injury, including death, or property damage caused by the electric fence.

5. Emergency Access. In the event that access by the City of San Bernardino Fire Department and/or Police Department personnel to a property where a permitted electric fence has been installed and is operating required due to an emergency or urgent circumstances, and the Knox Box or other similar approved device referred to in this Chapter is absent or non-functional, and an owner, manager, employee, custodian or any other person with control over the property is not present to disable the electric fence, the fire or police personnel shall be authorized to disable the electric fence in order to gain access to the property. As a condition of permit issuance, all applicants issued permits to install or use an electric fence as provided in this Chapter will agree to waive any and all claims for damages to the electric fence against the City of San Bernardino and/or its personnel under such circumstances.

6. Violation; Misdemeanor. It shall be unlawful, and a misdemeanor, for any person to install, maintain or operate an electric fence in violation of this section.

G. BARBED WIRE, RAZOR WIRE AND CONCERTINA WIRE FENCES

1. Permit Required. No barbed wire, razor wire, or concertina wire fences shall be installed or used unless a Fence Permit has been applied for and obtained from the Community Development Department.

2. Conditions for Installation.

a. Location: Barbed wire, razor wire, or concertina wire fences shall be permitted only in non-residential zones and only in locations approved by the Community Development Department.

b. Height: Barbed wire, razor wire, or concertina wire fences shall not have a height in excess of 10 feet in commercial and industrial setback areas and shall not have a height in excess of 16 feet outside of the setback areas on industrial properties.

9. FIRE PROTECTION

All structures shall meet the requirements of the City Fire Department.

10. FUMES, VAPOR, AND GASES

No emission which can cause damage to human health, animals, vegetation or other forms of property shall be discharged into the atmosphere. No other forms of emission shall be measurable at any point beyond the boundary line of the parcel. Emissions shall be in compliance with Air Quality Management District and Regional Water Quality Control Board permits.

11. GLARE

No glare incidental to any use shall be visible beyond any boundary line of the parcel.

12. HAZARDOUS MATERIALS

The following standards are intended to ensure that the use, handling, storage and transportation of hazardous materials comply with all applicable requirements of Government Code 65850.2 and Health and Safety Code 25505, Article 80-Uniform Fire Code, et. al. It is not the intent of these regulations to impose additional restrictions on the management of hazardous wastes, which would be contrary to State Law, but only to require reporting of information to the City that must be provided to other public agencies.

For the purposes of this Section, ″hazardous materials″ shall include all substances on the comprehensive master list of hazardous materials compiled and maintained by the California Department of Health Services.

A. A Conditional Use Permit shall be required for any new commercial, industrial, or institutional or accessory use, or major addition to an existing use, that involves the manufacture, storage, handling, or processing of hazardous materials in sufficient quantities that would require permits as hazardous chemicals under the Uniform Fire Code, with the following exceptions:

1. Underground storage of bulk flammable and combustible liquids; and

2. Hazardous materials in container sizes of 10 gallons or less that are stored or maintained for the purposes of retail or wholesale sales.

B. All businesses required by Chapter 6.95 of the California Health and Safety Code to prepare hazardous materials release response plans shall submit copies of these plans, including revisions to the Director at the same time these plans are submitted to the administrating agency which is responsible for administering these provisions.

C. Underground storage of hazardous materials shall comply with all applicable requirements of Chapter 6.7 of the California Health and Safety Code, and Article 79 of the Uniform Fire Code. Any business that uses underground storage tanks shall comply with the following:

1. Notify the City Fire Department of any unauthorized release of hazardous materials immediately, after the release has been detected and the steps taken to control the release; and

2. Notify the City Fire Department and the Director of any proposed abandoning, closing or ceasing operation of an underground storage tank and the actions to be taken to dispose of any hazardous substances.

D. Above-ground storage tanks for any flammable liquids shall meet all standards of the City Fire Department.

E. All structures subject to the provisions of this Development Code and all newly created lots shall be designed to accommodate a setback of at least 100 feet from a pipeline. This setback may be reduced, where the Director finds that:

1. The structure would be protected from the radiant heat of an explosion by berming or other physical barriers;

2. A 100-foot setback would be impractical or unnecessary because of existing topography, streets, lot lines, or easements; and,

3. There shall be construction of hazardous liquid containment system or other mitigating facility where the City Engineer finds that a leak would accumulate within the reduced setback area. The design shall be approved by the City Engineer and a surety instrument shall be approved by the City Attorney to ensure the construction of the system.

A proposed structure (including a residence) on an undeveloped existing lot of record that cannot be constructed only because of this restriction, shall be allowed to be constructed if the structure is located so as to comply with the setback regulation as closely as possible. The Director may require a hazardous liquid containment system, to be approved by the City Engineer.

A pipeline is defined as follows:

1. A pipe with a nominal diameter of 6 inches or more, that is used to transport hazardous liquids, but does not include a pipe used to transport a hazardous liquid by gravity and a pipe used to transport or store a hazardous liquid within a refinery, storage, or manufacturing facility; or,

2. A pipe with a nominal diameter of six inches or more operated at a pressure of more than 275 pounds per square inch that carries gas.

A subdivider of a development within 500 feet of a pipeline shall notify a new owner at the time of purchase agreement and at the close of escrow of the location, size, and type of pipeline.

13. HEIGHT DETERMINATION (BUILDINGS AND STRUCTURES)

All structures shall meet the following standards relating to height:

A. The structure's height shall not exceed the standard for the land use district in which it is located. The structure height shall be determined from the finished grade to the highest point of the structure, excluding chimneys and vents.

B. Pad elevations shall be determined by the Director and the City Engineer based on the following criteria.

1. Flood control;

2. Site drainage;

3. Viewshed protection from both public and private property;

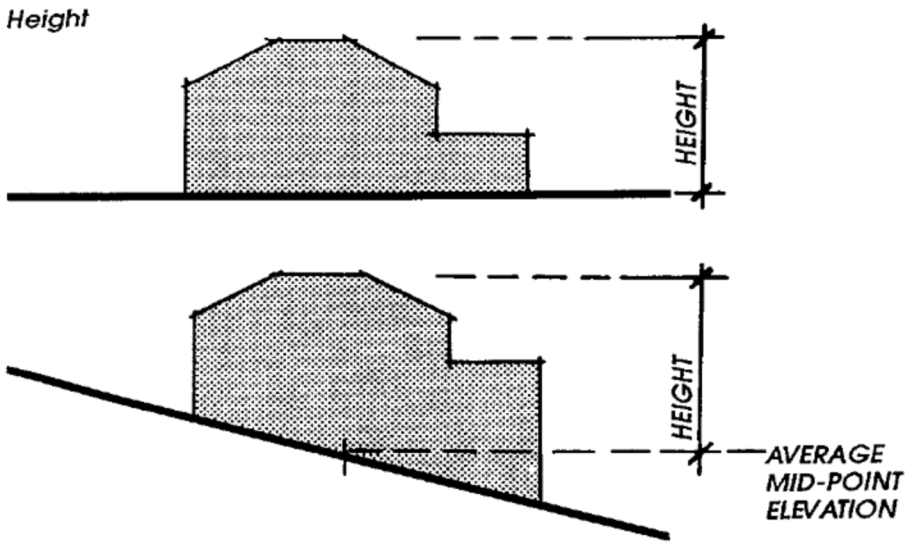
4. Protection of privacy of surrounding properties including consideration of the location of windows, doors, balconies, and decks;

5. Structure setback in relationship to structure height and property lines;

6. Sightline and structure envelope analysis;

7. Sewer line grade and location; and

8. Necessary slopes and retaining walls.



C. Perimeter fences, or walls, shall not exceed six feet in height, unless as otherwise provided in this Development Code. The height shall be measured from the finished grade of the property.

D. Architectural walls integral to the structure design, attached to the structure may exceed 6 feet in height, subject to review by the Director.

E. To protect safety sight-distance for vehicular movement, sight obscuring fences, or walls, or other obstructions shall not exceed 36 inches in height when located in a front setback. **(MC 888 1/6/94)**

F. Free-standing flagpoles and radio and television antennas may not exceed the structure height restrictions of the land use district in which they are located, except as otherwise provided in this Development Code.

14. LIGHTING

Exterior lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel, and shall be directed downward and away from adjoining properties and public rights-of-way. No lighting shall blink, flash, or be of unusually high intensity or brightness. All lighting fixtures shall be appropriate in scale, intensity, and height to the use it is serving. Security lighting shall be provided at all entrances/exits.

15. NOISE

No loudspeaker, bells, gongs, buzzers, mechanical equipment or other sounds, attention-attracting, or communication device associated with any use shall be discernible beyond any boundary line of the parcel, except fire protection devices, burglar alarms and church bells. The following provisions shall apply:

A. In residential areas, no exterior noise level shall exceed 65dBA and no interior noise level shall exceed 45dBA.

B. All residential developments shall incorporate the following standards to mitigate noise levels:

1. Increase the distance between the noise source and receiver.

2. Locate land uses not sensitive to noise (i.e., parking lots, garages, maintenance facilities, utility areas, etc.) between the noise source and the receiver.

3. Bedrooms should be located on the side of the structure away from major rights-of-way.

4. Quiet outdoor spaces may be provided next to a noisy right-of-way by creating a U-shaped development which faces away from the right-of-way.

C. The minimum acceptable surface weight for a noise barrier is four pounds per square foot (equivalent to ¾-inch plywood). The barrier shall be of a continuous material which is resistant to sound including:

1. Masonry block
2. Precast concrete
3. Earth berm or a combination of earth berm with block concrete.

D. Noise barriers shall interrupt the line-of-sight between noise source and receiver.

16. ODOR

No use shall emit any obnoxious odor or fumes.

17. PROJECTIONS INTO SETBACKS

The following list represents the only projections, construction, or equipment that shall be permitted within the required setbacks:

A. Front Setback: Roof overhangs, fireplace chimney, awnings & canopies

B. Rear Setback: Roof overhangs, pools, patio covers, tennis courts, gazebos, and awnings & canopies, provided there is no projection within 10 feet of the property line. Accessory structures may be built to the interior side or rear property lines provided that such structures are not closer than 10 feet to any other structures. **(MC 876 7/8/93)**

C. Side Setback: Roof overhangs, fireplace chimney, awnings & canopies

Building Code requirements may further restrict the distance required to be maintained from the property lines and other structures.

18. PUBLIC STREET IMPROVEMENTS

A. Any new construction or construction of 2,500 square feet or more of the structure floor area of the primary structure shall require the dedication of public right-of-way for public street purposes. In addition, the property owner shall be required to irrevocably agree to participate in any future assessment district that may be formed to construct public street improvements in accordance with the policies, procedures and standards of the Director of Public Works/City Engineer.

B. Whenever street improvements are required along a parcel as a condition of approval, and the off-site drainage pattern requires it, the entire street section may be required to be improved in accordance with the policies, procedures and standards of the Director of Public Works/City Engineer.

C. Special Fee areas may be designated by the Mayor and Common Council to provide funding for required improvements or to refund monies advanced by the City for designated improvements. Whenever such fee areas are established by Resolution of the Mayor and Common Council, all new construction or construction of 2,500 square feet or more of structure floor area of the primary structures shall pay such fees. **(MC 816 2/6/92; MC 1373 6/20/12)**

19. RADIOACTIVITY OR ELECTRIC DISTURBANCE

No activity shall be permitted which emits radioactivity or electrical disturbance.

20. REFUSE STORAGE/DISPOSAL

Every parcel with a multi-family, commercial or industrial structure shall have a trash receptacle on the premises. The trash receptacle shall be of sufficient size to accommodate the trash generated. The receptacle shall be screened from public view on at least three sides by a solid wall six feet in height and on the fourth side by a solid gate not less than five feet in height, in compliance with adopted Public Works Department Standards. The gate shall be maintained in good working order and shall remain closed except when in use. The wall and gate shall be architecturally compatible with the surrounding structures. Trash receptacles for single family homes should be stored within the enclosed garage or behind a fence.

21. SCREENING

Any equipment, whether on the roof, side of structure, or ground, shall be screened. The method of screening shall be architecturally compatible in terms of materials, color, shape, and size. The screening design shall blend with the building design and include landscaping when on the ground.

22. SIGNS, OFF-STREET PARKING, OFF-STREET LOADING AND LANDSCAPING

All development shall comply with the provisions of Chapter 19.22 (Sign Standards); Chapter 19.24 (Off-Street Parking Standards); Chapter 19.26 (Off-Street Loading Standards) and Chapter 19.28 (Landscaping).

23. SOLAR ENERGY DESIGN STANDARDS (MC 1381 12/19/12)

Passive heating and cooling opportunities shall be incorporated in all developments in the following manner:

A. Future structures should be oriented to maximize solar access opportunities.

B. Streets, lot sizes, and lot configurations should be designed to maximize the number of structures oriented so that the south wall and roof area face within 45° of due south.

C. The proposed lot size and configuration should permit structures to receive cooling benefits from both prevailing breezes and existing and proposed shading.

D. Any pool or spa facilities owned and maintained by a homeowners association shall be equipped with a solar cover and solar water heating system.

E. No structure (building, wall or fence) shall be constructed or vegetation placed so as to obstruct solar access on an adjoining parcel.

24. STORAGE

There shall be no visible storage of motor vehicles, trailers, airplanes, boats, or their composite parts; loose rubbish, garbage, junk, or their receptacles; tents; or building or manufacturing materials in any portion of a lot, except as allowed under the provisions of this Development Code. No storage shall occur on any vacant parcel.

No vehicles may be stored or displayed for sale on any vacant lot or at any vacant business location.

Building materials for use on the same premises may be stored on the parcel during the time that a valid building permit is in effect for construction.

25. TOXIC SUBSTANCES AND WASTES

No use may operate that utilizes toxic substances or produces toxic waste without the approval of a Conditional Use Permit pursuant to the provisions of Chapter 19.36 (Conditional Use Permits). Prior to consideration of a Conditional Use Permit, the operator must prepare a toxic substance and waste management plan which will provide for the safe use and disposal of these substances.

26. TRANSPORTATION CONTROL MEASURES (TCM)

The purpose of this section is to reduce vehicle trips thereby reducing air pollutants and improving air quality, to comply with State Law, and to promote an improved quality of life. All new development is subject to the following Transportation Control Measures:

A. Bicycle parking facilities or secured bicycle lockers shall be provided for all new non-residential developments and multi-family (of 10 or more units) developments when discretionary review is required. Parking racks or secured lockers shall be provided at a rate of 1 per 30 parking spaces with a minimum of a three-bike rack.

B. All new non-residential developments, meeting CMP thresholds of 250 or more peak hour trips, shall provide a minimum of one shower for persons bicycling or walking to work. The shower shall be made so as to be accessible to both men and women.

C. On-site pedestrian walkways and bicycle facilities shall be provided connecting each building in a development to public streets for all new non-residential and multi-family (of 10 or more units).

D. Passenger loading areas, suitable to the proposed land use shall be provided for all new non-residential and multi-family (of 10 or more units) developments (of 100 or more parking spaces). The loading areas shall be placed in locations close to building entrances but so as not to interfere with vehicle circulation.

E. Preferred parking facilities shall be provided for vanpools at a rate of 1 van parking space per 100 standard parking spaces for all new non-residential development. A minimum of one such space shall be required. A vertical clearance of no less than 9 feet shall be provided.

F. Transit improvements such as bus pullouts, bus pads, and bus shelters shall be provided for new residential and non-residential development along existing or planned transit routes. The need for and nature of those improvements shall be defined in cooperation with Omnitrans.

G. New non-residential developments exceeding the following thresholds may be required to designate on-site parking areas to be used by commuters as park-and-ride lots or contribute exaction fees to develop off-site park-and-ride lots:

Retail	250,000 Square Feet GFA
Industrial	325,000 Square Feet GFA
Office	125,000 Square Feet GFA

The determination of whether an on-site park-and-ride facility or contribution of exaction fees is required will be based upon a Traffic Impact Analysis Report (TIA Report), prepared by a qualified traffic engineer in a manner consistent with the Congestion Management Program (CMP) for San Bernardino County.

H. Parking space requirements for new non-residential development shall be reduced when linked to other actions that reduce trips to account for increased ridesharing and other modes of transportation. Analysis shall be provided estimating the trip reductions. The City Traffic Engineer shall review the analysis and make a recommendation to the Planning Division on the number of parking spaces that may be eliminated.

I. A telecommuting center or contributions toward such a center shall be required for all new residential developments of 500 units or more.

J. On-site video conferencing facilities shall be provided for all office park developments with 1,000 or more employees. **(MC 890 1/20/94)**

27. UNDERGROUNDING OF UTILITIES

Utilities shall be placed underground pursuant to Section 19.30.110. In the event an above ground electrical transformer is located outdoors on any site, it shall be screened from view with a solid wall and landscaping and not located in any setback area. If it cannot be screened, it shall be located in an underground vault. Exceptions to the undergrounding of utilities requirements are as follows:

A. Transformers, pedestal-mounted terminal boxes, meter cabinets and concealed ducts may be placed above ground, if they are used solely in connection with the underground transmission or distribution lines;

B. Poles supporting street lights, and the electrical lines within the poles, may be situated above the surface of the ground;

C. The Council may waive any requirement of this section if topographical, soil or similar physical conditions make such underground installation unreasonable or impractical;

D. Any Parcel Map with a maximum of four residential parcels, no parcel of which has previously been exempted from this section; and where at least 50% of the surrounding area within a radius of 500 feet has been previously developed without undergrounding utilities;

E. That portion of a previously developed non-residential Parcel Map;

F. The requirement to underground shall apply to all utility lines traversing a subdivision, or installed along either side of the streets and alleys adjoining the subdivision, except for electrical lines of 33 KVA or more. Where one line is exempt, all parcel lines on that same pole shall be exempt;

G. Any single lot development on a Residential Estate, Low, Suburban, or Urban (RE, RL, RS, and RU) designated parcel; or any single lot development of one net acre or less in any land use district, shall be exempt from this requirement. This exemption shall not apply where the requirement to underground utilities is imposed as a condition of approval of a subdivision map; and

H. The remodeling of existing structures where the cost of remodeling is less than 50% of the replacement cost of the existing structure as determined for building permit fees shall be exempt.

28. VIBRATION

No vibration associated with any use shall be permitted which is discernible beyond the boundary line of the property.

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Chapter 8.54
NOISE CONTROL

Sections:

8.54.010 Purpose and Intent
8.54.020 Prohibited Acts
8.54.030 Issuance of Written Notice and Impoundment
8.54.040 Cost Recovery for Second Response
8.54.050 Controlled Hours of Operation
8.54.060 Exemptions
8.54.070 Disturbances From Construction Activity
8.54.080 Violation - Penalty
8.54.090 Severability

8.54.010 Purpose and Intent

A. It is the purpose and intent of these regulations to establish community-wide noise standards. It is further the purpose of these regulations to recognize that the existence of excessive noise within the City is a condition which is detrimental to the health, safety, welfare, and quality of life of the citizens and shall be regulated in the public interest.

B. In furtherance of the foregoing purpose, it is found and declared as follows:

1. The making, creation, or maintenance of such loud, unnecessary, unnatural, or unusual noises that are prolonged, unusual, annoying, disturbing and unnatural in their time, place, and use are a detriment to public health, comfort, convenience, safety, general welfare, and the peace and quiet of the City and its inhabitants; and

2. The public interest and necessity of the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of, and for the purpose of, securing and promoting the public health, comfort, convenience, safety, general welfare and property, and the peace and quiet of the City and its inhabitants.

(Ord. MC-1246, 5-23-07; Ord. 1925, 11-06-51)

8.54.020 Prohibited Acts

It shall be unlawful for any person to engage in the following activities:

A. Sounding any horn or signal device on any automobile, motorcycle, bus, or other motor vehicle in any other manner or circumstances or for any other purpose than required or permitted by the California Vehicle Code, or other laws, for an unnecessary or unreasonable period of time;

B. Racing the engine of any motor vehicle while the vehicle is not in motion, except when necessary to do so in the course of repairing, adjusting, or testing the same.

C. Operating or permitting the use of any motor vehicle on any public right-of-way or public place or on private property within a residential zone for which the exhaust muffler, intake muffler, or any other noise abatement device has been modified or changed in a manner such that the noise emitted by the motor vehicle is increased above that emitted by the vehicle as originally manufactured.

D. Using, operating, or permitting to be played, used or operated any radio receiving set, musical instrument, phonograph, or other sound amplification or production equipment for producing or reproducing sound in such a manner as to disturb the peace, quiet, or comfort of neighboring persons, or at any time with louder volume than is necessary for the convenient hearing of the person or persons who are in the room, vehicle, or other enclosure in which such machine or device is operated, and who are voluntary listeners thereto and that is:

   1. Plainly audible across property boundaries;

   2. Plainly audible through partitions common to two residences within a building;

   3. Plainly audible at a distance of 50 feet in any direction from the source of the music or sound between the hours of 8:00 a.m. and 10:00 p.m.; or

   4. Plainly audible at a distance of 25 feet in any direction from the source of the music or sound between the hours of 10:00 p.m. and 8:00 a.m.

E. The intentional sounding or permitting the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or any motor vehicle burglar alarm, except for emergency purposes or for testing, unless such alarm is terminated within fifteen minutes of activation.

F. Yelling, shouting, whistling, or singing in a loud and boisterous manner on the public streets so as to disturb the quiet, comfort, or repose of persons in any office, dwelling, hotel, or other type of residence, or neighborhood.

G. The keeping of any animal, fowl, or bird which by causing frequent or long continued noise disturbs the comfort, quiet, or repose of any person or neighborhood.

H. The unnecessary or excessive blowing of whistles, sounding of horns, ringing of bells, or use of signaling devices by operators of trains, motor trucks, and other transportation equipment.

I. The creation of loud and excessive noise in connection with the loading or unloading of motor trucks and other vehicles.

J. The shouting and crying of peddlers, hawkers, and vendors which disturbs the peace and quiet of any considerable number of persons or neighborhood.

K. The doing of automobile, automotive body or fender repair work, or other work on metal objects and metal parts in a residential district so as to cause loud and excessive noise which disturbs the peace, quiet, and repose of any person occupying adjoining or closely situated property or neighborhood.

L. The operation or use between the hours of 10:00 p.m. and 8:00 a.m. of any pile driver, steam shovel, pneumatic hammers, derrick, steam or electric hoist, power driven saw, or any other tool or apparatus, the use of which is attended by loud and excessive noise, except with the approval of the City.

M. Creating excessive noise adjacent to any school, church, court, or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating the presence of a school, institution of learning, church, court, or hospital.

N. Making or knowingly and unreasonably permitting to be made any unreasonably loud, unnecessary, or unusual noise that disturbs the comfort, repose, health, peace and quiet, or which causes discomfort or annoyance to any reasonable person of normal sensitivity. The characteristics and conditions that may be considered in determining whether this section has been violated include, but are not limited to, the following:

1. The level of noise;

2. The level of background noise;

3. The proximity of the noise to sleeping facilities;

4. The nature and zoning of the areas within which the noise emanates;

5. The density of the inhabitation of the area within which the noise emanates;

6. The time of day or night the noise occurs;

7. The duration of the noise;

8. Whether the noise is recurrent, intermittent, or constant; and

9. Whether the noise is produced by a commercial or noncommercial activity.

(Ord. MC-1246, 5-23-07; Ord. 2102, 4-03-56; Ord. 1925, 11-06-51)

8.54.030 Issuance of Written Notice and Impoundment

A. Any officer who encounters a violation of this section may issue a written notice to the Responsible Person demanding immediate abatement of the violation. The written notice shall inform the recipient that a second violation of the same provision within a seventy two (72) hour period may result in the issuance of a criminal citation, the imposition of criminal and civil penalties, and confiscation and impoundment, as evidence, of the components that are amplifying or transmitting the prohibited noise.

1. Responsible Person means (a) any person who owns, leases, or is lawfully in charge of the property or motor vehicle where the noise violation takes place, or (b) any person who owns or controls the source of the noise or violation. If the Responsible Person is a minor, then the parent or guardian who has custody of the child at the time of the violation shall be the Responsible Person who is liable under this chapter.

B. Any officer who encounters a second violation of this chapter within a seventy two (72) hour period following the issuance of a written notice is empowered to confiscate and impound, as evidence, any or all of the components amplifying or transmitting the sound. The immediate confiscation of a motor vehicle to which a component is attached may be made if the same may not be removed without causing harm to the vehicle or component.

C. Any person claiming legal ownership of the items confiscated and impounded under this chapter may request the return of the item by filing a written request with the police department within seven (7) calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the department.

(Ord. MC-1246, 5-23-07; Ord. MC-649, 1-04-89; Ord. 1925, 11-06-51)

8.54.040 Cost Recovery for Second Response

A. Whenever any officer issues a written notice to a responsible person to discontinue a noise violation, the Responsible Person shall be liable for the actual cost of each subsequent response required to abate the violation within seventy two (72) hours of the issuance of the written warning.

B. The bill for the response charge shall be served upon the Responsible Person within thirty (30) days after the violation. If the Responsible Person has no last known business or residence address, the location of the violation shall be deemed to be the proper address for service. The bill shall include a notice of the right of the person being charged to request a hearing to dispute the imposition of the response charge or the amount of the charge.

C. The response charge shall be deemed to be a civil debt to the City.

(Ord. MC-1246, 5-23-07; Ord. MC-460, 5-15-85; Ord. 1925, 11-06-51)

8.54.050 Controlled Hours of Operation

It shall be unlawful for any person to engage in the following activities other than between the hours of 8:00 a.m. and 8:00 p.m. in residential zones and other than between the hours of 7:00 a.m. and 8:00 p.m. in all other zones:

A. Operate or permit the use of powered model vehicles and planes.

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous, or unnecessary noise within one thousand (1,000) feet of a residence.

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house, or any other structure.

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters, and other property.

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E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the City Manager.

F. Operate or permit the use of electrically operated compressor, fan, and other similar devices.

G. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand (10,000) pounds, or of any auxiliary equipment attached to such a vehicle, including, but not limited to, refrigerated truck compressors for a period longer than fifteen (15) minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of said vehicle is restricted by other traffic.

H. Repair, rebuild, reconstruct, or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines.

(Ord. MC-1246, 5-23-07)

8.54.060 Exemptions

The following activities and noise sources shall be exempt from the provisions of this chapter:

A. The use of horns, sirens, or other signaling or warning devices by persons vested with legal authority to use the same, and in pursuit of their lawful duties, such as on ambulances, fire, police, or other governmental or official equipment.

B. Such noises as are an accompaniment and effect of a lawful business, commercial or industrial enterprise carried on in an area zoned for that purpose, except where there is evidence that such noise is a nuisance and that such a nuisance is a result of the employment of unnecessary and injurious methods of operation.

C. Activities conducted on the grounds of any public or private school during regular hours of operation.

D. Outdoor gatherings, public dances, shows, and sporting and entertainment events provided said events are authorized by the City.

E. Activities conducted at public spaces during regular hours of operation.

F. Any mechanical devices, apparatus, or equipment used, related to, or connected with emergency machinery, vehicle, or work.

G. Construction, repair, or excavation necessary for the immediate preservation of life or property.

H. Construction, operation, maintenance, and repairs of equipment, apparatus, or facilities of park and recreation departments, public work projects, or essential public services and facilities, including, but not limited to, trash collection and those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission.

I. Construction, repair, or excavation work performed pursuant to a valid written agreement with the City, or any of its political subdivisions, which provides for noise mitigation measures.

J. Any activity to the extent that regulation thereof has been preempted by State or Federal law.

K. Sounds generated in connection with speech or communication protected by the United States Constitution or the California Constitution, except to the extent such sounds are subject to permissible time, place, and manner restrictions.

(Ord. MC-1246, 5-23-07)

8.54.070 Disturbances from Construction Activity

No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours of 7:00 a.m. and 8:00 p.m.

(Ord. MC-1246, 5-23-07)

8.54.080 Violation - Penalty

Any person violating any of the provisions of this Chapter is guilty of an infraction or a misdemeanor, which upon conviction thereof is punishable in accordance with the provisions of Section 1.12.010 of this code.

(Ord. MC-1246, 5-23-07)

8.54.090 Severability

The provisions of this Chapter are severable, and, if any sentence, section or other part of this Chapter should be found to be invalid, such invalidity shall not affect the remaining provisions, and the remaining provisions shall continue in full force and effect.

(Ord. MC-1246, 5-23-07)

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7. Noise Element

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Chapter 7. Noise

INTRODUCTION

Purpose and Function

The everyday activities of residents, visitors and workers have the potential to generate a variety of noise sources in the City of Highland. The San Bernardino International Airport (SBIA) is a public, full-service airport designed to serve the western United States with commercial and cargo air traffic. The SBIA contains and is surrounded by multiple commercial and industrial properties, all of which have the potential to generate noise through their business activities. Highland also generates and draws a significant level of passenger and truck traffic through the City along the major roadways and highways, creating mobile sources of noise that can impact noise-sensitive land uses such as homes and schools.

The Noise Element provides the goals and strategies necessary to ensure an appropriately quiet environment for the residents, employees and visitors in Highland. Since the regulation of transportation noise sources such as roadway and aircraft primarily fall under either state or federal jurisdiction, local land use and development planning decisions are generally made in terms of limiting locations or volumes of such sources, of avoiding development in noise impact zones or in shielding impacted receiver sites.

As development continues, the City shall carefully review proposals to ensure that land uses incompatible with the noise environment are avoided. This Element identifies noise issues within the City and provides goals and policies aimed at minimizing noise conflicts and furthering the public health, safety and welfare.

Element Components

The Noise Element has been organized into three sections:

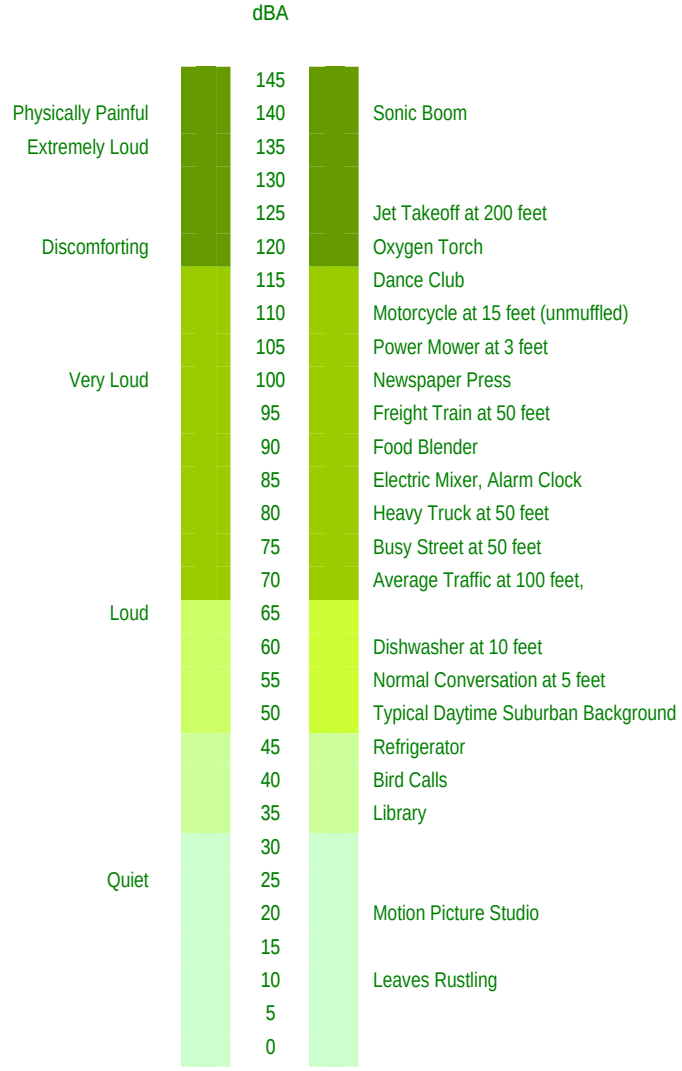
- **Introduction**. This section states the purpose of the Element, provides a brief introduction to the topic of noise and discusses other related plans and programs that affect the noise environment of Highland.
- **Noise Assessment and Modeling**. This section presents the findings and standards of the General Plan noise analysis on the buildout of the General Plan Land Use Plan.
- **Goals and Policies**. This section provides a discussion of noise issues that apply to one area of the City or apply Citywide. Each of the issue discussions is followed by a series of goals and policies.

Understanding Noise

The principal characteristics of sound are its loudness (amplitude) and frequency (pitch). The frequency of a sound is significant because the human ear is not equally sensitive to all frequencies. At low frequencies, characterized as a rumble or roar, the ear is not very sensitive while at higher frequencies, characterized as a screech or a whine, the ear is most sensitive. To reflect this varying sensitivity, an A-weighted decibel scale (dBA) is typically used to measure the perceived loudness of a sound.

Noise refers to sound pressure variations audible to the ear. The audibility of a sound depends on the amplitude and frequency of the sound and the individual's capability to hear the sound. Whether the sound is judged as noise depends largely on the listener's current activity and attitude toward the sound source, as well as the amplitude and frequency of the sound. To obtain convenient measurements and sensitivities at extremely low and high sound pressures, sound is measured in units of the decibel (dB). A listener often judges an increase in sound levels of 10 dBA as a doubling of sound. Examples of the decibel level of various noise sources are shown in Figure 7.1.

Figure 7.1: Noise Levels of Familiar Sources



Ranges and Effects of Noise

The most common sounds vary between 40 dBA (very quiet) and 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud engine noises equate to 110 dBA, which can cause serious discomfort. Physical health, psychological well-being, social cohesion, property values and economic productivity can all be affected by excessive amounts of noise.

The effects of noise on people can be grouped into three general categories: subjective effects, such as annoyance and nuisance; interference with activities such as conversation and sleep; and physiological effects, for example, a startle or hearing loss.

Noise Terminology

dB (Decibel) – The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.

dBA (A-weighted decibel) – The A-weighted decibel scale discriminates against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale ranges from zero for the least perceptible sound to about 130 for the pain level.

CNEL (Community Noise Equivalent Level) – The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. CNEL and Ldn are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

L50 – The A-weighted sound level that is exceeded 50 percent of the sample time. Alternatively, the A-weighted sound level that is exceeded 30 minutes in a 60-minute period (similarly, L10, L25, etc.). These values are typically used to demonstrate compliance with noise restrictions included in the City noise ordinance.

Leq (Equivalent Energy Level) – The average acoustic energy content of noise during the time it lasts. The Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur.

Ldn (Day-Night Average Level) – The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and Ldn represent daily levels of noise exposure averaged on an annual or daily basis, while Leq represents the equivalent energy noise exposure for a shorter time period, typically one hour. CNEL and Ldn are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

Noise Contours – Lines drawn around a noise source indicating equal levels of noise exposure.

Adverse reactions to noise generally increase with an increase in the difference between background or ambient noise and the noise generated from a particularly intrusive source such as a barking dog, traffic, aircraft or industrial operations. In most situations, noise control measures must reduce noise by 5 to 10 dBA in order to effectively lower the perceived sound. Therefore, loud, short duration noises from barking dogs and low-flying aircraft generally have little impact upon the Community Noise Equivalent Level (CNEL) levels of an area, due to the CNEL being a 24-hour weighted average of noise levels.

Managing the Noise Environment

There are a variety of strategies available for managing the City's noise environment and preserving those qualities of peace and quiet that are essential and highly valued community assets. Land use planning, transportation planning, project design mitigation, simple and sophisticated technical fixes, and acoustical barriers can be applied to address community noise compatibility issues.

In areas subject to significant or potentially significant noise impacts, site planning and design standards are geared to provide noise impact mitigation. Other mitigation measures include the use of buffer zones consisting of earthen berms, walls and landscaping between sensitive land uses and roadways and other noise sources. In addition, site planning and building orientation can provide shielding of outdoor living spaces and orient operable windows away from roadways. Effective acoustical materials can also be incorporated into building windows and walls that adequately reduce outdoor noise.

Sensitive Noise Receptors

A series of land uses have been deemed "noise-sensitive" by the State of California. These land uses require a serene environment as part of the overall facility or residential experience. Many of these facilities depend on low levels of sound to promote the well being of the occupants. Land uses deemed noise-sensitive by the State of California include residences, schools, hospitals, rest homes, long-term care and mental care facilities. Highland considers residential dwellings and institutional uses such as hospitals, convalescent homes and churches to be sensitive noise receptors. Activities conducted in proximity to these facilities must consider the noise output and ensure that they don't create unacceptable noise levels that may unduly affect the noise-sensitive uses.

Relatively noise insensitive land uses include retail and office developments. Land uses that are the least impacted by noise include industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, rifle ranges, warehousing, liquid and solid waste facilities, salvage yards and transit terminals.

Related Plans and Program

Other Elements

The Noise Element is most closely related to the Land Use and Airport Elements. The Land Use Element identifies land use patterns and policies to address land use compatibility. The Airport Element addresses comprehensive issues related to the San Bernardino International and Redlands Municipal Airports, including noise.

Municipal Code

The City of Highland Municipal Code sets forth the City's standards, guidelines and procedures concerning the regulation of noise use. Specifically, the Code includes Title 8, Health and Safety, which includes a chapter on noise control, and Title 16, Land Use and Development. Title 8 directly regulates noise while Title 16 lays out land use standards that indirectly regulate noise-generating and sensitive land uses. These regulations are intended to implement the goals, objectives and policies of the General Plan; protect property values and the health and general well being of the public; and ensure that any negative effects of noise are minimized or completely avoided.

The City categorizes land uses into designated noise zones to assign appropriate interior and exterior noise standards. The appropriate interior and exterior noise standards are identified in Tables 7.1 and 7.2, respectively.

Table 7.1: City of Highland Interior Noise Standards

Type of Land Use	*CNEL (dBA)*
Residential	45
Educational/churches, other institutional uses	45
General offices	50
Retail stores, restaurants	55
Manufacturing, warehousing	65
Agricultural	55
Sand and gravel operations	75

Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.

Table 7.2: City of Highland Exterior Noise Standards		
Type of Land Use	*Time Interval*	*CNEL (dBA)*
Residential	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Agricultural/Equestrian	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Commercial	10:00 p.m. – 7:00 a.m.	65
	7:00 a.m. – 10:00 p.m.	70
Manufacturing or Industrial	Any Time	75
Open Space	Any Time	75
Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.		

San Bernardino International Airport Plans

For a more detailed discussion of issues and policies related to the San Bernardino International Airport and Redlands Municipal Airport, please refer to the Airport Element.

The San Bernardino International Airport (SBD), located just outside the City's southern boundary, has the capacity to provide regional air traffic for domestic and international service, both commercial and cargo, along with the necessary support facilities for major and smaller airlines. When adopted, the Airport Master Plan should contain standards and guidelines on the appropriate range and design of land uses within areas impacted by noise emanating from airport operations.

Redlands Municipal Airport Land Use Compatibility Plan

Redlands Municipal Airport (RMA) is a General Aviation facility located south of Highland near the Santa Ana Wash. The Redlands Municipal Airport Land Use Compatibility Plan (LUCP) establishes procedures and criteria by which the City of Redlands can address, evaluate and review airport compatibility issues in the vicinity of the Redlands Municipal Airport. The (LUCP) also serves to alert the City of Highland to the potential effects of air traffic from the Redlands Municipal Airport on land uses in southern Highland.

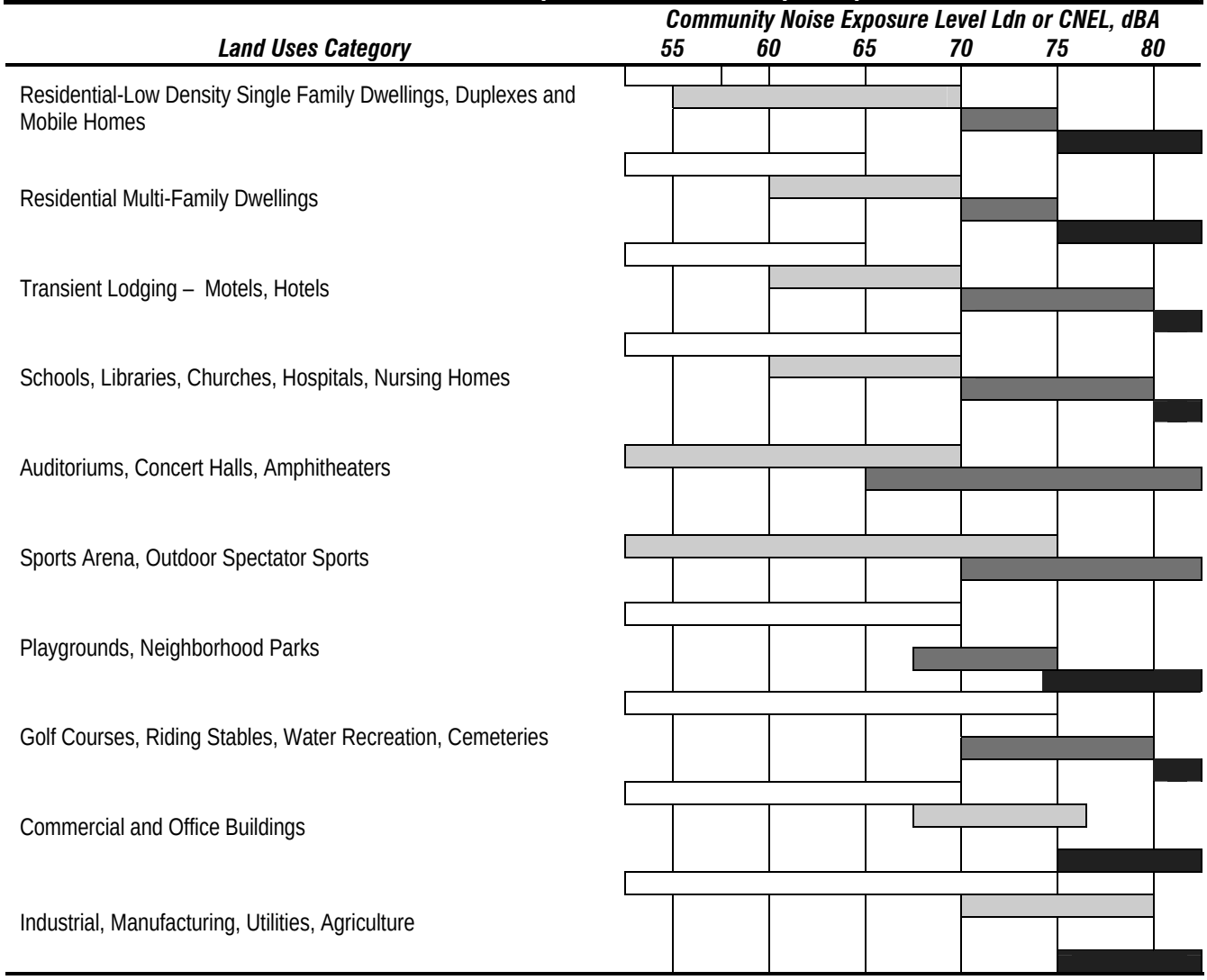
Federal Regulations

State routes and freeways that run through the City are subject to federal funding and, as such, are under the purview of the Federal Highway Administration (FHWA). The FHWA has developed noise standards that are typically used for federally funded roadway projects or projects that require either federal or Caltrans review. The Environmental Protection Agency is charged with the regulation of railroad noise under the Noise Control Act, which is enforced by the Federal Railroad Administration.

California Department of Health Services

The California Department of Health Services (DHS) Office of Noise Control studied the correlation of noise levels and their effects on various land uses. As a result, the DHS established four categories for judging the severity of noise intrusion on specified land uses. Table 7.3 presents a land use compatibility chart for community noise prepared by the California Office of Noise Control to demonstrate land use compatibility. Whereas the interior and exterior noise standards presented in Tables 7.1 and 7.2 provides limits on noise exposure for land uses from those sources of noise under the jurisdiction of the City, Table 7.3 provides planning guidelines for the review and approval of development applications in terms of the compatibility of land uses with the existing and future noise environment.

Table 7.3: Community Noise and Land Use Compatibility



Explanatory Notes

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 system or air conditioning will normally suffice. Outdoor environment will seem noisy.

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 with needed noise insulation features included in the design. Outdoor areas must be shielded.

Clearly Unacceptable:
New construction or development should generally not be undertaken. Construction cost to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: California Office of Noise Control

NOISE ASSESSMENT AND MODELING

To understand and evaluate the impacts of land use patterns, traffic and individual developments on the noise environment, the General Plan Environmental Impact Report incorporates a comprehensive noise analysis of existing noise sources and projections of traffic volumes associated with the buildout of the General Plan. Existing and future impacts have been modeled, with projected noise contours for the City's roadways and freeways at buildout presented in Figure 7.2.

Like all highly urbanized areas, the City of Highland is subject to noise from a myriad of sources. The major source of noise is from mobile sources and most specifically, traffic traveling through the City on its various roadways and freeways. Future noise impacts to the community are expected to be primarily generated by increasing traffic volumes.

It is important to note that special attention to project specific site design may substantially reduce noise impacts below those projected; therefore, these estimates are considered to be conservative and unmitigated. A wide range of design criteria affecting roadway engineering and traffic noise abatement include differences in final grade between the roadbed and the top of walls, spacing of intersections, setbacks and parkway widths, roadway composition and other considerations.

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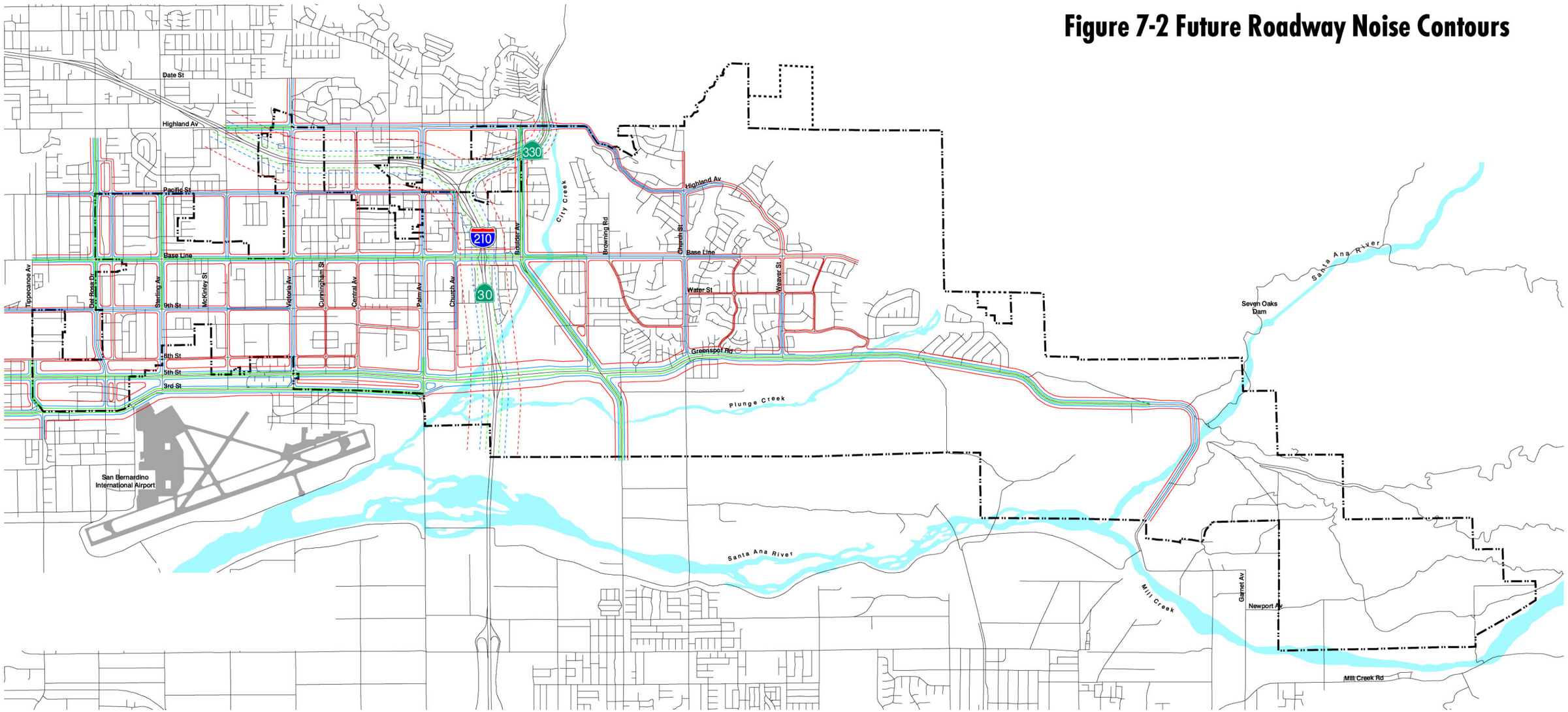
Figure 7-2 Future Roadway Noise Contours



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GOALS AND POLICIES

This section contains a brief discussion and detailed policy direction for noise issues within Highland. The first issue, Land Use Planning and Design, concerns the relationship between the design and approval of land uses and existing or potential noise sources. The second issue, Transportation Related Noise Sources, considers impacts that can be created by the operation of motor vehicles, trucks, aircraft and railways in the City. Non-Transportation-Related Noise Sources, the third issue, involves noise impacts created by business or residential activities, such as air conditioning units, mining activities, barking dogs or community events. By following the policies associated with each issue, Highland will ensure compatible development, protect noise-sensitive land uses and minimize the effects of excessive and nuisance noise.

In addition to these goals, it is important to note that additional land use direction is provided through other General Plan Elements, the Development Code and redevelopment efforts.

Land Use Planning and Design

As Highland grows, the City's population, employment and commercial activity may generate more traffic and attract additional noise producing uses. In addition, some undeveloped and underdeveloped areas are designated for land uses that may be noise-sensitive and are located in proximity to roadways and transit facilities. For example, along Base Line, mixed-use and medium density residential development is encouraged to stimulate the development of vibrant commercial activity. In addition, some older neighborhoods in the southwestern portion of the City adjacent to the SBIA are currently located in areas that are transitioning to potential noise-generating business park and industrial uses.

As a result, land use compatibility with noise is an important consideration in the planning and design process. To identify potential mitigation to address noise abatement strategies, noise evaluations should be conducted when a proposed project places sensitive land uses and major noise generators within close proximity to each other. The City's Community Development Department currently uses the project review process to identify potential noise issues and works with developers or landowners to apply site planning and other design strategies to reduce noise impacts. A developer, for example, could take advantage of the natural shape and contours of a site to arrange buildings and other uses in a manner that would reduce and possibly eliminate noise impacts. Examples of other site and architectural techniques could include:

- Increasing the distance between noise source and receiver;

- Placing non-noise-sensitive land uses such as parking lots, maintenance facilities and utility areas between the noise source and receiver, while maintaining aesthetic considerations;
- Using non-noise-sensitive structures such as garages to shield noise-sensitive areas;
- Orienting buildings to shield outdoor spaces from a noise source; and
- Locating bedrooms in residential developments on the side of the house facing away from major roads.

GOAL 7.1

Protect sensitive land uses and the citizens of Highland from annoying and excessive noise through diligent planning and regulation.

Policies

1) Enforce the City's Noise Control Ordinance consistent with health and quality of life goals and employ effective techniques of noise abatement through such means as a noise ordinance, building codes and subdivision and zoning regulations.

2) Encourage the use of site planning and architectural techniques such as alternative building orientation and walls combined with landscaping to mitigate noise to levels consistent with interior and exterior noise standards.

3) Require mitigation where sensitive uses are to be placed along transportation routes to ensure compliance with interior and exterior noise standards.

4) Consider the compatibility of proposed land uses with the noise environment when preparing, revising or reviewing development proposals.

5) Prevent the siting of sensitive uses in areas in excess of established 65 dBA CNEL without appropriate mitigation. Special attention should be paid to potential development within the 65 dBA CNEL noise contour of the San Bernardino International Airport and mining operations of the Santa Ana River.

6) Work with San Bernardino International Airport Authority to ensure that future airport planning activities encourage consistency with adopted City land use plans and minimize impacts on Highland's economic development opportunities and quality of life.

7) Require that site-specific noise studies be conducted by a qualified acoustic consultant utilizing acceptable methodologies while reviewing the development of sensitive land uses or development that has the potential to impact sensitive land uses. Also require a site-specific noise study if the proposed development could potentially violate the noise provisions of the General Plan or City ordinance.

Actions

1) Coordinate with school districts to ensure that schools are located and designed so that:

   - interior noise in classrooms does not exceed 45 CNEL
   - noise exposure does not exceed 65 CNEL at classroom buildings; and
   - noise exposure does not exceed 70 CNEL on playgrounds and athletic fields.

2) Coordinate with the San Bernardino International Airport Authority to minimize flight patterns over the City.

3) When site and architectural design features cannot sufficiently reduce adverse noise levels, or cannot be economically provided, require the provision of noise barriers/berms, provided that noise barriers:

   - are sufficiently massive to prevent significant noise transmission and high enough to shield receiver from noise source;
   - noise barriers exhibit a minimum acceptable density of four pounds per square foot (equivalent to 3/4-inch plywood):
   - contain no cracks or openings; and
   - minimize the effect of flanking by bending the barrier back from the noise source at the end of the barrier.

4) Require landscaping treatment to be provided in conjunction with noise barriers to provide visual relief and to reduce aesthetic impacts.

5) Require realtors representing homebuyers in the vicinity of the gun club to inform new buyers of the existence of potential noise impacts associated with gunfire.

6) Maintain a noise complaint file to document areas of excessive noise in the City.

Transportation-Related Noise Sources

Highland's proximity to southern Californian mountains, desert resorts and other cultural and recreational attractions draws a significant level of passenger and truck traffic through the City. The City contains two major highways (State Routes 30 and 330) and a number of major arterials (such as Base Line and 5th Street), and sits next to the San Bernardino International Airport. These transportation facilities, while important components to mobility and economic vitality, are the major contributors of noise in Highland. Cost effective strategies to reduce their influence on the community noise environment are an essential part of the Noise Element.

While local government has little direct control of transportation noise at the source, as these levels are set by state and federal agencies, the City does have some control over transportation noise that exceeds state and/or federal standards through the enforcement of the Municipal Code. The most effective method the City has to mitigate transportation noise is by reducing the impact of the noise onto the community through noise barriers and site design review. The effect of a noise barrier is critically dependent on the distance between the noise source and the receiver. Noise attenuation from barriers occurs when the barrier penetrates the "line of sight" between the source and receiver; the greater the penetration or height of the barrier, the greater the noise reduction. Additional attenuation can be achieved depending upon the source of transportation-related noise.

Roadways

Roadways are one of the biggest sources of noise in the City. Everyday, thousands of vehicles travel through and around Highland. Noise levels along roadways are determined by a number of traffic characteristics. The most important is the average daily traffic levels. Additional factors include the percentage of trucks, vehicle speed, the time distribution of this traffic and gradient of the roadway.

One way the City can control vehicle noise is through speed reduction. A change of just 5 miles per hour can change the resultant noise by approximately 1 to 2 dB. The difference in noise associated with a reduction of 10 miles per hour could be roughly equivalent to reducing the traffic volume by one-half. The City also has some control over traffic-generated noise through weight limitations and the designation of truck routes. Medium trucks (i.e., those with a gross vehicle weight between 5 and 13.25 tons) produce as much acoustical energy as approximately 5 to 16 automobiles depending on the speed, with slower speeds demonstrating greater differential. Similarly, heavy trucks (i.e.,

those with a gross vehicle weight in excess of 13.25 tons) produce as much acoustical energy as 10 to 60 automobiles.

The City can further reduce traffic-generated noise by ensuring that street paving is maintained and bumps and dips are minimized. Poor paving causes vehicles to bounce and this bouncing exacerbates the noise due to the rattling of the vehicle. This is especially important along those routes that realize augmented volumes of truck traffic. Noise contours for the City's roadways and freeways are presented in Figure 7.2. Future conditions consider sound levels given the buildout of land uses and the roadway network, but do not consider sound attenuation measures such as soundwalls.

Aircraft

Highland is subject to the activities of the San Bernardino International Airport (SBIA) and the Redlands Municipal Airport (RMA). Airport operations of the SBIA and RMA are of significant importance to the City of Highland because of their impacts to Highland's safety, physical development and economic welfare. In addition, local helicopter air traffic is commonplace throughout the City. News and other helicopters (e.g., freeway traffic report helicopters) fly through the area. Helicopter use for fire and police services and at local hospitals is considered as an emergency activity and is addressed by FAA regulations.

☞ Specific policy direction on aircraft noise is provided in the Airport Element.

GOAL 7.2

Encourage the reduction of noise from transportation-related noise sources such as automobile and truck traffic.

Policies

1) Guide the location and design of transportation facilities to minimize the exposure of noise on noise-sensitive land uses.

2) Employ noise mitigation practices, as necessary, when designing future streets and highways, and when improvements occur along existing road segments. Mitigation measures should emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas.

3) Require that development generating increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses provide appropriate mitigation measures.

4) Minimize truck traffic through residential neighborhoods.

5) Encourage the development of alternative transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips and noise.

Actions

1) Maintain roadways so that the paving is in good condition to reduce noise-generating cracks, bumps and potholes.

2) Use the daily design capacity identified in the General Plan and the posted speed limit to quantify the design noise levels adjacent to transportation routes for mitigation purposes.

3) Require evaluation of highway and arterial roadway extensions for potential noise impacts on existing and future land uses.

4) Consider the effects of truck routes, truck traffic, posted speed limits and future motor vehicle volumes on noise levels adjacent to transportation routes when planning improvements to the circulation system.

5) Work with Caltrans to landscape or install mitigation elements along freeways and highways adjacent to existing residential subdivisions or noise-sensitive uses to beautify the landscape and reduce noise, where appropriate.

6) Monitor proposals for future transit systems and require noise control to be considered in the selection of transportation systems that may affect the City.

Non-Transportation-Related Noise Sources

The City currently maintains a diversity of land uses, most of which generate their own noise. Noise from one land use can "spill over" into other uses and can potentially create undesirable noise impacts. Industrial facilities generate noise through various processes that involve the use of heavy equipment and machinery. However, even commercial facilities and residential units can generate noise from the use of heating, ventilating and air conditioning (HVAC) units.

Restaurants, bars and entertainment establishments may use sound amplification equipment that operates well into the night. Residential areas are also subject to noise from the use of landscape maintenance equipment, barking dogs, etc. Mixed-use areas that place residential uses alongside or above commercial uses can present their own challenges. Requiring that the commercial component meet a residential standard could make commercial operations difficult.

Alternatively, applying a commercial standard to a mixed-use project could result in unacceptable noise levels at the residential portion of the structure/site. Still, mixed-use projects offer several advantages from both an air quality and transportation perspective, and should be encouraged.

One major stationary noise generator associated with mining and processing of sand and gravel operations is located southeast of the City's boundary. Noise generated from the gravel pit is produced by the use of vehicles and aggregate processing equipment. Vehicles include bulldozers, loaders and other heavy machinery, as well as heavy trucks used to load finished aggregate products for delivery via public roadways. Low frequency noise source emissions can be reduced by modifying equipment.

Noise emissions from mineral extraction activities are most heavily concentrated within the processing area. A combination of individual point noise sources and a diffuse collection of mobile equipment are the primary cause for the noise observed in the nearest residential neighborhoods north of the sand and gravel operations.

GOAL 7.3

Protect residents from the effects of "spill over" or nuisance noise.

Policies

1) Enforce the City's Noise Control Ordinance so that new projects located in commercial or entertainment areas do not exceed stationary-source noise standards at the property line of proximate residential or commercial uses, as appropriate.

2) Prohibit new industrial uses from exceeding commercial or residential stationary-source noise standards at the most proximate land uses, as appropriate. (Industrial noise may spill over to proximate industrial uses so long as the combined noise does not exceed the appropriate industrial standards.)

3) Require that construction activities employ feasible and practical techniques to minimize noise impacts on adjacent uses. Particular emphasis shall be placed on the restriction of hours in which work other than emergency work may occur.

4) Require that the hours of truck deliveries to commercial properties abutting residential uses be limited unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at another hour.

5) Ensure that buildings are constructed to prevent adverse noise transmission between differing uses located in the same structure and individual residences in multi-family buildings.

Actions

1) As a condition of approval, limit non-emergency construction activities adjacent to existing noise-sensitive uses to daylight hours between 7:00 a.m. and 6:00 p.m. Discourage construction on weekends or holidays except in the case of construction proximate to schools where these operations could disturb the classroom environment.

2) Ensure that the design and placement of air conditioning units and pool equipment within residential areas is accomplished in a manner that does not intrude upon the peace and quiet of adjacent noise-sensitive uses.

3) Encourage the use of portable noise barriers for heavy equipment operations performed within 100 feet of existing residences or make applicant provide evidence as to why the use of such barriers is infeasible.

Chapter 8.50
NOISE CONTROL

Sections:

8.50.010 Findings and purpose.

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8.50.090 Violations – Notices – Abatement.

8.50.100 *Repealed.*

8.50.110 Violations – Notices – Service – Effect.

8.50.120 Immediate threats to health and welfare.

8.50.130 Administrative citations and costs of second and subsequent responses.

8.50.140 Modification, suspension and/or revocation of validly issued city permit and/or city license.

8.50.010 Findings and purpose.

A. It is the purpose of these regulations to implement the goals and objectives of the noise element of the city's general plan, to establish community-wide noise standards and to serve as a reference for locating other city regulations relating to noise in the community. It is further the purpose of these regulations to recognize that the existence of excessive noise within the city is a condition which is detrimental to the health, safety, welfare and quality of life of the citizens which should be regulated in the public interest.

B. In furtherance of the foregoing purpose, the city council finds and declares as follows:

1. The making, creation or maintenance of such loud, unnecessary, unnatural or unusual noises or vibrations that are prolonged, unusual, annoying, disturbing and unnatural in their time, place and use are a detriment to the public health, comfort, convenience, safety, general welfare and the peace and quiet of the city and its inhabitants; and

2. The public interest necessity for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuit of and for the purpose of securing and promoting the public health, comfort, convenience, safety, general welfare and property and the peace and quiet of the city and its inhabitants. (Ord. 324 § 2, 2008)

8.50.020 Definitions.

For the purposes of this chapter, the following terms shall have the meanings given:

“Construction equipment” means tools, machinery or equipment used in connection with construction operations, including all types of “special construction” equipment as defined in the pertinent sections of the California Vehicle Code when used in the construction process on any construction site, home improvement site or property maintenance site, regardless of whether such site be located on highway or off highway.

“Enforcement officer” means a city code enforcement officer or peace officer authorized to enforce the provisions and prohibitions of this chapter pursuant to HMC 8.50.070.

“Plainly audible” means any sound that can be detected by a person using his or her unaided hearing faculties. As an example, if the sound source under investigation is a portable or personal vehicular sound amplification or reproduction device, the investigating enforcement officer need not determine the title of any music, specific words, or the artist performing the music. The detection of the vibration from the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

“Public right-of-way” means any street, avenue, boulevard, highway, sidewalk, alley or similar place, owned or controlled by a government entity.

“Public space” means any real property or structure(s) on real property, owned by a government entity and normally accessible to the public, including but not limited to parks and other recreation areas.

"Responsible person" means (1) any person who owns, leases or is lawfully in charge of the property or motor vehicle where the noise violation takes place or (2) any person who owns or controls the source of the noise or violation. If the responsible person is a minor, then the parent or guardian who has custody of the child at the time of the violation shall be the responsible person who is liable under this chapter. (Ord. 324 § 2, 2008)

8.50.030 Prohibited acts.

A. It shall be unlawful for any person to engage in the following activities:

1. Sounding any horn or signal device on any automobile, motorcycle, bus or other motor vehicle in any other manner or circumstance(s) or for any other purpose than required or permitted by the Vehicle Code or other state laws.

2. Racing the engine of any motor vehicle while the vehicle is not in motion, except when necessary to do so in the course of repairing, adjusting or testing the same.

3. Operating or permitting the use of any motor vehicle on any public right-of-way or public place or on private property within a residential zone for which the exhaust muffler, intake muffler or any other noise abatement device has been modified or changed in a manner such that the noise emitted by the motor vehicle is increased above that emitted by the vehicle as originally manufactured.

4. Operating or permitting the use or operation of personal or commercial music or sound amplification or production equipment that is:

a. Plainly audible across property boundaries;

b. Plainly audible through partitions common to two residences within a building;

c. Plainly audible at a distance of 50 feet in any direction from the source of music or sound, between the hours of 7:00 a.m. and 10:00 p.m.; or

d. Plainly audible at a distance of 25 feet in any direction from the source of music or sound, between the hours of 10:00 p.m. and 7:00 a.m.

5. The intentional sounding or permitting the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or any motor vehicle burglar alarm, except for emergency purposes or for testing, unless such alarm is terminated within 15 minutes of activation.

6. Creating excessive noise adjacent to any school, church, court or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed, clearly visible to the motoring public, indicating the presence of a school, institution of learning, church, court or hospital.

7. Making or knowingly and unreasonably permitting to be made any unreasonably loud, unnecessary or unusual noise that disturbs the comfort, repose, health, peace and quiet or which causes discomfort or annoyance to any reasonable person of normal sensitivity. The characteristics and conditions that may be considered in determining whether this section has been violated include, but are not limited to, the following:

a. The level of noise;

b. Whether the nature of the noise is usual or unusual;

c. Whether the origin of the noise is natural or unnatural;

d. The level of the background noise;

e. The proximity of the noise to sleeping facilities;

f. The nature and zoning of the area(s) within which the noise emanates;

g. The density of the inhabitation of the area within which the noise emanates;

h. The time of day or night the noise occurs;

i. The duration of the noise; and

j. Whether the noise is produced by a commercial or noncommercial activity.

B. A violation of this section is a public nuisance.

C. A violation of this section may result in the following:

1. Issuance of an administrative citation, where the fines and penalties shall be assessed as infractions in accordance with HMC 2.56.110;

2. Issuance of a notice of public nuisance and abatement pursuant to Chapter 8.28 HMC;

3. Imposition of criminal and civil penalties, including those in Chapter 1.24 HMC; and

4. Confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noise.

D. An enforcement officer who encounters a violation of this section may issue a written notice to the responsible person demanding immediate abatement of the violation (written notice). The written notice shall inform the recipient that a second violation of the same provision within a 72-hour period may result in the issuance of a criminal citation and/or notice of public nuisance, the imposition of criminal and civil penalties, and confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noise.

E. Any peace officer who encounters a second violation of this section within a 72-hour period following issuance of a written notice is empowered to confiscate and impound as evidence any or all of the components amplifying or transmitting the sound.

F. Any person claiming legal ownership of the items confiscated and impounded under this section may request the return of the item by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the police department. (Ord. 370 § 27, 2012; Ord. 324 § 2, 2008)

8.50.040 Excessive noise and vibration emanating from a motor vehicle.

A. No person shall operate or occupy a motor vehicle on any public right-of-way, public place or private property, while operating or permitting the use or operation of any radio, stereo receiver, musical instrument, television, computer, compact disc player, tape recorder, cassette player or any other device for the production or reproduction of sound from within the motor vehicle, so that the sound is plainly audible at a distance of 50 feet from such vehicle, or in the case of a motor vehicle on private property, beyond the property line.

B. A violation of this section is a public nuisance.

C. A violation of this section may result in the following:

1. Issuance of an administrative citation, where the fines and penalties shall be assessed as infractions in accordance with HMC 2.56.110;

2. Issuance of a notice of public nuisance and abatement pursuant to Chapter 8.28 HMC;

3. Imposition of criminal and civil penalties, including those in Chapter 1.24 HMC; and

4. Immediate confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noises or the immediate confiscation and impoundment of the motor vehicle to which the component is attached if the same may not be removed without causing harm to the vehicle or the component.

D. Any person claiming legal ownership of a motor vehicle confiscated and impounded under this section may request the return of the vehicle by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with procedures adopted by the police department.

E. Any person claiming legal ownership of the items confiscated and impounded under this section, other than a motor vehicle, may request the return of the item by filing a written request with the police department, which shall be processed in accordance with procedures adopted by the police department. (Ord. 370 § 28, 2012; Ord. 324 § 2, 2008)

8.50.050 Controlled hours of operation.

It shall be unlawful for any person to engage in the following activities at a time other than between the hours of 5:00 a.m. and 10:00 p.m. on any day in the industrial (I) zone, and between the hours of 7:00 a.m. and 10:00 p.m. on any day in all other zones:

A. Operate or permit the use of powered model vehicles and planes.

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within 1,000 feet of a residence.

C. Operate or permit the use of domestic power tools, machinery, or any other equipment or tool in any garage, workshop, house or any other structure.

D. Operate or permit the use of gasoline or electric-powered leaf blowers such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property.

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the code enforcement officer.

F. Operate or permit the use of electrically operated compressor(s), fan(s) and other similar device(s).

G. Operate or permit the use of pile driver(s), steam or gasoline shovel(s), pneumatic hammer(s), steam or electric hoist(s) or other similar device(s).

H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line.

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of 10,000 pounds, or of any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than 15 minutes in any hour while the vehicle is stationary and on a public right-of-way or public space, except when movement of said vehicle is restricted by other traffic.

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or device(s) in a manner so as to be plainly audible across property lines.

K. Load, unload, open, close or otherwise handle garbage cans, recycling bins or other similar objects between the hours of 10:00 p.m. and 7:00 a.m. the following morning, except city-permitted trash collection. (Ord. 352 § 1, 2010; Ord. 324 § 2, 2008)

8.50.060 Exemptions.

The following activities and noise sources shall not be subject to the provisions of this chapter:

A. Those noise events in the community (e.g., airport noise, arterial traffic noise, railroad noise) that are more accurately measured by application of the general plan noise element policy, utilizing the community noise equivalent level (CNEL) method.

B. Activities conducted on the grounds of any public or private school during regular hours of operation.

C. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are authorized by the city.

D. Legally permitted activities conducted at public places during regular hours of operation.

E. Any mechanical device, apparatus, or equipment used, related to or connected with emergency machinery, vehicle or work.

F. All mechanical devices, apparatus, or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

G. Mobile noise sounds associated with agricultural operations, provided such operations do not take place between the hours of 10:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any

time on Sunday or a state holiday.

H. Mobile noise sources associated with agricultural pest control through pesticide application.

I. Warning devices necessary for the protection of the public safety, including, but not limited to, police, fire and ambulance sirens and train horns and sounds for the purpose of alerting persons to the existence of an emergency.

J. Construction, repair or excavation necessary for the immediate preservation of life or property.

K. Construction, operation, maintenance and repair of equipment, apparatus or facilities of the park and recreation department, public work projects or essential public services and facilities, including trash collection and those of public utilities subject to the regulatory jurisdiction of the Public Utilities Commission.

L. Construction, repair or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions, which agreement provides for noise mitigation measures.

M. Any activity, to the extent regulation thereof has been preempted by state or federal law.

N. Any specific activity or noise source governed elsewhere in this code. Such activities include, but are not limited to:

1. Security alarm systems (Chapter 8.04 HMC);

2. Animal noise (Chapter 6.04 HMC);

3. Loud, unruly or disorderly private parties or assemblies (Chapter 9.17 HMC). (Ord. 324 § 2, 2008)

8.50.070 Enforcement and administration.

The city manager, chief of police and/or their designees shall be responsible for administering and enforcing the provisions of this chapter. (Ord. 324 § 2, 2008)

8.50.080 Enforcement – Interference.

No person shall interfere with, oppose, or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his duty. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.140)

8.50.090 Violations – Notices – Abatement.

Violations of this chapter shall be prosecuted in the same manner as other violations of this code; provided, however, in the event of an initial violation of the provisions of this chapter, a written notice shall be given the alleged violator which specifies the time by which the condition shall be corrected or, where applicable, an application for a permit shall be received by the planning division. No complaint or further action shall be taken in the event the cause of the violation has been removed or the condition abated or fully corrected within the time period specified in the written notice. (Ord. 370 § 29, 2012; Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.150)

8.50.100 Violations – Penalties.

Repealed by Ord. 370. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.160)

8.50.110 Violations – Notices – Service – Effect.

In the event the alleged violator cannot be located in order to serve the violation of intention to prosecute, such notice shall be deemed to be given upon mailing such notice by registered or certified mail to the alleged violator at his last known address or at the place where the violation occurred, in which event the specified time period for abating the violation or applying for a variance shall commence on the date of the day following the mailing of such notice. Subsequent violations of the same offense shall result in the immediate filing of a complaint. (Ord. 370 § 30, 2012; Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.170)

8.50.120 Immediate threats to health and welfare.

A. The city manager may order an immediate halt to any sound which exposes any person, except those excluded pursuant to HMC 8.50.060, to continuous sound levels in excess of those described herein. Within two days following the issuance of any such order, the city shall apply to the appropriate court for an injunction to replace the order.

B. No order pursuant to subsection A of this section shall be issued if the only persons exposed to sound levels in excess of those contained herein are exposed as a result of (1) trespassing; (2) an invitation upon private property by the person causing or permitting the sound; or (3) employment by the person or contractor of the person causing or permitting the sound.

C. Any person subject to an order issued pursuant to subsection A of this section shall comply with such order until (1) the sound is brought into compliance with the order, as determined by the city manager; or (2) a judicial order has superseded the order of the city manager. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.180)

8.50.130 Administrative citations and costs of second and subsequent responses.

The city manager or his designee, in his/her sole discretion, may prosecute violations of this chapter through the administrative citation process set forth in Chapter 2.56 HMC, in lieu of the criminal or

nuisance abatement process. In the case of second and subsequent violations of this chapter, the city may assess a second response service fee in compliance with HMC 9.17.030 through 9.17.060, inclusive. (Ord. 324 § 4, 2008)

8.50.140 Modification, suspension and/or revocation of validly issued city permit and/or city license.

The violation of this chapter by any city permittee or licensee more than twice in any six-calendar-month period, in the course of operating pursuant to a validly issued city permit and/or license, may be grounds for the modification, suspension or revocation of such license subject to normal city processes, in the discretion of the city manager. (Ord. 324 § 4, 2008)

CONSTRUCTION AND STATIONARY NOISE MODELING

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 06/08/2021
Case Description: SBCU-07.1

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Trenching/Pole Installation	Residential	65.0	60.0	55.0

Equipment

Description	Impact Device	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
Excavator	No	40	80.7	50.0		0.0
Backhoe	No	40	77.6	50.0		0.0
Concrete Saw	No	20	89.6	50.0		0.0
Auger Drill Rig	No	20	84.4	50.0		0.0

Results

Equipment	Calculated (dBA) Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Noise Limit Exceedance (dBA) Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	84.4	77.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
~~Total~~	~~89.6~~	~~84.9~~	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SBCU-07.1 Vibration Annoyance Attenuation Calculations

Levels in in/sec PPV

Distance in feet	**Vibration Reference Level at *25 feet***	**Residential to east** *45*
Large Bulldozer	0.089	0.037
Caisson Drilling	0.089	0.037
Loaded Trucks	0.076	0.031
Jackhammer	0.035	0.014
Small Bulldozer	0.003	0.001

SBCU-07.1 Stationary Noise Attenuation Calculations

Distances to Nearest Recepor

	Softball/Baseball	**Tennis Court**	**Soccer**
Reference Noise Levels, dBA Leq	*56.9*	*59.5*	*59.8*
	72 feet	**20 feet**	**15 feet**
Arroyo	80 E	70 E	80 E
Cajon	150 N	650 S	NA
Indian Springs	300 W	600 E	350 E
Pacific	70 E	240 W	NA
San B	85 N/W	490 E	220 W
San G	170 S	570 N	NA

Distances to Nearest Recepor

Phase	**Softball/Baseball**	**Tennis Courts**	**Soccer Fields**
Reference Distance in feet	*70*	*20*	*15*
Reference Levels	57	60	60
Arroyo	80	70	80
Cajon to San Bernardino	150	650	NA
Cajon to Arrowhead	500	500	NA
Indian Springs	300	600	350
Pacific	70	240	NA
San B	85	490	220
San G	170	570	NA

Attenuation calculated through Inverse Square Law: Lp(R2) = Lp(R1) - 20Log(R2/R1)

Levels in dBA Leq

	Softball/Baseball	**Tennis Courts**	**Soccer Fields**
High School	*Attenuated Noise Levels*		
Arroyo	56	49	45
Cajon to San Bernardino	50	29	NA
Cajon to Arrowhead	40	32	NA
Indian Springs	44	30	32
Pacific	57	38	NA
San B	55	32	36
San G	49	30	NA
Max	57	49	45

PLACEWORKS REFERENCE NOISE MONITORING DATA

Soccer field Noise Monitoring Data

Site	Date	Time	Duration	Leq	SEL	Lmax	Lmin	Peak
Meter 1	24-Aug	10:37:53	1800	59.8	92.4	86.5	46.4	112.4

Description: The noise meter was placed approximately 15 feet from the edge of the soccer field near the halfway line of the field. There were 21 spectators/coaches/substitutes in proximity (15 feet south) of the noise meter in an area approximately 2,950 sf in size. Overall, there were approximately 39 spectators in the 16,500 sf area covering the areas south and west of the monitoring station (excluding the players on the field). Primary noise sources during the game were from the players (22 total) on the field and a coach on the sidelines playcalling. General noise from the field consisted of player communication with each other, the sound of the ball being kicked, running, and whistle from the referee. Secondary noise sources were from general chatter of spectators dispersed along the southeastern sideline of the field. Noise from traffic along Bushard Street (approximately 320 feet from

Softball Monitoring Data - Backstop

Site	Meas Location	Date	Time	Duration	Leq	Lmax	Lmin	Peak
	1	16-Nov	17:39:52	60	57.8	71.7	50.5	89.2
	1	16-Nov	17:40:52	60	55.3	69.7	48.2	88.0
	1	16-Nov	17:41:52	60	56.8	68.2	48.3	88.0
	1	16-Nov	17:42:52	60	60.2	76.6	48.5	95.2
	1	16-Nov	17:43:52	60	59.7	80.3	52.5	91.6
	1	16-Nov	17:44:52	60	53.2	66.2	49.5	87.0
	1	16-Nov	17:45:52	60	54.2	69.3	48.2	91.7
	1	16-Nov	17:46:52	60	54.4	66.6	48.8	90.5
	1	16-Nov	17:47:52	60	54.4	67.1	48.6	89.3
	1	16-Nov	17:48:52	60	58.9	75.8	47.1	93.3
	1	16-Nov	17:49:52	60	59.6	70.9	50.8	88.1
	1	16-Nov	17:50:52	60	55.2	69.8	48.4	89.0
	1	16-Nov	17:51:52	60	54.8	69.7	49.6	89.6
	1	16-Nov	17:52:52	60	55.3	69.6	50.2	88.5
	1	16-Nov	17:53:52	60	54.3	67.9	49.7	88.2
			15-min Leq----------->		**56.9**	**80.3**	**47.1**	
			at 100 feet----------->		**54.1**	**77.4**	**44.2**	

Description: Noise monitoring was conducted at Field #1 of Worthy Park located at 17th Street and Main Street in the City of Huntington Beach. Noise Meter #1 was placed at approximately 72 feet at a bearing of # degrees east of the homeplate of the softball diamond. Primary noise sources were from the approximately 22 players and one umpire on the softball field. Other noise sources included the two spectators in the bleachers which are located approximately 25 feet from homeplate of the softball diamond and also from traffic on 17th Street.

Noise Measurements of Sports Activities and Parking Lot Noise

Site	Date	Time	Duration	Leq	Lmax	Lmin
football	10-Oct-05	5:02 PM	1200	57	72.7	46.3
Tennis	10-Oct-05	5:27 PM	1200	59.5	73.3	51
UCIParkingStructure	10-Oct-05	3:04 PM	1200	61.7	79.1	50.5
Basketball2	16-Oct-05	10:27:13	1200	63.6	77.1	53.9

Source: Noise monitoring of sports activities taken at Miles Square Park in Fountain Valley California. Noise monitoring of noise sources common in parking lots and parking structures obtained from noise monitoring conducted at the University of California, Irvine.