CHAPTER 9.0
NOISE ELEMENT (NE)

9.1 INTRODUCTION

General Plan Law Requirements [GP]

Noise Element Policies
NE 1: Noise and Land Use Compatibility Standards
NE 2: Traffic Noise Sources
NE 3: Airport Noise
NE 4: Railway Noise
NE 5: Industrial and Other Point Sources
NE 6: Single-Event and Nuisance Noise
NE 7: Design Criteria to Attenuate Noise

The Noise Element is one of seven general plan elements mandated by state law. The scope of the Noise Element is specified in Section 65302 (f) of the California Government Code. The element is required to identify and evaluate noise problems in the community and must include current and projected noise contour maps showing the intensities of noise associated with various sources. These sources include highways and freeways, primary arterials and major local streets, railroad operations, airport operations, industrial plants, and other applicable stationary noise sources. Noise contours are required to be considered in establishing the pattern of land uses in the Land Use Element in a manner that minimizes the exposure of residents to excessive noise. Finally, the Noise Element must include implementation measures and possible solutions that address existing and foreseeable noise problems. The Noise Element is intended to serve as a guideline for compliance with the state's noise insulation standards.

Coastal Act Requirements [CP]

The California Coastal Act (Coastal Act) does not specifically address noise or noise reduction. The policies of the Noise Element, while applying throughout the city, are not a part of the City's Coastal Land Use Plan.

Background

Definition and Measurement of Noise

Noise is an unavoidable aspect of any built environment. *Noise* is defined as a sound or series of sounds that are perceived as irritating, objectionable, and/or disruptive to the quality of daily life. Levels of noise are measured in decibels (dB) and are typically expressed as *A-weighted decibels* (dBA). The A-weighted decibel scale adjusts for very high and very low sound frequencies that are inaudible to humans. Noise levels emitted by various sources are often expressed as equivalent energy level (Leq).

Because sound levels at a particular location typically vary over the course of the day and because people tend to be more sensitive to noise in the evening and at night than during the morning and afternoon, sound levels are commonly averaged over a 24-hour period, weighted for night and evening sensitivity, and expressed as either *Day-Night Noise Level* (Ldn) or *Community Noise Equivalent Level* (CNEL). These two expressions of average sound levels are nearly equivalent, and while this Noise Element usually refers to CNEL, standards cited from certain state and federal regulations may use Ldn.

Decibel scales are logarithmic, such that an increase from 30 to 40 dB represents a tenfold increase in sound level, while an increase from 30 to 50 dB represents a hundredfold increase.

Human perception of sound loudness, however, is subjective. Everyday sounds normally range from 30 dBA (very quiet such as a soft whisper) to 100 dBA (very loud such as the noise produced by a jet takeoff at a distance of 200 feet). In general, noise may become a nuisance at levels of 45 dBA CNEL or greater. Psychological and physiological stress are common with noise levels in the 65 to 75 dBA CNEL range, and hearing loss can occur at noise levels of 75 dBA CNEL or more.

Federal, State, and Local Noise Standards

The U.S. Noise Control Act of 1972 recognized the role of the federal government in dealing with major noise sources associated with interstate commerce in order to provide for uniform treatment of such sources. Federal regulations specifically preempt local control of noise emissions from aircraft and railroad sources. The U.S. Environmental Protection Agency (EPA) has identified acceptable noise levels for various land uses in order to protect public welfare—which allows for an adequate margin of safety—and has established noise standards

Measuring Noise

Decibel (dB): A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

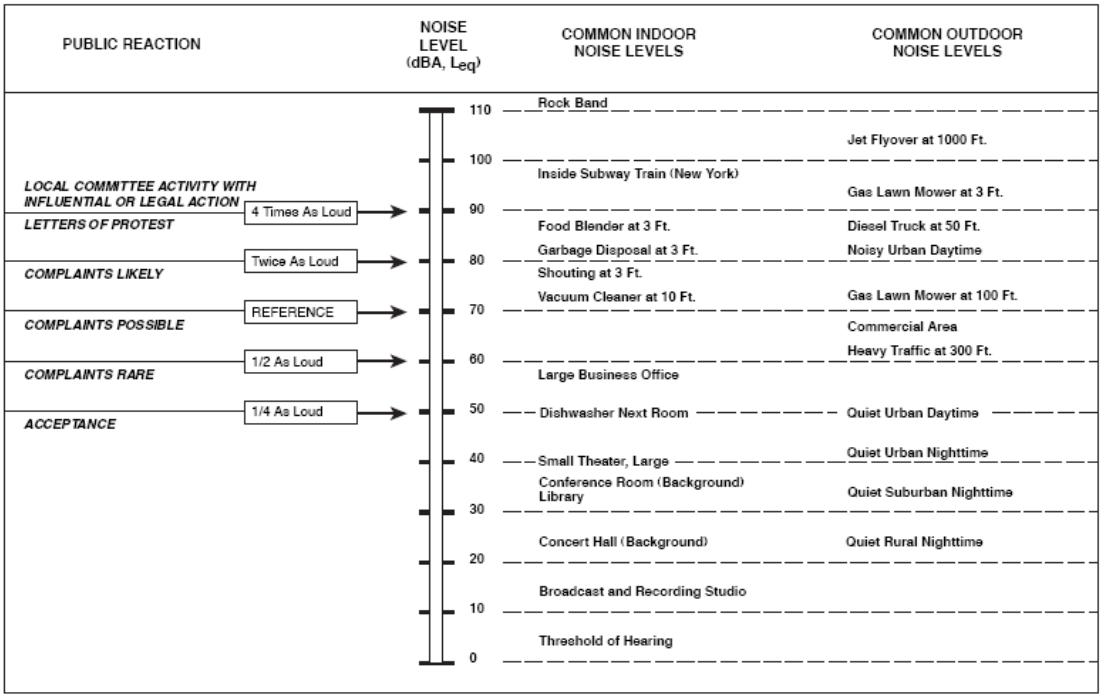
A-Weighted Level (dBA): The sound level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

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. Leq is typically computed over 1-, 8-, and 24-hour sample periods.

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

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 after 10 p.m. and before 7

NOISE LEVELS OF COMMON SOURCES AND EFFECTS ON PEOPLE



SOURCE: Caltrans Transportation Laboratory Noise Manual (1982)

for interstate commerce activities. Finally, the U.S. Department of Housing and Urban Development has established policies for granting financial support for the construction of dwelling units in noise-impacted areas.

The California Department of Health Services has developed criteria and guidelines for local governments to use when setting standards for human exposure to noise and preparing noise elements for general plans. These guidelines include noise exposure levels for both exterior and interior environments. In addition, Title 25, Section 1092 of the California Code of Regulations, sets forth requirements for the insulation of multiple-family residential dwelling units from excessive and potentially harmful noise. These guidelines indicate that locating units in areas where exterior ambient noise levels exceed 65 dBA CNEL is undesirable, and require the developer to incorporate into building design construction features that will reduce interior noise levels to 45 dBA CNEL. Title 21, Subchapter 6 of the California Administrative Code, establishes noise standards related to airports. According to Title 21, an airport should maintain a noise impact area wherein no residential uses would be located within the 65-dB-CNEL contour. If noise levels exceed this standard for residences and other sensitive receptors, avigation easements and soundproofing of interior space are required.

Noise Sources and Existing Noise Environment

Goleta is affected by several different sources of noise, including automobile and railway traffic, airport and aircraft operations, industrial and commercial activity, and periodic nuisances such as construction noise, amplified sound, loud parties, and other events.

Roadway Traffic Noise: In general, noise levels caused by highway traffic are directly correlated with the volumes and speeds of vehicles and with increases in the number of large truck vehicles. Noise levels adjacent to U.S. Highway 101 (US-101) range from 75 to 90 dBA CNEL, while noise levels adjacent to major arterials in the city can be as high as 85 dBA CNEL. The orientation and spacing of these major roadways combined with the proximity of the Santa Barbara Airport result in a large part of the city being subject to existing noise levels that exceed 60 dBA CNEL, as shown on Figures 9-1 and 9-2.

Railroad-Related Noise: Passenger and freight operations along the Union Pacific Railroad (UPRR) comprise another source of transportation-related noise (see Figure 9-2). The UPRR parallels and is just south of the US-101 corridor. The railroad roughly bisects the city in an east-west direction. The maximum instantaneous sound level of passing trains ranges from 96 to 100 dBA at 100 feet from the tracks, and the average sound level ranges from 70 to 75 dBA CNEL. Although Amtrak also uses the same tracks, sound levels for its operations are not available but are expected to be similar to UPRR trains. The combined noise sources of the railway and US-101 result in a 300-to-600 foot-wide east-west corridor where noise levels equal or exceed 70 dBA CNEL and produce noise levels equal to or exceeding 60 dBA CNEL in a corridor that is roughly three times the width of the 70+ dBA CNEL corridor.

Amtrak Passenger Train

Airport-Related Noise: Noise associated with the Santa Barbara Municipal Airport is generated by operations and aircraft over-flights (see Figure 9-2). The Santa Barbara Municipal Airport is the busiest commercial service airport in the coastal area located between San Jose and Los Angeles, with about 100 scheduled air carrier flights daily serving approximately 853,000 passengers in 2005. In addition, the airport is used by cargo planes, private aircraft, and charter aircraft. Because of its location near the center of Goleta, airport-related noise affects a large area of the city, with noise levels exceeding 60 dBA CNEL for much of the city south of Hollister Avenue.

According to the airport's FAR Part 150 Noise Compatibility Study (January 2005), the number of aircraft operations is expected to increase in the future. Passenger jet and plane operations are projected to average 3.3 percent annual growth, while cargo volume will grow at 4.8 percent annually. Based aircraft will grow at a 1.1-percent average rate. Overall, operations are forecast to grow at 1.25 percent annually. In addition, the airport is planning expansion of its runway safety areas at either end of the east-west (main) runways. The airport would maintain the runway in its current (as of 2006) published length of 6,052 feet (excluding the runway safety areas), but would shift the runway approximately 800 feet westward. The westward shift of this runway and the increase in future aircraft operations is expected to slightly enlarge and shift westward the area within the city subject to CNELs of 60 to 70+ dBA.

Local jurisdictions generally have very limited authority to control airport operations and resulting noise, which are governed by the Federal Aviation Administration.

Commercial and Industrial Noise: The nature and intensity of noise generated by commercial and industrial uses is dependent upon various factors, including the type of use or activity, the equipment and processes employed, and hours of operation. Ground-mounted or rooftop air compressors and air conditioning units are a common source of industrial- or commercial-related noise, as is noise from delivery trucks. The Venoco Ellwood Onshore Oil and Gas Processing Facility generates noise—mostly from compressors and heater-treater units—that exceeds 80 dBA CNEL inside the facility and 65 dBA CNEL in certain locations along its property line. Ordinance 2919, Venoco's Development Plan permit, requires that sound levels not exceed 65 dBA CNEL at public receptor locations and not exceed 70 dBA at the perimeter of the facility.

Oil Processing Equipment at the Venoco Ellwood Onshore Oil Gas and Processing Facility

Construction Noise: Commercial and residential construction projects produce readily apparent noise. The sensitivity to noise from such construction is increased when it occurs in or near residential areas or other sensitive receptors. Earthmoving equipment and some power tools are capable of producing noise levels in the range of 75 to 95 dBA at 50 feet from the source. While most remodeling and infill construction projects typically last no longer than several months to a year, larger projects or construction of new multiple unit developments can have longer durations. Construction-related noise is appropriately managed by establishing and

enforcing restrictions on hours permitted for construction activities that generate unacceptable noise levels.

Nuisance Noise: Nuisance noise results from a variety of sources: landscaping, car, or home maintenance activities; barking dogs; amplified music and sound; car and fire alarms; poorly muffled mopeds and scooters; and even loud voices or crowds. Noise is also produced at playgrounds, athletic fields, and schools. Certain venues in the city, such as schools, parks, and resorts, host special events that may include amplified sound. Nearby residences and sensitive noise receptors may be subject to disturbance from these special events. Often a special-event permit is required from the City. In these cases, permit conditions may include standards for permissible sound levels and duration of the event. Otherwise, nuisance noise from these events may best be controlled by adopting and enforcing standards included in a Noise Ordinance.

Heavy Equipment at a Construction Site

Sensitive Noise Receptors

Sensitive noise receptors are defined as users or types of uses that are interrupted (rather than merely annoyed) by relatively low levels of noise. Such receptors include residential neighborhoods, schools, libraries, hospitals and rest homes, auditoriums, certain open space areas, and public assembly places. Sensitive noise receptor monitoring locations are included in Figures 9-1 and 9-2. This map does not denote all residential areas, so it should be used in combination with land use maps that comprehensively show all residential areas. Sound levels were measured at each of the numbered sites on October 13 to 15, 2003. Results of this sound monitoring are included in Table 9-1 below. Potential noise impacts on sensitive receptors should be minimized using a variety of measures or tools for noise avoidance and noise control. The limit of acceptable noise exposure for sensitive noise receptors is typically 60 dBA CNEL (see Table 9-2, under Section 9.3, “City Policies”).

Projected Future Noise Environment

The projected future noise contours are shown in Figures 9-3 and 9-4. Future transportation-related noise levels are projected to increase slightly, as traffic volumes increase due to the planned additional housing and commercial/industrial growth within Goleta and in adjacent jurisdictions, including the University of California, Santa Barbara, (UCSB) and the Santa Barbara Municipal Airport, as well as to growth in regional through traffic. The increase in operations planned by the Santa Barbara Municipal Airport is projected to result in a somewhat larger area affected by airport-related noise.

TABLE 9-1
FIELD NOISE MEASUREMENTS AT NOISE SENSITIVE LOCATIONS

Site No.	Category	Sensitive Receptor	Leq dBA
1	Residential	Winchester Commons	54.5
2	Residential	Santa Barbara West Mobile Home Park	55.4
3	School	Evergreen Discovery/Learning Center: Brandon Elementary School	50
4	Church	El Camino Presbyterian Church	58.8
5	School	El Rancho Elementary School	44.1
6	School	Dos Pueblos High School	55.5
7	Church	Christ Lutheran Church of Goleta ELCA	49.5
8	School	La Patera	47.8
9	School	Goleta Valley Junior High/Santa Barbara Charter School	53.7
10	Church	Goleta Presbyterian Church/Presbytery of Santa Barbara (also Care Unit in back)	56.3
11	Church	Goleta Valley Church	52.9
12	School	Montessori Center School	51.9
13	Church	Jehovah's Witnesses	46.6
14	Church	Live Oak Unitarian Universalist Congregation	49.1
15	Library	Goleta Library	50.1
16	Church/Child care	Good Shepherd Lutheran Church and Preschool	57
17	School	Coastline Christian Academy	54.2
18	Church	South Coast Church	51.2
19	School	Kellogg School	48.8
20	Church/Child care	Cambridge Drive Baptist Church/Goleta Valley Nursery School	48.8
21	Church	Church of Jesus Christ of Latter-Day Saints/LDS Institute of Religion	51.3
22	Retirement	Maravilla Senior Complex	57.5
23	Hospital	Goleta Valley Cottage Hospital	54.2
24	Church	Saint Raphael's Church and K–8 School	59.8
25	Residential	Rancho Goleta Mobile Home Park	55.2
26	Community center	Goleta Valley Community Center	62.3
27	Child care	United Boys and Girls Clubs of Santa Barbara County	48.3
28	Residential	Old Town Residential Area	60.7
29	Residential	University Mobile Home Park	59.5
30	Child care	Kinder Care	51.4
31	Child care	Village Park Child Care Center	64.8
32	Residential	Sesame Tree Apartments	65.5
33	Church	Jubilee Christian Church	61.3
34	Residential	Wayside Village (Mobile Home Park)	62.4
35	Residential	Rancho Mobile Homes	60.1
36	Residential	Santa Barbara Shores	57.8
37	School	Ellwood School	55.1

K–8 = kindergarten through 8th grade
Source: Noise monitoring survey conducted by RBF Consulting on October 13, 14, and 15, 2003.

Noise Control Techniques

Noise Mitigation Strategies
Noise can be mitigated in the following three basic ways:

- Reduce the sound level of the noise generator.
- Increase the distance between the source and receiver.
- Insulate the receiver.

Noise can be mitigated in three basic ways: by reducing the sound level at the noise source, by increasing the distance between the source and receiver, and by insulating the receiver. Noise reduction can be accomplished by placement of masonry sound walls and/or landscaped berms between a noise source and the receiver. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise. In addition to site design techniques, noise insulation can be accomplished through appropriate design of buildings. Nearby noise generators should be recognized in determining the location and orientation of door and window openings. Sound-rated windows (extra thick or multi-paned) and wall insulation are also effective. None of these measures, however, can realize their full potential unless care is taken in actual construction, such as doors and windows fitted properly, openings sealed, joints caulked, and plumbing adequately insulated from structural members.

Although insulating noise-sensitive uses can reduce noise impacts, the alternative approach of limiting the level of noise generation at the source can be more effective in some instances. With the exception of certain state and federal preemptions, local government actions can assist in abatement of noise from commercial and industrial operations. Local ordinances may establish maximum levels for noise generated on site. These usually limit the level of noise permitted beyond the boundary of a subject property. Local agencies can influence transportation noise through traffic flow improvement, appropriate maintenance of road surfaces, promotion of alternative travel modes, and restrictions on truck traffic. Construction of noise barriers (generally sound walls or berms) are among the more common ways of reducing traffic noise impacts in existing urban environments.

9.2 GUIDING PRINCIPLES AND GOALS [GP]

In addition to analyses of existing and projected future noise levels in the city, the Noise Element sets forth objectives, policies, and implementation actions to achieve and maintain an acceptable noise environment in the city. The intent of the Noise Element is to limit exposure of residents, workers, and visitors to excessive noise levels, while allowing future development consistent with the Land Use Element and other plan elements. Because vehicular traffic is a major source of noise, the Noise Element has been developed with consideration of existing and projected roadway traffic volumes as described in the Transportation Element. The Noise Element also contains policies that serve to achieve certain resource-protection objectives of the Open and Conservation Elements.

The following principles or goals, which are not in order of priority, provide the foundation for the detailed policies in subsequent sections; all policies have been established to be in conformity with the guiding principles and goals. Future actions of the City following adoption of the plan are required to be consistent with these policies.

1. Protect Goleta's residents, workers, and visitors from the harmful effects of exposure to excessive noise, with special attention to reduction and mitigation of noise levels for residential areas, schools, and other sensitive noise receptors.

2. Ensure that open space areas that support significant environmentally sensitive habitat are not subjected to disruptive levels of noise.
3. Ensure noise exposure compatibility between neighboring land uses and protect the long-term values of both private and public investment by preventing the deterioration of properties as a result of the intrusion of objectionable levels of noise.
4. Identify and implement or help implement measures that will mitigate or reduce the noise generated by major transportation sources, including the Santa Barbara Airport, the UPRR, US-101, and other major roadways.
5. Consider noise impacts of proposed commercial, industrial, professional, and institutional developments and ensure that impacts are minimized and appropriately mitigated.
6. Control the generation of nuisance noise through implementation and enforcement of appropriate noise regulations.

9.3 CITY POLICIES

Policy NE 1: Noise and Land Use Compatibility Standards [GP]

Objectives: *To protect Goleta's residents, workers, and visitors from excessive noise by applying noise standards in land use decisions. To ensure compatibility of land uses with noise exposure levels, and to neither introduce new development in areas with unacceptable noise levels nor allow new noise sources that would impact existing development.*

NE 1.1 **Land Use Compatibility Standards. [GP]** The City shall use the standards and criteria of Table 9-2 to establish compatibility of land use and noise exposure. The City shall require appropriate mitigation, if feasible, or prohibit development that would subject proposed or existing land uses to noise levels that exceed acceptable levels as indicated in this table. Proposals for new development that would cause standards to be exceeded shall only be approved if the project would provide a substantial benefit to the City (including but not limited to provision of affordable housing units or as part of a redevelopment project), and if adequate mitigation measures are employed to reduce interior noise levels to acceptable levels.

NE 1.2 **Location of New Residential Development. [GP]** Where sites, or portions of sites, designated by the land use element for residential use exceed 60 dBA CNEL, the City shall require measures to be incorporated into the design of projects that will mitigate interior noise levels and noise levels for exterior living and play areas to an acceptable level. In the event that a proposed residential or mixed-use project exceeds these standards, the project may be approved only if it would provide a substantial benefit to the City, including, but not limited to, provision of affordable residential units. Mitigation measures shall reduce interior noise levels to 45 dBA CNEL or less, while noise levels at exterior living areas and play areas should in general not exceed 60 dBA CNEL and 65 dBA CNEL, respectively.

TABLE 9-2
NOISE AND LAND USE COMPATIBILITY CRITERIA

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential—low density	50–60	60–65	65–75	75–85+
Residential—multiple family	50–60	60–65	65–75	75–85+
Transient lodging—motels and hotels	50–65	65–70	70–80	80–85+
Schools, libraries, churches, hospitals, and nursing homes	50–60	60–65	65–80	80–85+
Auditoriums, concert halls, and amphitheaters	NA	50–65	NA	65–85+
Sports arenas and outdoor spectator sports	NA	50–70	NA	70–85+
Playgrounds and neighborhood parks	50–70	NA	70–75	75–85+
Golf courses, riding stables, water recreation, and cemeteries	50–70	NA	70–80	80–85+
Office buildings, business commercial, and professional	50–67.5	67.5–75	75–85+	NA
Industrial, manufacturing, utilities, and agriculture	50–70	70–75	75–85+	NA

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 are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

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

Clearly Unacceptable: New construction or development should generally not be undertaken.

NA: Not applicable.

Source: Modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

NE 1.3 **Noise Buffers. [GP]** When feasible, the City should require an open space or other noise buffer between new projects that are a source of noise and nearby sensitive receptors. The nature and extent of the noise buffer shall be determined based upon site-specific conditions.

NE 1.4 **Acoustical Studies. [GP]** An acoustical study that includes field measurement of noise levels may be required for any proposed project that would: a) locate a potentially intrusive noise source near an existing sensitive receptor, or b) locate a noise-sensitive land use near an existing known or potentially intrusive noise source such as a freeway, arterial roadway, railroad, industrial facility, or airport traffic pattern. Acoustical studies should identify noise sources, magnitudes, and potential noise mitigation measures and describe existing and future noise exposure. The acoustical study shall be funded by the applicant and conducted by a qualified person or firm that is experienced in the fields of environmental noise assessment and architectural acoustics. The determination of applicability of this requirement shall be made by the Planning and Environmental Services Department by applying the standards and criteria of Table 9-2.

NE 1.5 **Acceptable Noise Levels. [GP]** New construction and substantial alterations of existing construction shall include appropriate noise insulation measures (such as insulation, glazing, and other sound attenuation measures) so that such construction or renovations comply with state and building code standards for allowable interior noise levels. The intent of this policy is to require improved soundproofing for both noise receivers and sources.

Policy NE 2: Traffic Noise Sources [GP]

Objective: *To reduce or mitigate noise from existing and projected future vehicular traffic through street improvements, law enforcement, and support of alternative transportation programs.*

NE 2.1 **Standards for Use of Noise Barriers along Roadways. [GP]** The City shall require the incorporation of appropriate noise barriers and other noise attenuation features in the design of any new arterial streets. The City shall consider and may require noise attenuation measures in frontage improvements associated with new private and public projects along existing city arterials, provided that such measures are consistent with the policies and standards of the Visual and Historical Resources Element. To be effective, such noise barriers should reduce noise levels at abutting receiver sites by at least 5 dBA CNEL.

Sound Wall Separating Residential and Commercial Developments

NE 2.2 **Synchronization of Traffic Lights. [GP]** To keep traffic flowing smoothly through signals along arterials and major roadways and to minimize noise associated with braking and acceleration, the City shall ensure that all new traffic signals are appropriately timed and synchronized with adjacent lights to the extent feasible. The City shall also periodically assess the timing of existing traffic signals and make any appropriate adjustments.

NE 2.3 **Enforcement of Speed Limits. [GP]** The City Police Department shall enforce speed limits on city streets and work with the California Highway Patrol to enforce speed limits on state and federal highways.

NE 2.4 **Enforcement of Vehicle Noise Standards. [GP]** The City shall work with state and federal agencies to enforce regulations pertaining to vehicle noise generation; one such regulation is the California Vehicle Code, which governs vehicle noise emissions.

NE 2.5 **Alternative Paving Materials. [GP]** The City may incorporate alternative paving materials that reduce traffic-generated noise in City-sponsored road improvement projects, as appropriate. The City encourages the California Department of Transportation to use low-noise paving materials when financially and technically feasible.

NE 2.6 **Programs that Reduce Traffic Volumes. [GP]** The City shall support programs that reduce peak traffic volumes; an example of such programs are incentive programs for use of public transit facilities, high-occupancy vehicles, and other alternative modes of transportation as well as staggering of work hours. For major discretionary projects, the City may require such programs. (See TE 2.1.)

NE 2.7 **Traffic-Calming Measures. [GP]** The City may consider the use of traffic-calming measures and devices to reduce speeds and noise levels in residential neighborhoods where feasible and in consultation with emergency service providers. Any incorporated traffic-calming measures should be monitored by the City for effectiveness.

NE 2.8 **Maintenance of Paved Roadways. [GP]** The City should pursue timely repair and maintenance of roadways in part to minimize traffic-generated noise. Potholes, bumps, and other roadway damage should be identified and repaired promptly.

Policy NE 3: Airport Noise [GP]

Objective: *To seek measures and operational changes that result in a reduction in noise and noise-related impacts generated by the Santa Barbara Municipal Airport.*

NE 3.1 **Support of Noise-Reducing Airport Programs and Improvements. [GP]** The City supports improvements and operational changes at the Santa Barbara Municipal Airport that will reduce noise generated by the airport. Among these operational changes are training and education programs on piloting methods that would reduce noise from aircraft during takeoff and landing. The City shall also continue to encourage the airport to limit aircraft noise between the hours of 11 p.m. and 7 a.m. (See related LU 12.3.)

Passenger Plane on Tarmac
Source: Santa Barbara Airport Economic Impact Report, UCSB Economic Forecast Project, August 2001

NE 3.2 **Support for Smaller and Quieter Commercial Jets. [GP]** The City shall continue to encourage the Santa Barbara Municipal Airport and the airport's carriers to limit commercial aircraft to smaller and quieter aircraft models. The City shall oppose proposals that seek to accommodate jets equal to or larger than Boeing 737s.

NE 3.3 Consultation with the ALUC, ALUC Staff, and City of Santa Barbara Staff. [GP] The City of Goleta shall continue to monitor and comment on airport-related projects and development proposed for the area surrounding the airport that is under the jurisdiction of the City of Santa Barbara. The City of Goleta shall consult with the Airport Land Use Commission (ALUC) when required by the ALUCP. City of Goleta staff may also consult with the ALUC, ALUC staff, and the Santa Barbara Airport Department for development projects within the Airport Influence Area. *(Amended by Reso. 23-60, 11/07/23)*

NE 3.4 Noise Compatibility, Noise Mitigation, and Avigation Easements. [GP] The City will maintain and enforce through appropriate zoning measures, noise compatibility measures, including use limitations and noise reduction requirements, pursuant to the ALUCP. An avigation easement shall be required where required by the ALUCP. Consistent with the ALUCP, new residential developments are incompatible uses in areas subject to high levels (65+ dBA CNEL) of exterior airport noise exposure. In areas with 60–65 dBA CNEL exterior airport noise exposure, new residential uses must be designed to attenuate indoor noise levels to 45 dBA CNEL. The City shall require appropriate acoustic insulation measures to be components of any such development. *(Amended by Reso. 23-60, 11/07/23)*

NE 3.5 Non-Aviation Sources of Noise. [GP] The City of Goleta shall work with the City of Santa Barbara to ensure that new development and activities of existing business entities located within the airport property, both north and south of Hollister Avenue, comply with the policies in this element and are not disruptive to nearby residences and businesses in Goleta. In addition, the City of Goleta shall request that all new discretionary development and change of use applications in these areas be referred to the City for review and comment.

Policy NE 4: Railway Noise [GP]

Objective: *To reduce noise and minimize the impact of noise from existing and projected future railway operations and activities.*

NE 4.1 Consideration of Exposure to Railway Noise. [GP] The City shall consider current and projected exposure to noise levels for any proposed development or use on land adjacent to the UPRR. The City should not approve any development that would result in unacceptable levels of noise exposure in accordance with the standards of Policy NE 1 above.

At-Grade Railroad Crossing

NE 4.2 Encouragement of Noise-Reduction Measures. [GP] The City shall encourage UPRR to incorporate measures that reduce future railway noise levels. Such reduction may include installation of additional sound barriers where effective, incorporation of new, low-noise advances in train technology, and operational changes that reduce railway noise levels, especially during the evening, night, and weekend hours.

NE 4.3 Potential Establishment of a Quiet Zone. [GP] The City shall explore the feasibility of establishing a quiet zone pursuant to the Federal Railroad Administration's procedures.

NE 4.4 Avoidance of New At-Grade Railroad Crossings. [GP] To prevent an increase in train-horn sounding, the City shall discourage the development of any new at-grade railroad crossings.

Policy NE 5: Industrial and Other Point Sources [GP]

Objective: *To minimize noise generated by industrial sources and other point sources and to limit the impacts of such noise sources.*

NE 5.1 New, Expanded, or Upgraded Stationary Noise Sources. [GP] The City shall require proposals for new stationary sources or expansions or alterations of use for an existing stationary source to include appropriate noise mitigation measures. Retrofits and facility upgrades under the permitting jurisdiction of the City should ensure that noise levels are reduced, particularly for sources that impact adjacent sensitive receivers.

NE 5.2 Equipment Maintenance. [GP] The City shall require that new and existing heating, ventilation, and air conditioning equipment and other commercial/industrial equipment be adequately maintained in proper working order so that noise levels emitted by such equipment remain minimal. The City shall also require noise shielding or insulation for such equipment if operation of the equipment results in objectionable noise levels at adjacent properties.

NE 5.3 Standards for City Equipment and Vehicles. [GP] New equipment and vehicles purchased by the City shall not be modified or operated in a manner inconsistent with manufacturers' instructions that causes nonconformity with noise-level performance standards established in the manufacturers' design. To the extent feasible, such equipment and vehicles shall comply with noise-level performance standards consistent with the best available noise-reduction technology.

NE 5.4 Noise Barriers for Industrial/Commercial Sources. [GP] Absorptive types of noise barriers or walls should be used to reduce noise levels generated by industrial and certain heavy commercial uses. To be considered effective, the noise barrier should provide at least a 5-dBA-CNEL noise reduction.

NE 5.5 Limits on Truck Deliveries and Other Activities. [GP] The City shall consider requiring commercial and industrial uses that abut residential zones to restrict the hours of truck deliveries and trash pickups to minimize disruption to nearby residences, where practicable. Such restrictions may be imposed by incorporation of conditions of approval for new discretionary planning permits, or on a citywide basis through preparation and adoption of a Noise Ordinance. Limitations on hours for trash pickups should be considered during negotiation of new or renewed franchise agreements with trash haulers.

NE 5.6 Reduction of Noise at the Venoco Ellwood Onshore Oil and Gas Processing Facility. [GP] The City shall continue to monitor noise at the Venoco Ellwood Onshore Oil and Gas Processing Facility to determine whether noise levels exceed

required standards and may require Venoco to implement measures that will avoid violations of the standards. The City shall require that any major facility upgrades include measures or designs that ensure noise levels generated by the facility are in compliance with the plant's operating permit.

Policy NE 6: Single-Event and Nuisance Noise [GP]

Objective: *To prevent community and environmental disruptions by limiting single-event and nuisance noise levels, so that relative quiet and peace is achieved and maintained at residential areas and other sensitive receptors.*

NE 6.1 **Enforcement of Noise Ordinances. [GP]** The City shall enforce regulations and standards set forth in a City Noise Ordinance. The City shall periodically review noise regulations and update or add regulations that control noise generation appropriately.

NE 6.2 **Enforcement of Restrictions in Open-Space Areas. [GP]** The City shall enforce restrictions or prohibitions on motorized vehicles in City-owned open-space areas unless such operation is allowed by permit. Signage stating such restrictions or prohibitions shall be provided and maintained in good order, and the need for additional signage shall be considered periodically.

NE 6.3 **Special-Event Noise Control. [GP]** For all special-event permit applications where the proposed event or activity is expected to generate significant noise, the City shall consider imposing limitations on the hours of the event or activity or other noise-reduction measures.

NE 6.4 **Restrictions on Construction Hours. [GP]** The City shall require, as a condition of approval for any land use permit or other planning permit, restrictions on construction hours. Noise-generating construction activities for projects near or adjacent to residential buildings and neighborhoods or other sensitive receptors shall be limited to Monday through Friday, 8:00 a.m. to 5:00 p.m. Construction in nonresidential areas away from sensitive receivers shall be limited to Monday through Friday, 7:00 a.m. to 4:00 p.m. Construction shall generally not be allowed on weekends and state holidays. Exceptions to these restrictions may be made in extenuating circumstances (in the event of an emergency, for example) on a case by case basis at the discretion of the Director of Planning and Environmental Services. All construction sites subject to such restrictions shall post the allowed hours of operation near the entrance to the site, so that workers on site are aware of this limitation. City staff shall closely monitor compliance with restrictions on construction hours, and shall promptly investigate and respond to all noncompliance complaints.

NE 6.5 **Other Measures to Reduce Construction Noise. [GP]** The following measures shall be incorporated into grading and building plan specifications to reduce the impact of construction noise:

a. All construction equipment shall have properly maintained sound-control devices, and no equipment shall have an unmuffled exhaust system.

b. Contractors shall implement appropriate additional noise mitigation measures including but not limited to changing the location of stationary construction

equipment, shutting off idling equipment, and installing acoustic barriers around significant sources of stationary construction noise.

c. To the extent practicable, adequate buffers shall be maintained between noise-generating machinery or equipment and any sensitive receivers. The buffer should ensure that noise at the receiver site does not exceed 65 dBA CNEL. For equipment that produces a noise level of 95 dBA at 50 feet, a buffer of 1600 feet is required for attenuation of sound levels to 65 dBA.

NE 6.6 Limits on Hours for Trash Pickup in Residential Areas. [GP] The City shall consider restricting hours for trash pickups, unless there are substantial transportation benefits or other benefits for different times. Any restriction in hours for trash pickups would be to minimize disruption, particularly in the early morning hours, to residential developments. Application of any such restriction may be made during negotiation of new or renewed franchise agreements with trash haulers.

Policy NE 7: Design Criteria to Attenuate Noise [GP]

Objectives: *To employ noise-reduction measures that reduce levels of noise-generated at the source. To use site design and noise insulation techniques that attenuate noise levels experienced at receiver sites to acceptable levels.*

NE 7.1 Control of Noise. [GP] The City shall require that primary emphasis on the control of noise be accomplished at the source by reducing the intensity of the noise generated or through appropriate placement of noisy components of a project or use. Secondary emphasis should be through site design of receiver sites and noise attenuation and insulation measures.

NE 7.2 Site-Design Techniques. [GP] The City encourages the inclusion of site-design techniques for new construction that will minimize noise exposure impacts. These techniques shall include building placement, landscaped setbacks, and siting of more noise-tolerant components (parking, utility areas, and maintenance facilities) between noise sources and sensitive receptor areas.

NE 7.3 Architectural Techniques. [GP] The City shall encourage the use of architectural techniques to meet noise attenuation requirements. Such techniques include: a) using noise-tolerant rooms such as garages, kitchens, and bedrooms to shield noise-sensitive rooms such as bedrooms and family rooms and b) using building façade materials that help shield noise.

NE 7.4 Alternatives to Sound Walls. [GP] The City shall encourage new development near highway and railroad noise sources to identify alternatives to sound walls to reduce noise impacts.

NE 7.5 Implementation of Recommendations from Acoustical Analyses. [GP] For projects where an acoustical analysis is required because of potential noise impacts, the City, through its development review and building permit processes, shall ensure that all appropriate noise reduction measures are incorporated.

NE 7.6 Noise-Insulation Standards for Multi-Family Dwellings. [GP] In compliance with state law, the City shall require all multi-family residential developments that are

proposed within the 60-dBA-CNEL noise contour to include appropriate noise-insulation measures.

NE 7.7 Acoustic Design Manual Requirements. [GP] For residential projects where mitigation is required to reduce interior noise levels to 45 dBA CNEL, the City Building Official shall require incorporation of measures listed in the current version of the Acoustic Design Manual for the appropriate amount of noise reduction.

9.4 IMPLEMENTATION ACTIONS [GP]

NE-IA-1 Adoption of New Noise Ordinance. The City will prepare and consider adoption of a comprehensive new Noise Ordinance that contains quantitative, enforceable, and effective measures to control unacceptable levels of daytime and nighttime noise. The ordinance should address noise related to new development and construction as well as nuisance-type noise sources.

Time period: 2007 to 2008

Responsible party: Planning and Environmental Services Department, Redevelopment and Neighborhood Services Department

NE-IA-2 Design Criteria. New design manuals should be prepared that include suggested site design and architectural design practices and methods that will attenuate exterior and interior noise levels, including residential projects located adjacent to transportation noise sources. Standard conditions of approval for discretionary planning applications should be prepared that incorporate best noise control practices to mitigate noise impacts.

Time period: 2007 to 2008

Responsible party: Planning and Environmental Services Department, Design Review Committee

NE-IA-3 Noise Enforcement Program. The City will establish and implement a Noise Enforcement Program to continue the City's practice of promptly investigating and following-up on noise complaints, and tracking these complaints in the City's Customer Service Request Database.

Time period: 2007 to 2008

Responsible party: Redevelopment and Neighborhood Services Department